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# UMATILLA COUNTY

## PRE-HOSPITAL

### PATIENT CARE GUIDELINES

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East Umatilla County Ambulance Area Health District

Pendleton Fire & Ambulance

Pilot Rock RFPD

Umatilla County Fire District #1

Umatilla Fire District

-----Bradley Adams, Supervising Physician-----

May 24, 2020

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Patient Care Guidelines

(Protocols)

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**PROTOCOL TITLE: INTRODUCTION**

EMS Protocols are the written guidelines for EMS activities in the listed agencies areas. EMS PROTOCOLS are mandated by the State of Oregon Health Authority. These EMS PROTOCOLS shall apply to all EMS personnel in the above named departments. Emergency Medical Service Personnel (EMSP) include EMT, AEMT, Intermediate, Paramedic, and Clinicians. OAR [847-035-0030](#) shall define the scope of practice for each level of EMSP. All EMS activities are supervised by the Physician Advisor, a licensed physician whose EMS authority includes recommending certification/rectification of EMS personnel, training, and the development of written protocols that specify the scope and practice of all EMS personnel.

These protocols provide EMS providers of all levels a broad range of options in the management of patients at the scene. Written protocol cannot cover every situation that will be encountered in the field. In most cases, however, the protocols should be followed as written. However, in situations the protocols do not specifically address, or where there is a need for immediate intervention, e.g., patient in extremis, code situations, the EMT should not be encumbered by requirements for immediate approval by Medical Control or destination hospital physician. Clinical judgment should be used to tailor treatment to the patient and the particular circumstances of illness or injury. Patient care procedures for incidents not addressed in these protocols should be performed in accordance with currently accepted standards and within the EMS provider’s training and level of certification. Appropriate documentation of any deviation in protocols is expected.


EMS personnel performance will be monitored retrospectively through the QA/QI process and patient evaluation. Accurate and complete documentation is required.

Question and comments about the QA/QI should be addressed to the EMS Director.

In order to ensure conformance with local guidelines for pre-hospital care the designated EMS Director will implement guidelines, review agency conformance to establish protocols, and develop changes in medical policies as needed.

Due to ongoing changes to EMS practices, the EMS Director or designee must review the current protocols biannually, no later than 24 months after the last review.

As Physician Advisor, I hereby declare that I have read, understand, and approve of these patient care guidelines.

  
\_\_\_\_\_  
Bradley Adams MD

\_\_\_\_\_  
May 24, 2020  
Date

INTRODUCTION

**PROTOCOL TITLE: DETERMINATION OF DEATH IN THE FIELD****Purpose**

To define under what conditions treatment can be withheld or stopped. Resuscitation efforts may be withheld if they meet any of the following:

1. The patient has a "DNR" order. See G5
2. The patient is pulseless and apneic in a mass casualty incident or multiple patient scene where the resources of the system are required for the stabilization of living patients.
3. Decapitation.
4. Rigor mortis in a warm environment.
5. Decomposition.
6. Skin discoloration in dependent body parts (dependent lividity).

**B. Traumatic Cardiac Arrest**

1. A victim of trauma (blunt or penetrating) who has no vital signs at the scene may be declared dead. If opening the airway does not restore vital signs/signs of life, the patient should NOT be transported unless there are extenuating circumstances.
2. A cardiac monitor may be beneficial in determining death in the field when you suspect a medical cause or hypovolemia:
  - a. A narrow complex rhythm (QRS < 0.12) may suggest profound hypovolemia, and may respond to fluid resuscitation.
  - b. VF should raise your index of suspicion for a medical event.
3. At a trauma scene consider the circumstances surrounding the incident, including the possibility of cardiac arrhythmia, seizure, or hypoglycemia. When a medical event is suspected, treat as a medical event.
4. If the patient deteriorates to no vital signs (i.e., no pulse/respiration), a cardiac monitor should be applied. A viable rhythm especially in patients with penetrating trauma may reflect hypovolemia or obstructive shock (tamponade, tension pneumothorax) and aggressive treatment should be continued.
5. If a patient deteriorates to cardiac arrest during transport, start CPR and contact the receiving trauma facility for further advice.

**PROTOCOL TITLE: DETERMINATION OF DEATH IN THE FIELD****C. Medical Cardiac Arrest**

1. If the initial EKG shows asystole or agonal rhythm confirmed in 6 leads with full gain, and the patient in the responder's best judgment would not benefit from resuscitation:
  - a. The PIC may determine death in the field; OR
  - b. Begin BLS procedures, and contact OLMC with available patient history, current condition, and with a request for advice regarding discontinuing resuscitation.
2. The PIC may determine the patient to be dead in the field if the patient persists in asystole (confirmed in 6 leads with full gain) after the airway is established, and the asystole protocol has been exhausted. Should continue efforts for 30 minutes with good CPR. May take some patients up to 40 minutes to get ROSC
3. Death in the field may be determined with EtCO<sub>2</sub> of < 10 in patients with PEA after 30 minutes of ACLS resuscitation. For patients with EtCO<sub>2</sub> > 10 either continue resuscitation or contact OLMC to stop resuscitation.
4. Patients in VF should be treated Worked for at least 40 minutes prior to transport or termination of efforts. Termination of efforts for VF/VT requires OLMC consultation.

**Notes and Precautions**

- A. ORS allows a layperson, EMT or paramedic to determine "Death in the Field."
- B. Consult OLMC with any doubt about the resuscitation potential of the patient.
- C. A person who was pulseless or apneic and has received CPR and has been resuscitated is not precluded from later being a candidate for solid organ donation.

DETERMINATION OF DEATH IN THE FIELD



**PROTOCOL TITLE: COMMUNICATIONS WITH HOSPITAL**

Medical Control for any call shall fall under the following designation:

1. In general, the expected destination hospital serves as Medical Control.
2. If the patient meets criteria for ANY protocol-specific designation (strokes, trauma, cardiac), the protocol-designated hospital is Medical Control even if it is not the closest hospital or the ultimate destination hospital.

Medical Control should be contacted for all medical and trauma patients at these intervals:

1. Enroute to medical or trauma call.
2. Enroute to the hospital with pertinent patient information as described below.

Additional contact with Online Medical Control and/or the receiving hospital may be indicated, especially in complex cases or multi-patient scenes.

If communications have been started with one hospital and the patient is ultimately transported to a different hospital, both the original Medical Control hospital and the receiving hospital should be notified immediately.

Communications between pre-hospital personnel and the supporting hospitals are a vital part of patient care. Transmissions should be succinct and follow the general outline below:

1. Patient's age and sex.
2. Chief complaint or problem.
3. Level of consciousness and vital signs.
4. Brief pertinent history, physical exam findings and pre-hospital treatment as needed to clarify patient status and stability.
5. An estimated time of arrival (ETA).
6. Any additional information requested by the receiving facility.

**PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT**

In service areas with only BLS/ILS ambulances, a “rendezvous” with an ALS ambulance should be attempted for all patients who would benefit from further ALS intervention. The following criteria is designed to assist you with the decision making process.

In service areas with ALS and BLS personal on the same apparatus this criteria is designed to assist you with the decision making process.

**I. ABNORMAL VITAL SIGNS (ADULTS):**

1. Hypotension
  - a. Systolic BP less than 90 mmHg and/or
  - b. Associated symptoms of relative hypotension include chest pain, shortness of breath, syncope (fainting), trauma GI bleed, anaphylaxis (allergic reaction), severe abdominal or back pain, and acute altered level of consciousness.
2. Bradycardia
  - a. Heart rate < 50 per minute with.
  - b. Associated symptoms include chest pain, shortness of breath, syncope, hypotension, acute altered level of consciousness.
3. Tachycardia
  - a. Heart rate: 100-120 per minute (mild); >120 per minute (significant) and/or
  - b. Associated symptoms; chest pain, shortness of breath, hypotension, trauma, cyanosis, strider, wheezing, choking, low oxygen saturation (by oximeter).
4. Respiration
  - a. Respiratory rate < 10 or > 29 per minute and/or
  - b. Associated symptoms: chest pain, shortness of breath, hypotension, trauma, cyanosis, strider, wheezing, choking, low oxygen saturation (by oximeter).
5. Pulse Oximetry (blood oxygen saturation or SaO<sub>2</sub>).
  - a. Unreliable when patient not perfusing well or extremely tachycardic.
  - b. SaO<sub>2</sub> < 94% in patient without underlying pulmonary disease.
  - c. SaO<sub>2</sub> < 90% in patient with emphysema or other chronic lung disease.
  - d. Readings are without supplemental oxygen.
  - e. Associated symptoms: altered respiratory rate, chest pain, shortness of breath, hypotension, trauma, cyanosis, stridor, wheezing, choking.

**PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT****II. ORGAN SYSTEM INVOLVEMENT**

1. Neurologic Disease
  - a. Acute altered level of consciousness.
  - b. Acute stroke symptoms (i.e., TIA or CVA) with altered level of consciousness or, abnormal vital signs.
  - c. Recurrent or ongoing seizure activity.
  - e. New spinal cord injury (i.e., paralysis).
2. Cardiac Disease
  - a. Cardiac arrest (patient is unconscious and without a pulse).
  - b. Chest pain.
3. Respiratory Disease
  - a. Respiratory arrest (patient is not breathing).
  - b. Symptomatic asthma or emphysema.
  - c. Choking or difficulty breathing.
  - d. CPAP has been initiated.
4. Gastrointestinal Disease
  - a. Significant vomiting of blood (especially if associated with faintness or weakness).
  - b. Significant rectal bleeding (especially if associated with faintness or weakness).
  - c. Severe abdominal pain.
5. Obstetrics
  - a. Active labor – regular uterine contractions with increasing dilation of the cervix.
  - b. History of complicated deliveries.
  - c. Abnormal presentation.
  - d. Post-delivery complication (i.e., heavy vaginal bleeding).
  - e. Newborn complications.

**III. TRAUMA**

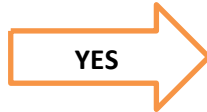
1. Any patient involved in a traumatic incident should be evaluated using [Oregon Guidelines for Field Triage of Injured Patients](#). ALS rendezvous or Helicopter activation should be considered early in any patient meeting Trauma System Activation criteria.

**PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT**

**TRAUMA- Field Triage Decision Scheme: The National Trauma Triage Protocol**

**Step 1- Measure Vital Signs & Level of Consciousness**

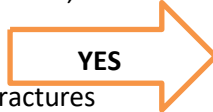
Glasgow Coma Scale <14 or  
Systolic BP <90mmHg or  
Respiratory Rate < 10 or > 29 (<20 in infant < one year)



**Take to a trauma center.** Steps 1 & 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

**Step 2- Assess Anatomy of Injury**

- Penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail Chest
- Two or more proximal long-bone fractures
- Crushed, de-gloved, or mangled extremity
- Pelvic Fracture
- Open or depressed skull fx
- Paralysis



**Step 3- Assess MOI and Evidence of high-energy impact**

**Falls**

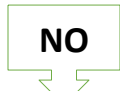
- Adults >20ft (one story =10ft.)
- Children >10ft or 2-3 x's the height of the child



**High-Risk Auto Crash**

- Intrusion: > 12in. occupant site; > 18 in. any site
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with high risk of injury

**Auto v. Pedestrian/Bicyclist thrown, run over, or with Significant (>20mph) Impact**  
**Motorcycle Crash or ATV > 20 mph**



**Transport to highest level trauma center** within 30 minutes transport time.

**Step 4- Assess Special Pt. or System Consideration**

**Age**

- Older Adults: Risk of injury death increases after 55 years
- Children: Should be triaged preferentially to pediatric-capable trauma centers



Contact medical control and consider transport to a trauma center or a specific resource hospital

**CRITERIA FOR ALS TRANSPORT**

**PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT**

**Anticoagulation and Bleeding Disorders**

**Burns**

- W/O other trauma mechanism: Triage to burn facility
- W/ trauma mechanism: Triage to trauma center

**Time Sensitive Extremity Injury**

**End- Stage Renal Disease Requiring Dialysis**

**Pregnancy > 20 weeks**

**EMS Provider Judgment**



Transport according to protocol.

**CRITERIA FOR ALS TRANSPORT**

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Bradley Adams, M.D  
Physician Advisor

## PROTOCOL TITLE: DNR/POLST

Patients who receive treatment and/or transport under these protocols must be treated when life-threatening problems develop. The protocols can at times come into conflict with the ethical issue of the right-to-die of the terminally ill.

The purpose of this protocol is to attempt to clarify EMS personnel's responsibility to the patient.

1. When EMS personnel respond to a cardiac or respiratory arrest patient, full resuscitation must be initiated with the following exceptions:
  - a. The patient's private physician is present and orders that resuscitation attempts either not be initiated or be terminated.
  - b. When history and obvious physical signs are present which indicate that death occurred and resuscitation attempts are inappropriate [i.e., putrefaction, rigor mortis, complete partition of body parts incompatible with life, or dependent lividity (livormortis)].
  - c. A four lead ECG shall be required for confirmation of asystole in 2 or more leads.
  - d. In the case of trauma, see the Blunt Trauma Protocol (G-2).
  
2. For those patients suffering from a terminal illness, and who have not reached the point of cardiac and/or pulmonary arrest, and cannot expect to realize any long-term benefit from pre-hospital care, and who have a written DNR order or advance directive:
  - a. Do not perform resuscitative measures. (If resuscitation efforts have begun prior to learning of valid documentation, the following measures should be discontinued):
    - i. Cardiopulmonary resuscitation.
    - ii. Endotracheal Intubation (leave ET tube in place, but discontinue manual ventilation).
    - iii. Defibrillation.
    - iv. Administration of resuscitative medications.
    - v. Positive-pressure ventilation.
  - b. The following may be done
    - i. Position of comfort.
    - ii. Airway control and suction.
    - iii. IV line for hydration and/or analgesics.
    - iv. Oxygen for dyspnea.
  
3. For patients with a POLST form, follow the directives as written, with special attention paid to sections A (Cardiopulmonary Resuscitation) & B (Medical Interventions).
  - a. Providers MUST verify:
    - i. The form is signed by the patient and his/her physician.

**PROTOCOL TITLE: DNR/POLST**

- b. Providers may use the Oregon POLST registry as needed. Call 888-476-5787 and have the following information available:
  - i. Full name and D.O.B.
  - ii. Registry ID
4. If any questions exist about presence of life or death or the presence of a viable DNR or POLST, resuscitation should be initiated at a BLS level while a determination of the level of care is determined.
5. If resuscitation appears unlikely after efforts have begun, consultation will be made with Medical Control to determine further action. (See Termination of Efforts in these protocols for further direction, [C-10](#))
6. Details of the entire resuscitation effort and physician consultation shall be documented in detail on the Medical Incident Report form.

**DNR/POLST**



## PROTOCOL TITLE: DOCUMENTATION

All patient contacts shall be documented by the approved method for the department(s) responding. The report is the medical legal document of the assessment and management of the patient. The importance of the completeness and accuracy of the report cannot be overemphasized. A complete and accurate document will assist with appropriate treatment after care of the patient has been transferred. This is a legal record and may be called upon as evidence in any court of law.

The narrative section of the EMS Medical Incident Report form will be completed using the following S.O.A.P. charting format:

### SUBJECTIVE and SCENE information:

The information which the patient, family, bystanders or other witnesses provide. Age of the patient, gender, race, estimated weight in Kg, chief complaint, scene description, history of the event, pertinent medical history of the patient, patient physician, medication, allergies, last meal, and other extenuating circumstances.

### OBJECTIVE information:

The information you find on your complete head-to-toe physical exam. This includes LOC, V.S., ECG findings, and blood glucose. Additionally, anything you notice about the patient that you feel may be pertinent.

### ASSESSMENT:

Your working diagnosis.

### PLAN:

Your plan of treatment and record of your patient care, Document response to treatment (whether the patient's condition improved, remained unchanged, worsened, or stabilized, etc).

### NOTE:

1. Document completely, instructions received via radio from Online Medical Control. Document the name of physician giving the order(s).
2. Document patient refusal of treatment, if it occurs.
3. Document any rationale for any deviation from written protocol.
4. Both a verbal report and written and or electronic report shall be provided to the supervising physician and/or designee at the time of patient transfer. If the written report cannot be provided at the time of patient transfer, a copy shall be completed within a reasonable time frame that shall **not exceed (24) twenty-four hours** after initial patient contact. ORS 333-250-0310(1)(A) . or if transported not to exceed 24 hours after delivery to the hospital or facility ORS 333-250-0310(1)(B)
5. Faxing PCR's to the hospital is acceptable if its security can be assured.

**PROTOCOL TITLE: INFECTIOUS DISEASE PROPHYLAXIS**

Oregon Administrative Rule, OAR 437-002-0360 requires that all EMS departments shall have a written infection control plan. OAR 437-002-0360 requires that all EMS personnel shall meet initial training requirements and annual updates in infectious disease prevention with special emphasis on HIV/AIDS and Hepatitis B.

Under these requirements, the providers will receive four (4) hours initial blood born pathogen training and annual updates thereafter.

The following guidelines should be followed in order to minimize risk to personnel:

1. Treat all patient contacts as potentially infectious.
2. Handle sharp items with extreme caution – Needles, scalpel blades and other sharp objects should be treated as potentially infective once they have been used. Place disposable items into puncture resistant containers located as close as possible to the area of use. Do not recap, bend, or purposefully break needles.
3. Wear protective gear when in contact with blood, body secretions, and tissue specimens as a safeguard, all blood, body secretions and tissue specimens should be treated as if they were contaminated. Emergency medical personnel shall wear protective disposable gloves with all patient contact both during treatment and when cleaning up. Safety glasses are to be worn when spattering is likely and disposable masks should be worn when signs of rash and fever indicate a communicable disease that may be spread through oral or respiratory secretions (chicken pox, measles, meningitis, whooping cough, TB).
4. Wash thoroughly as soon as possible after contact with blood or body secretions Use an antiseptic soap and running water and rinse thoroughly. When running water is not available, scrub with germicidal toilette or foam, and follows with soap and water wash as soon as possible. When practical, wash thoroughly before and between patient contacts. Change clothing soiled with blood or body secretions. Disposable gowns are recommended when spattering likely.
5. Use ventilation device (BVM, pocket mask etc.), for cardiopulmonary resuscitation.
6. Personnel suspecting exposure to an infectious disease, or if the mouth, eyes or an unprotected cut are directly exposed to blood or body secretions, or if a needle stick injury has occurred the affected personnel shall wash thoroughly, follow departmental procedure, and inform their supervisor.

**PROTOCOL TITLE: INTER-FACILITY TRANSPORT**

Inter-facility transport will occur at BLS, ILS and ALS levels within the following general categories:

1. Transfer between hospitals for admission for services not available at originating hospital.
2. Transport and return of patient to facility.
3. Transport from hospital to extended care facility.
4. Transport of patient between other facilities at patient's request.

As a general rule, it is the responsibility of the transferring facility to insure that the medical necessities for safe patient transfer are met. Medical instructions of the attending physician and registered nurses will be followed unless specifically contrary to standing orders. If a physician attends the patient during transfer, he or she will direct all care regardless of standing orders. If a registered nurse attends the patient, he or she will direct the care of the patient from the standing orders given by the physician at transfer or by contact with the receiving hospital physician. The registered nurse may desire to defer emergency care in some situations to the paramedic.

The responsibility for transfer to another facility resides with the transferring facility. Patients will not be transferred to another facility without first being stabilized. Stabilization includes adequate evaluation and initiation of treatment to assure that transfer of a patient will not, within reasonable medical probability, result in material deterioration of the condition, death, or loss or serious impairment of bodily functions, parts, or organs. Evaluation and treatment of patients prior to transfer to include the following:

1. Establish and assure an adequate airway and adequate ventilation.
2. Initiate control of hemorrhage.
3. Stabilize and splint the spine or fractures, when indicated.
4. Establish and maintain adequate access routes for fluid administration.
5. Initiate adequate fluid and/or blood replacement.
6. Determine if the patient's vital signs (including blood pressure, pulse, respiration, Oximetry, and urinary output, if indicated) are sufficient to sustain adequate perfusion.

It is also the transferring facility's responsibility to establish the need for BLS, ALS, or Critical Care transport.

**PROTOCOL TITLE: INTER-FACILITY TRANSPORT**

For an ALS response not meeting the above criteria, the following may apply:

1. You may initiate pre-hospital protocols and guidelines including the establishment of intravenous lines, airway control, etc.
2. You may refuse to transfer the patient until the facility has complied with the above evaluation and/or treatment. Should you decide this is necessary, contact Medical Control for concurrence and consultation.

If a BLS transport is requested and it is the judgment of the BLS crew that the patient needs to be transported by an ALS ambulance, it is mandated that dispatch is contacted and an ALS crew dispatched. Under no circumstances should a BLS crew transport a patient if, in their judgment, this is an ALS call. (Exception: mass casualty incidents and initiation of transport en route to meeting an ALS unit.)

Transporting personnel should be provided with a verbal or succinct written report (from either the physician or attendant RN) about the patient's condition, to include:

1. Present medical illness, including pertinent current medications.
2. Reason for transfer.
3. Pertinent medical history, including allergies.
4. Medications to be administered in transfer.
5. Patient's code status.

In the event of either an ALS, or BLS crew onboard and an emergency occurs en route that is not anticipated prior to transport, pre-hospital protocols and guidelines will immediately apply. The destination facility should be contacted as soon as possible to inform them of changes in the patient's condition, and for concurrence of any orders, as appropriate.

Any deviation from this guideline or from the transport protocols should be reported to the EMS DIRECTOR.

## PROTOCOL TITLE: REFUSAL OF TREATMENT AND/OR TRANSPORT

### Purpose:

To describe the process of interaction and documentation for individuals who are not transported.

### Philosophy:

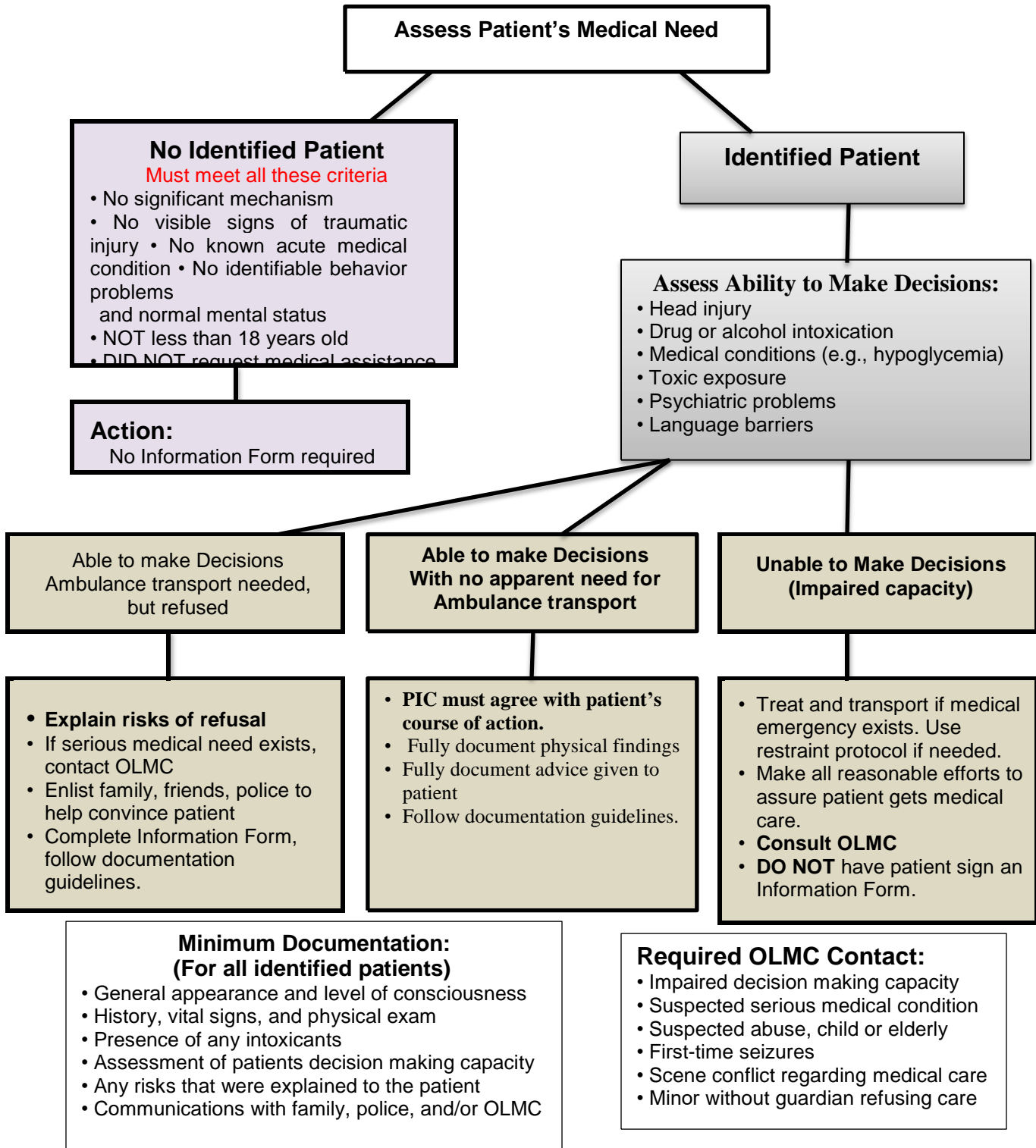
1. Every person will be assessed to determine whether or not he/she meets the criteria of an identified patient.
2. All identified patients for whom 911 is called are offered transport but we recognize:
  - a. Some patients may not need ambulance transport
  - b. Patients with decision-making capacity have the right to refuse treatment and/or transport

### Definitions:

1. No Patient Identified: ( Must Answer no to all these to be no patient identified)
  - a. Does the patient have a significant mechanism of injury?
  - b. Are there visible signs of trauma?
  - c. Is there an acute medical condition?
  - d. is the individual under the age of 18 years?.
  - e. **Did the** individual request medical assistance?
2. Decision-making capacity: The ability to make an informed decision about the need for medical care based on:
  - a. The person is given accurate information about possible medical problems and the risks of refusing treatment and/or transport.
  - b. The person understands and verbalizes these risks and benefits.
  - c. The person is able to make a decision that is consistent with his/her values.
3. Impaired Decision-making Capacity: The inability to understand the nature of the illness or injury, or the risk and consequences of refusing care.
4. Emergency Rule: EMS Providers may treat and/or transport a person whose condition is immediately life/limb-threatening but who has impaired decision-making.
5. Consent and refusal guidelines for minors (reflecting Oregon Revised Statutes):
  - a. A child under the age of 10 cannot be left alone even if he or she is not a patient. If no responsible adult is present and the child is not a patient, contact law enforcement.
  - b. Minors who are ages 15 or older and less than 18 years can consent to treatment.
  - c. If a minor age 15 or older and less than 18 years is refusing treatment/transport contact OLMC.
  - d. If a minor age 15 or older and less than 18 years is not transported, attempt to contact parents to inform them of the EMS call.

**PROTOCOL TITLE: REFUSAL OF TREATMENT AND/OR TRANSPORT**

**Refusal and Informed Consent Flow Chart**



REFUSAL OR TREATMENT AND/OR TRANSPORT

**PROTOCOL TITLE: RELATIONSHIP BETWEEN ALS & PHYSICIAN**

When the patient's private physician is in attendance, the ALS team will comply with the physician's instructions for the patient, including transport destination. Online Medical Control may be contacted if needed. Assisting physicians should be made aware that the EMS unit is already operating with established EMS Protocols under the Physician Advisor.

The physician at the scene may:

1. Request to talk directly to the EMT to offer advice and assistance.
2. Offer assistance to the ALS team with another pair of eyes, hands or suggestions, leaving the ALS team under ultimate control.
3. Take total responsibility for the patient with the concurrence of the Medical Control Physician. If the physician elects this option he/she must also accompany the patient in transport.

If during transport the patient's condition should warrant treatment other than that requested by the private physician, Medical Control may be contacted for information and guidance.

**PROTOCOL TITLE: SCHEDULE 2 MEDICATIONS**

Schedule 2 medications are those medications that are classified as controlled substances by the U.S. Food and Drug Administration. The purchase, storage, dispensing, and record keeping of Schedule 2 medications will be handled in the following manner:

**RECORD KEEPING:** Each EMS agency authorized to obtain and dispense Schedule 2 medication will maintain appropriate orderly records. Copies of these records will be provided to the EMS DIRECTOR at his/her request.

Upon written request, the EMS agency will provide the EMS Director and/or the agency's medical director the original records, when by his/her judgment an audit is necessary. The following information should be supplied with the audit request.

1. Names of all personnel who have access to Schedule 2 medications.
2. Name of the designated control person.
3. Name and FDA physician control number.

**CONTROL:** The EMS agency will designate one individual who will be responsible for record keeping and security of the controlled substance. This individual will be responsible for reporting any discrepancies to the EMS Director.

**PURCHASE:** Purchase of Schedule 2 medications must be on a Federal Narcotics form DEA 222, which contains the name and address of the EMS agency, as well as the name and FDA physician control number of the EMS Director.

Copies of the DEA 222 indicating the source and date of purchase must be maintained by the EMS agency for the purpose of inventory, should a problem arise.

**STORAGE IN-HOUSE:** Storage will be in a locked container that inhibits forced entrance. That container will be stored in a cabinet that is also locked.

Keys to the storage facility will be in control of the Fire Officer on duty. The highest-ranking individual on duty at that facility will be responsible for the keys and for maintaining the appropriate records.

**STORAGE IN THE FIELD:**

1. They may be stored in a locked container that inhibits forced entrance, with that container being stored in a cabinet or compartment on the apparatus that is also locked.

At the beginning of each shift, the following procedure will be followed:

1. Access the locked cabinet containing the controlled medications.
2. Inspect the portable container for any tampering or damage.
3. Ensure the numbered seal is unbroken and intact.



**PROTOCOL TITLE: SCHEDULE 2 MEDICATIONS**

4. Record the seal number on the check sheet. The controlled medication drug sheet is to remain with portable container at all times.

**DISPENSING:** Control and dispensing of Schedule 2 medications is the sole responsibility of the fcf.

1. Date.
2. Agency Run Number.
3. Amount of medication dispensed and wasted in milligrams/micrograms.
4. Signature of paramedic dispensing medication, and witness of the wasting of medication.

**DESTRUCTION:** Destroying outdated or contaminated Schedule 2 medications will be witnessed by two individuals. Both must sign in the appropriate section of the Schedule 2 medication logbook.

1. Medication lot number
2. Expiration date.
3. Date destroyed.
4. Two signatures:
  - a. Paramedic destroying the medication.
  - b. Witness.
5. Reason for destruction.

An alternate to destroying outdated or contaminated Schedule 2 medications is to turn them into a reverse distributor or Law enforcement agency.

**SCHEDULE 2 MEDICATIONS**

**PROTOCOL TITLE: SIDS**

The goal of field EMS care in the case of Sudden Infant Death Syndrome (SIDS) is to provide resuscitation treatment to the infant, if indicated, as well as supportive care to the family until other resources can be mobilized.

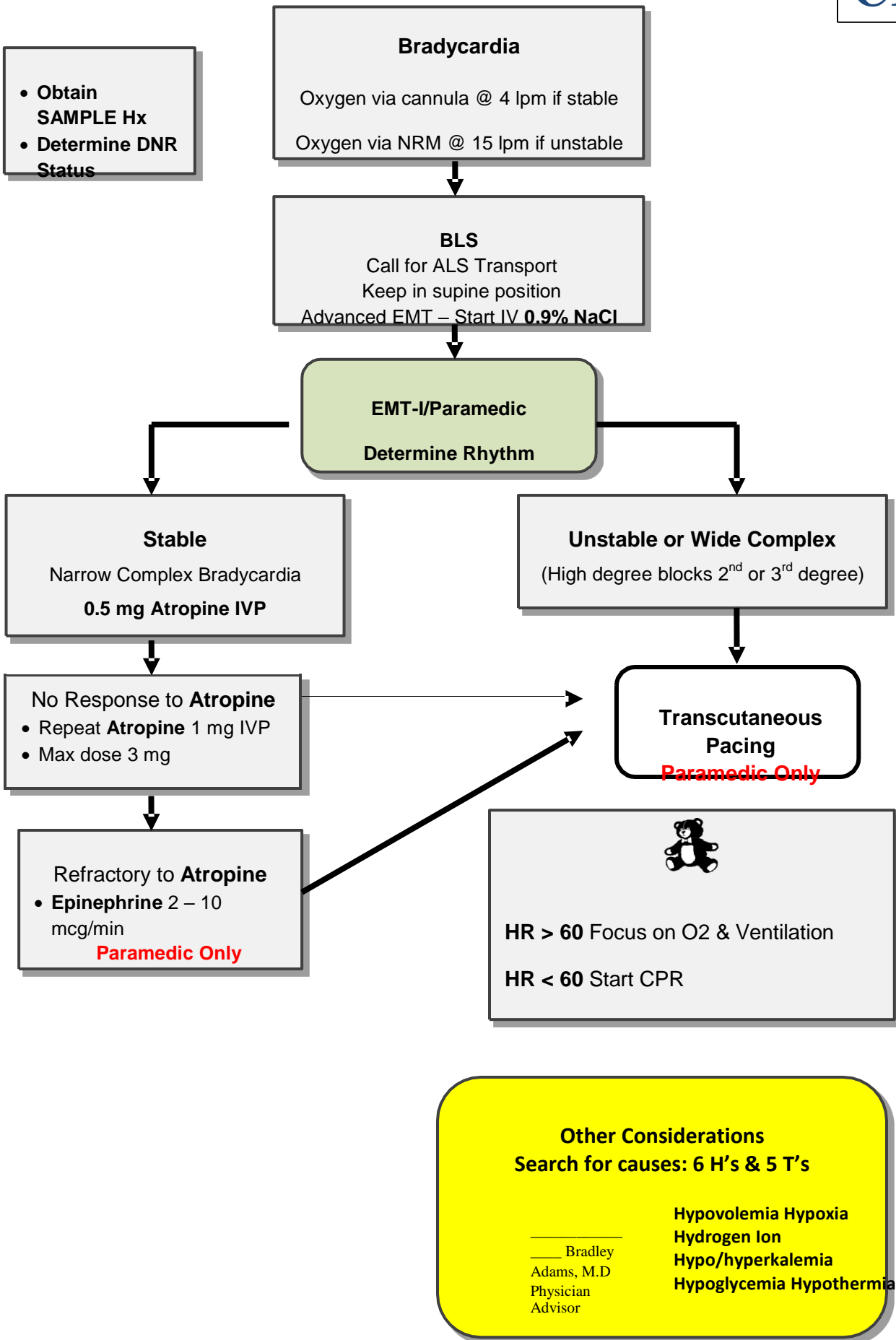


Discuss transport decision with Medical Control.

1. If no signs of obvious death:
  - a. Verify cardiopulmonary arrest.
  - b. Refer to appropriate Pediatric Cardiopulmonary Arrest protocol.
2. If signs of obvious death; disfiguration of face with “squashed nose”; frothy, blood-tinged mucous around infant’s mouth or nostrils; livor mortis (pooling of blood in dependent body areas may appear as blotching); rigor mortis.
  - a. Do not initiate resuscitation procedures unless family refuses to acknowledge the infant’s death.
  - b. Acknowledge the parent’s and family’s feelings of grief, and provide calm, authoritative guidance.
  - c. Consider activation of the Chaplain through dispatch.
  - d. Observe scene carefully and document:
    - i. Location and position of child.
    - ii. Objects immediately surrounding the child.
    - iii. Behavior of all individuals present.
    - iv. The explanations provided.
    - v. Emesis in mouth or foreign body present.
3. Assess for and consider possible abuse mechanism. If suspected, notify DHS by telephone immediately following completion of the call. Document notification time and DHS representative taking report or time voice message is left. If after hours, contact Umatilla Dispatch (541) 276-0855

Pendleton Office  
541-276-9220

SUDDEN INFANT DEATH SYNDROME (SIDS)



**BRADYCARDIA**

**Other Considerations**  
 Search for causes: 6 H's & 5 T's

- \_\_\_\_\_ Hypovolemia
- \_\_\_\_\_ Hypoxia
- \_\_\_\_\_ Hydrogen Ion
- \_\_\_\_\_ Hypo/hyperkalemia
- \_\_\_\_\_ Hypoglycemia
- \_\_\_\_\_ Hypothermia

\_\_\_\_\_  
 Bradley  
 Adams, M.D.  
 Physician  
 Advisor

Toxins  
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Trauma

**PROTOCOL TITLE: CARADIOGENIC SHOCK**

- I. **EMT**
  - 1. Establish and maintain airway.
  - 2. Administer O<sup>2</sup> @ 10-15 L/min via non-rebreather mask.
  - 3. Serial vital signs.
  
- II. **AEMT**
  - 4. Establish large-bore IV and administer 30mL/kg 0.9% **NaCl** bolus.
  
- III. **EMT I**
  - 5. Establish cardiac monitor.
    - \*Do not administer fluid challenge if patient displays signs and symptoms of pulmonary edema
  
- IV. **Paramedic**
  - 6. Administer **Levophed** if no response or inadequate response to fluid challenge. Initial rate of 2-4mcg/min IV/IO, titrated to maintain systolic blood pressure >90mmHg.
    - a. Consult drug table for drip rates. ([A-A2](#))
    - Or
  - 7. Administer **Epinephrine Drip** if no response or inadequate response to fluid challenge. 2-10 mcg/min titrated to maintain systolic blood pressure >90mmHg. (Preferred choice ROSC patient)
    - b. Consult drug table for drip rates. ([A-A2](#))

CARDIOGENIC SHOCK

## PROTOCOL TITLE: CHEST PAIN (Suspected cause Coronary Artery Disease)

### I. EMT

1. Establish and maintain airway.
2. If SaO<sub>2</sub> < 94% administer O<sub>2</sub> to keep SaO<sub>2</sub> ≥ 94%. Do not routinely use O<sub>2</sub> if SaO<sub>2</sub> > or = to 94%
3. If able to swallow administer 324 mg(4/81 mg) chewable **Aspirin**.
4. Administer Nitroglycerine if patient continues to have signs and symptoms of chest pain and has their own physician-prescribed **Nitroglycerine**.
5. **Obtain 12-Lead ECG at the earliest opportunity and transmit to Medical Control. Do not delay care. Do not delay transport greater than 4 minutes to obtain ECG. If unable to transmit, present at ED upon arrival.**
6. Reassessment after **Nitroglycerine** administration.
  - a. Monitor blood pressure.
  - b. Question patient about effect.
  - c. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose x 2 every 5 minutes to maximum three doses.
  - d. Record & document all findings & reassessment.

### II. AEMT

7. Establish peripheral IV with **0.9% NaCl or Lactated Ringers** @ TKO rate.
8. Administer **Nitroglycerine**, 0.4 mg, sublingual, or spray.
  - a. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose every 5 minutes to maximum three doses.

### III. ADVANCED LIFE SUPPORT (Intermediate within scope)

Note: Patients presenting with symptoms and EKG consistent with acute ST-elevation myocardial infarction (STEMI) shall be transported rapidly to the nearest facility capable of emergent cath-lab intervention. Exceptions in extreme circumstances will be reviewed by the EMS Director. In any case, follow triage guidelines for transport destination per Protocol C9.

1. Obtain and transmit 12-lead ECG.
2. Administer **Nitroglycerine**, 0.4 mg, sublingual, or spray.
  - a. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose x 2 every 5 minutes to maximum three doses.
  - b. If *suspected Right Ventricular Infarct* administer 500 cc 0.9% **NaCl or Lactated Ringers bolus** prior to **Nitroglycerine**.
3. If pain unrelieved after 3 **Nitroglycerine**, administer **Fentanyl** 50mcg increments, IV titrated to effect, max dose of 3 mcg/kg. Or **Morphine** 2-5mg IV/IO Maximum of 10 mg
4. Treat dysrhythmias.
5. Consider non-cardiac causes of chest pain; such as pericarditis, pneumonia, gastric esophageal reflux disease, pneumothorax, etc.

CHEST PAIN – (Suspected Cause Coronary Artery Disease)

**PROTOCOL TITLE: CHF WITH ACUTE PULMONARY EDEMA****I. EMT**

1. Initial assessment to include lung sounds.
2. Sit patient up if possible and dangle legs.
3. If stable, administer  $O_2$  @ 4-6 L/min via nasal cannula.
4. In unstable, administer  $O_2$  @ 10-15L/min via nonrebreather mask
5. CPAP if trained – and call for ALS

**II. AEMT**

6. Establish peripheral IV access with 0.9% **NaCl** or **Lactated Ringers** @ TKO rate.
7. Reassess lung sounds.

**III. Paramedic and Intermediate within Scope**

8. Establish cardiac monitor.
9. Obtain 12-Lead ECG at the earliest opportunity and transmit to Medical Control. Do not delay care. Do not delay transport greater than 4 minutes to obtain ECG. If unable to transmit, present at ED upon arrival.
10. If patient in extremis:
  - a. CPAP 100%  $fiO_2$
  - b. BVM assist, intubate, as needed.
11. Drug Therapy – SBP > 100
  - a. **Nitroglycerine**, 0.4 mg sublingual or **Nitro-spray** 0.4 mg x 3 every 3-5 minutes to a max. of 1.2 mg.

CHF WITH ACUTE PULMONARY EDEMA

- Obtain SAMPLE Hx
- Determine DNR Status Early & Obtain Paperwork

**Definitions**

**HQ CC** = High Quality Chest Compressions

**HPCPR** = High Performance CPR @ either 30:2 or 10:1 if highly trained & practiced.

**NRB**=Non-Rebreather Mask

Unresponsive or Pt Who Appears Lifeless


Check Carotid Pulse & Look for signs of Breathing Simultaneously for <10 Seconds

If Pulseless or HR<60

IF Pulses Present but Not Breathing

**Initiate Rescue Breathing**

1 Vent / 5-6 seconds or



1 Vent / 3 seconds

Pulse Check every 2 minutes & Establish ECG

Move Pt to hard surface and start HQCC

**Initiate HPCPR as Team Builds**

1. HQCC, AED/Defib, BVM
2. Consider NRB in place of BVM for first 2 – 6 minutes.
3. Fill Timekeeper Roll ASAP.
4. Use ITD with CPR if available

Continue HPCPR until AED / DEFIB Arrives

10:1 for Highly Trained & Practiced Providers

30:2 (Adult or Child 1 Rescuer)

15:2 (Child 2 Rescuer)

If ALS, & using Manual Defib – go to VF/Pulseless Algorithm

Analyze Rhythm with AED or Check for shockable rhythm with Defibrillator

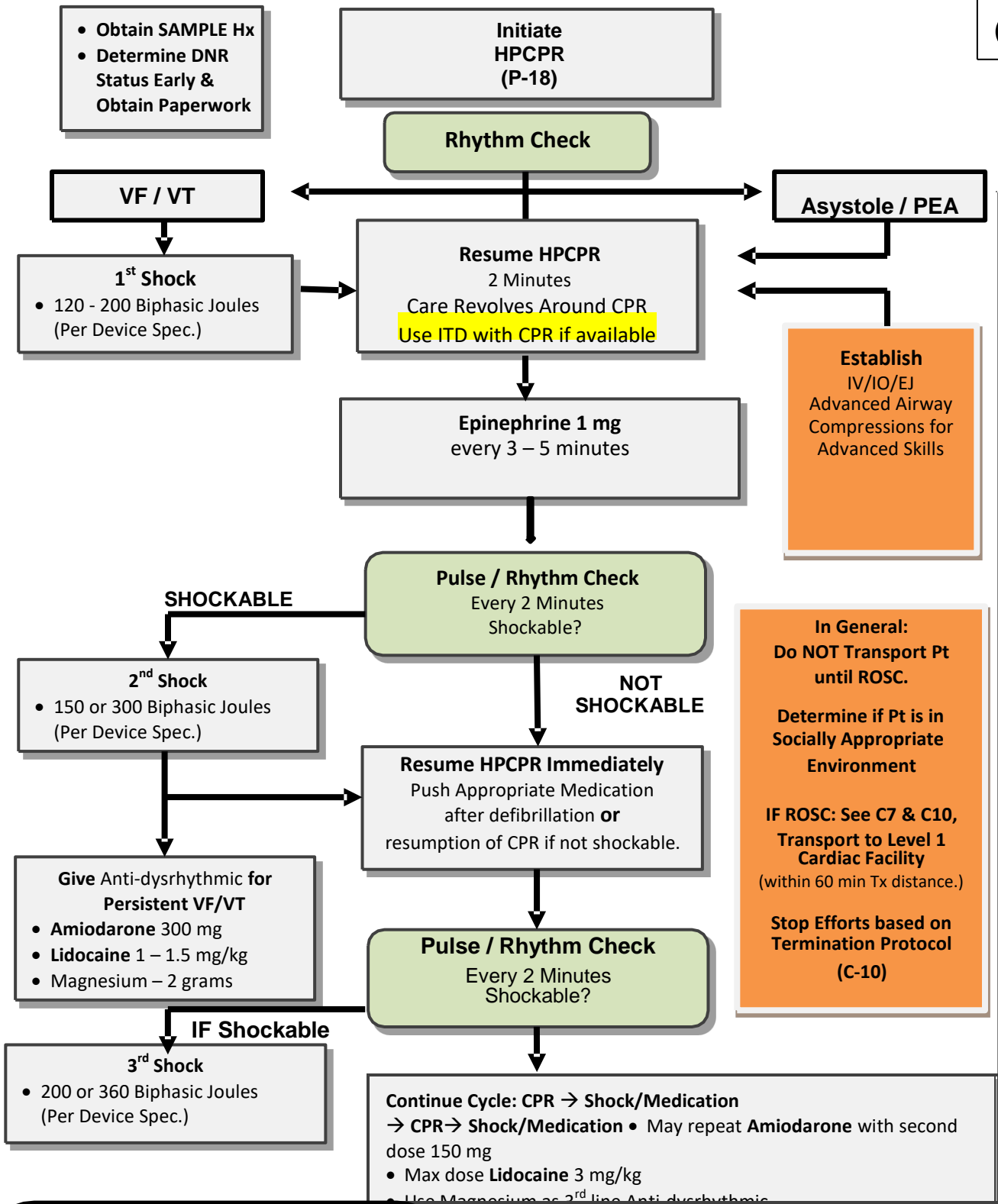
Shockable

Not Shockable

- Give 1 shock every 2 min if indicated
- Resume CPR immediately after shock
- Perform HPCPR 2 minutes between pulse & rhythms checks.

- Resume HPCPR immediately for 2 minutes
- Check pulse & rhythm every 2 minutes
- Continue until ALS arrives and patient is transported





**Drugs by Level**

- **Intermediate**
  - Epinephrine
  - Amiodarone
  - Lidocaine
- **Paramedic**
  - Magnesium

Bradley Adams, M.D.  
Physician Advisor

**CPR Best Practices**

- Avoid Hyperventilation (8 – 10 Vent/min)
- Use ET/CO2 waveform to determine CPR quality
- Rotate compressors every 2 minutes
- Search for possible causes: 6 H's & 5 T's
- If IGEL initially used, place ETT after ROSC
  - Epi (0.01 mg/kg 1:10,000 IV/IO)
  - Atropine (0.02 mg/kg IV/IO)
  - Lidocaine (1 mg/kg IV/IO)

- Obtain SAMPLE Hx
- Determine DNR Status

**Tachycardia**  
Oxygen if unstable

**BLS - ILS**  
Call for ALS Transport  
Keep in supine position or POC

**ALS**  
Determine Rhythm & Patient Status

**Verapamil or Metoprolol** May be substituted for Cardizem.  
  
**Verapamil Dose**  
5mg IVP may repeat every 15 min to max of 20mg  
  
**Metoprolol Dose**  
2.5-5mg slow push every 5 min  
Max 15mg

**Unstable (Narrow or Wide)**  
  
Go straight to Synchronized Cardioversion

**SVT**  
(Regular Narrow Complex)  
Rate >150

**Vagal Maneuvers**

**Adenosine 6 mg**  
Rapid IVP

If No Response

**Adenosine 12 mg**  
Rapid IVP

If No Response

**Adenosine 12 mg**  
Rapid IVP

**A-Fib / Flutter**  
If rate is >(220-age)

**Cardizem 0.25 mg/kg**  
Min 10mg/Max 20mg  
Slow IV, then drip 5-10mg/hour

After 10 mins  
**Cardizem 0.35 mg/kg**  
Min 15mg/Max 25mg  
Slow IV then drip 15mg/hour

**Amiodarone 150 mg**  
Over 10 minutes

If rate controlled initiate maintenance drip:  
Amiodarone 1mg/min

**Ventricular Tachycardia with Pulses**

**Amiodarone 150 mg**  
Over 10 minutes

or

**Lidocaine**  
0.5 - 0.75 mg/kg

**Refractory VT**  
Double Dose of Lidocaine for second dose

**Lidocaine Drip**  
2-4 mg/min

WIDE/NARROW TACHYCARDIA

**Drugs/Procedures by Level**

- **Intermediate**
  - Vagal Maneuvers
  - Amiodarone
  - Lidocaine
- **Paramedic**

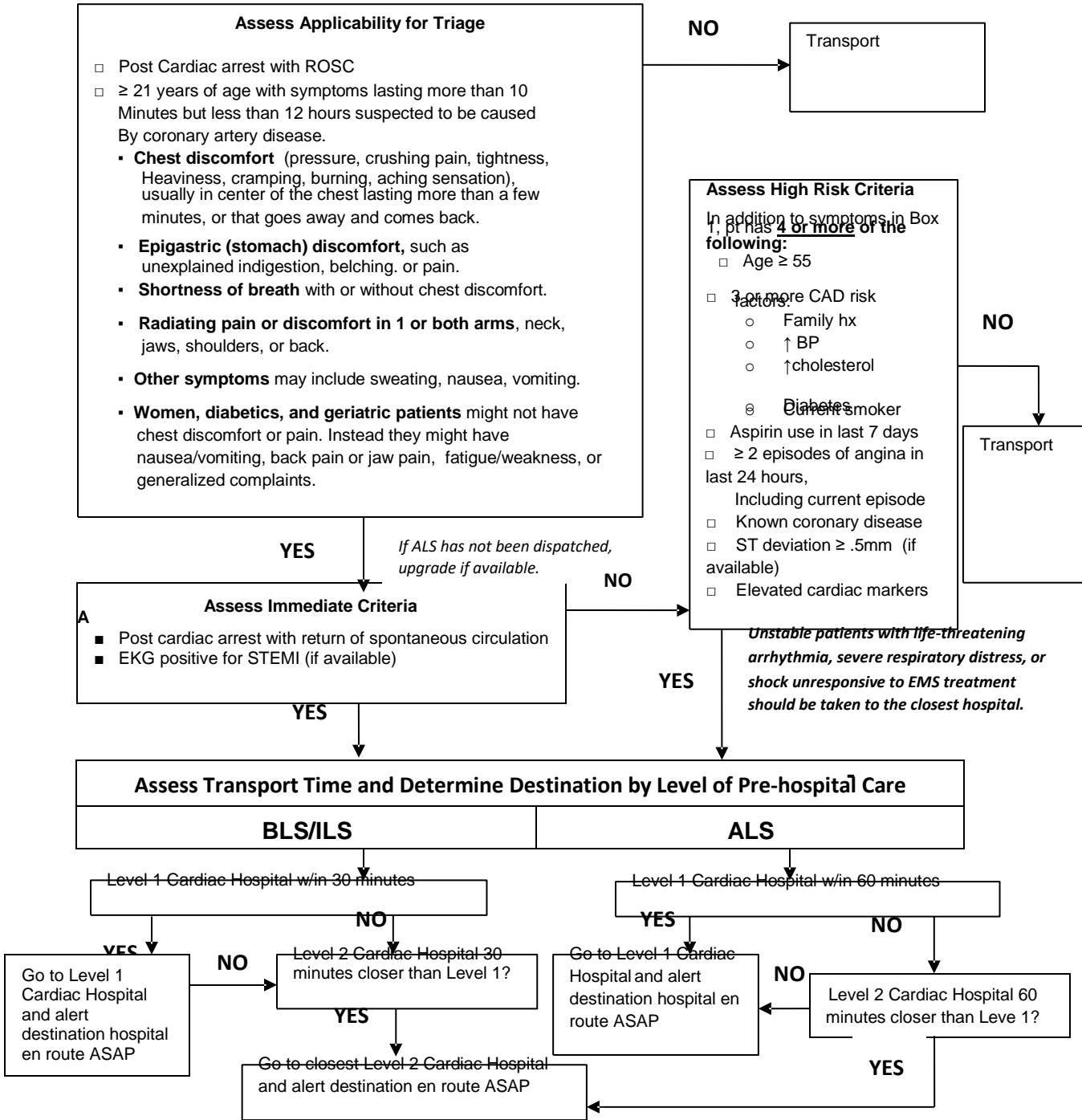
Bradley  
Physician-Advisor  
Adenosine  
Cardizem

**Other Considerations**

- Search for possible causes: 6 H's & 5 T's
- Consider Cardizem for refractory SVT after Adenosine

**PROTOCOL TITLE: CARDIAC TRIAGE TRANSPORT PROCEDURE**

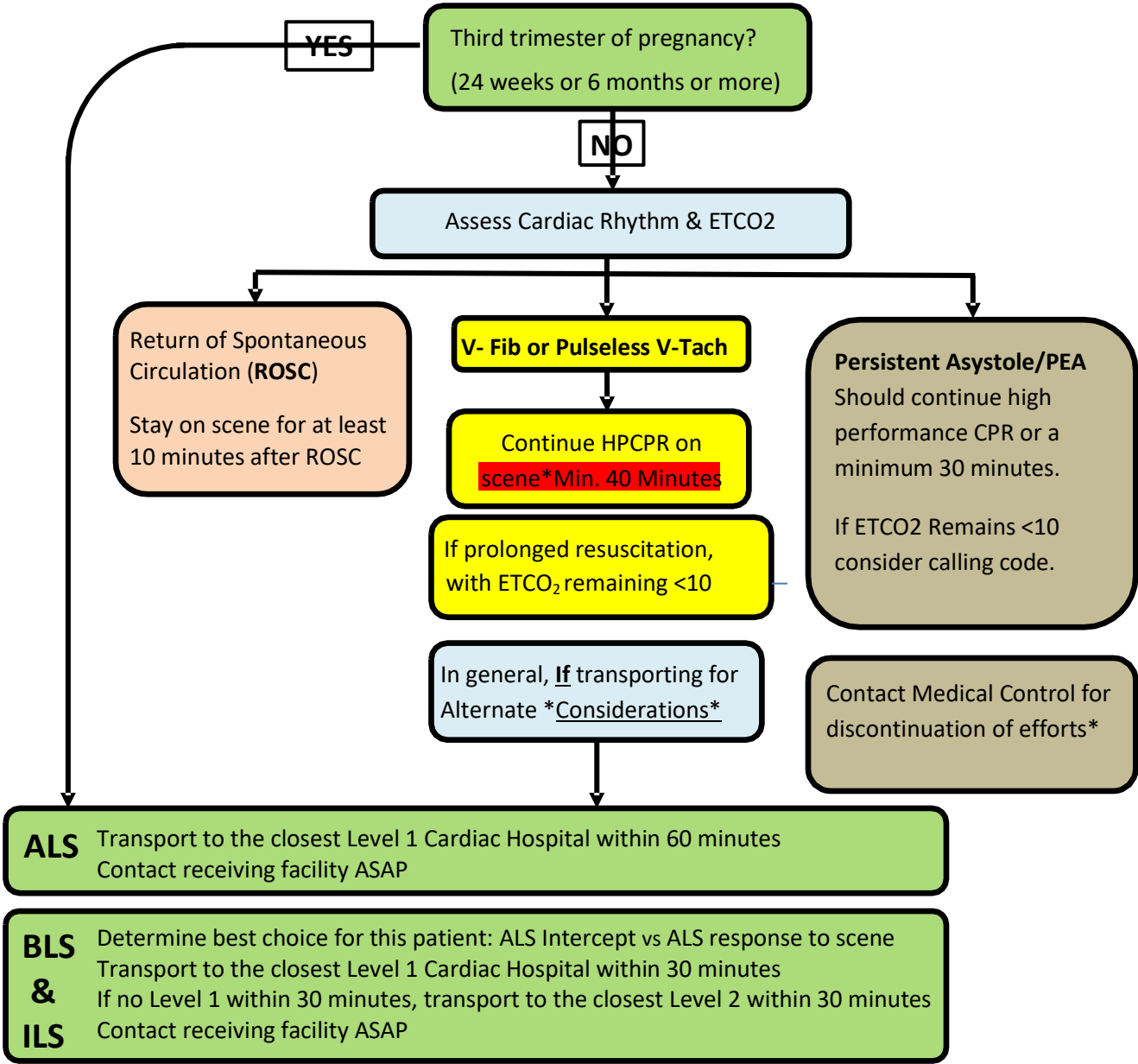
**Pre-Hospital Cardiac Triage Destination Procedure**



**CARDIAC TRIAGE TRANSPORT**

**PROTOCOL TITLE: CARDIAC ARREST TRANSPORT/TERMINATION GUIDELINE**

**CARDIAC ARREST TRANSPORT/TERMINATION GUIDELINE**



- \*Considerations\***
- Consider transport where location is not conducive to leaving patient, and appropriate to do so, e.g. public location
  - Consider transport if family members demanding transport, or similar
  - If transporting due to \*considerations\* and not ROSC, continue full HPCPR efforts until turnover of patient care
  - Do not discontinue resuscitation efforts while transporting
  - Transport prior to ROSC may decrease survival rates due to difficulty in maintain HPCPR
  - Do not transport patients after discontinuing resuscitation efforts on scene
  - Ensure a Chaplain or similar is on scene or en-route to assist family members

## PROTOCOL TITLE: ACUTE ABDOMEN

An Acute Abdomen is defined as non-traumatic, severe, persistent abdominal pain of sudden onset that requires immediate medical or surgical review.

### Examples of pathologies that may create an acute abdomen:

1. Cholecystitis, peritonitis, acute hepatitis, acute pancreatitis, GERD/ulcers.
2. AMI, Aortic, Aneurysm.
3. Appendicitis, Diverticulitis, ectopic ruptures, ovarian cysts, kidney stones.

#### I. EMT

4. Establish and maintain airway.
5. Apply O<sub>2</sub> via nasal cannula at 2-4 L/min.
6. Allow patient to lie in a position of comfort.
7. Consider ALS rendezvous per guideline.

#### II. AEMT

8. Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** @ TKO rate if VS are normal.
9. BP < 90 mm/hg systolic and/or HR >120 should receive a 30cc/kg bolus of 0.9% **NaCl or Lactated Ringers**.
10. Contact medical control for further fluid orders if VS still abnormal.

#### III. EMT-I and Paramedic/RN

11. Establish IV and Cardiac Monitor.
12. Consider immediate life threatening causes, such as abdominal aortic aneurysm (AAA). If the patient is unstable:
  - a. Document pulses in lower extremities.
  - b. Consider multiple IVs.
  - c. Frequent vital sign monitoring.
  - d. Do not delay transport.
13. Treat pain as needed per pain management protocol ([P-9](#)). Do not withhold pain medications in the Acute Abdomen.
14. Treat nausea/vomiting:
  - a. **Zofran (ondansetron)** 4-8 mg IV.
  - b. **Phenergan** 12.5-25mg IV or IM.



## PROTOCOL TITLE: ACUTE ADRENAL INSUFFICIENCY

- Acute adrenal insufficiency (crisis) can occur in the following settings:
  - During neonatal period (undiagnosed adrenal insufficiency)
  - In patients with known, pre-existing adrenal insufficiency (eg, Addison's disease)
  - In patients who are chronically steroid dependent (ie, taking steroids daily, long-term, for any number of medical conditions)
  - Adrenal crisis can be triggered by any acute stressor (eg, trauma or illness), as well as by abrupt cessation of steroid use (for any reason).
- Signs/symptoms of adrenal crisis: Altered mental status, seizures; generalized weakness, hypotension, hypoglycemia, hyperkalemia.
- Notify hospital you are transporting known/suspected adrenal crisis patient
- Emergency transport for: ALOC, hypotension, hypoglycemia, suspected hyperkalemia.

Acute adrenal crisis is an immediately **life-threatening** emergency, and must be treated aggressively

### I. EMT

1. Assess and support ABC's
2. Oxygen therapy as needed
3. Monitor Vitals
4. Check Blood Glucose. If <60 administer glucose solution orally if the patient is awake and able to protect airway
5. Obtain 12 lead if time permits.

### II. AEMT

6. Initiate IV or IO according to protocol
7. If Glucose < 60 Initiate give Dextrose according to Hypoglycemia protocol
8. Fluid Bolus 500cc NS (or 20cc/kg for peds.) repeat if hypotensive
9. Do not delay transport

### III. EMT-I

10. Monitor Cardiac Rhythm

### IV. Paramedic/RN

11. If patient is known or suspected adrenal crisis
  - A. Consider **Dexamethasone** 10 MG IV/IO/IM/PO
  - B. May administer patients own steroid medicine if available
12. Treat ECG findings

## PROTOCOL TITLE: ANAPHYLAXIS AND ALLERGIC REACTION

### Allergic reaction

Hives, redness, localized swelling or itching. Maybe swelling of the face or eyes and causing some tightness in the throat and/or mild bronchoconstriction.

#### I. EMT

1. Establish and maintain airway.
2. If stable, administer O<sup>2</sup> @ 2-4 L/min nasal cannula.
3. If unstable, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask.

**If patient is displaying signs & symptoms of respiratory distress and/or shock (ie. Anaphylaxis):**

4. Administer **Epinephrine Auto-injector** from your EMS supplies or patients physician prescribed Epi.
  - a. Adult – **EpiPen** (0.3 mg).
    - i. If **Epi-Pen** not available, consider.
    - ii. **Epinephrine**, 1:1,000, 0.3-0.5 mg IM or SQ.
  - b. Infant/Child –**EpiPen Jr.** (0.15 mg) describes individual who is under 10 years of age and/or weighing < 60 lbs.
    - i. IF Epi-Pen not available: Epinephrine 1:1000. 0.01mg/kg max 0.5 mg IM or SQ.
 

**Ensure Epi-PEN is not expired, cloudy or crystallized.**
  - c. Record time of injection & reassess in two minutes.
  - d. Continue supportive care.
5. **Albuterol (Proventil®)** 2.5 mg in 3 cc unit dose of 0.9% **NaCl** per nebulizer mask for wheezing.
  - a. 0.5 ml (2.5 mg) in 3 cc of NS per nebulizer mask or through BVM. (May add **Atrovent or Duoneb®**)



#### II. AEMT

6. Establish IV access with 0.9% **NaCl** or **Lactated Ringers** @ rate indicated by clinical findings and vital signs.

#### III. EMT-I

7. **Benadryl** 25-50 mg. IV or I.M.
8. EKG monitor

#### IV. Paramedic/RN -Anaphylactic reaction

**If patient is displaying signs & symptoms of respiratory distress and/or shock (i.e. Anaphylaxis):**

1. Rapidly progressing laryngeal edema, consider.
  - a. **Epinephrine**, 1:1,000, 0.3-0.5 mg IM, SQ.  
or
  - b. **Epinephrine** 1:10,000, 0.3-0.5 mg IV, IO.
  - c. Consider Racemic **Epinephrine**, dilute 0.5 mL in 3 cc unit dose of **NS**, per nebulizer mask.
  - d. Endotracheal intubation/RSI if respiratory failure.

**PROTOCOL TITLE: ANAPHYLAXIS AND ALLERGIC REACTION**

- 2. Continued signs of shock despite treatment.
  - a. **Epinephrine** drip.
  - b. **May repeat Epinephrine 1:1000 or 1:10000 every 5 minutes if needed.**

**ANAPHYLAXIS AND ALLERGIC REACTION**



## PROTOCOL TITLE: BEHAVIORAL EMERGENCIES

### I. EMT, AEMT, EMT-I

#### General Considerations

1. Be aware of dangers to patient or medical personnel.
2. Summon law enforcement.
3. Request Mental Health Professional as needed.
4. Approach patient in a calm manner.
5. Show self-confidence and convey concern for patient.
6. Reassure patient he/she should and will be taken to a hospital where there are people that are interested in helping him/her.

#### General Approach

1. Transport the patient as quickly as possible to an appropriate facility without causing undue emotional or physical harm.
2. If the patient appears to have significant mental disorder and is refusing transport, consider police and/or mental health professional assistance.
3. Never stay alone with a violent patient and have enough help to restrain him/her if needed.
4. Consider the armed patient potentially homicidal as well as suicidal.
5. For severe or dangerous agitation/combativeness that represents an acute danger to the patient or EMS personnel, consider physical restraint:
  - a. 4-point soft restraints – secure patient safely in supine position to gurney or backboard.
  - b. Spitting or biting patients may be secured with a surgical mask or an oxygen mask that has flowing oxygen.

**\*Violent patients judged as unsafe for transport may be sedated by ALS personnel.**

### II. Paramedic/RN

1. For severe or dangerous agitation/combativeness refractory to verbal redirection, consider chemical restraint.
  - a. **Versed (midazolam)** 2-5 mg IV, IM, or intranasal.
  - b. **Haldol (haloperidol)** 5-10 mg IM, may repeat up to 10mg maximum
  - c. **Ketamine** 1-2mg/kg IM. May repeat x1 after 15 minutes if needed.
2. For severe or dangerous agitation/combativeness that represents an acute danger to the patient or EMS personnel, consider physical restraint:
  - a. 4-point soft restraints – secure patient safely in supine position to gurney or backboard.
  - b. Spitting or biting patients may be secured with a “spit hood”, surgical mask or an oxygen mask that has flowing oxygen.

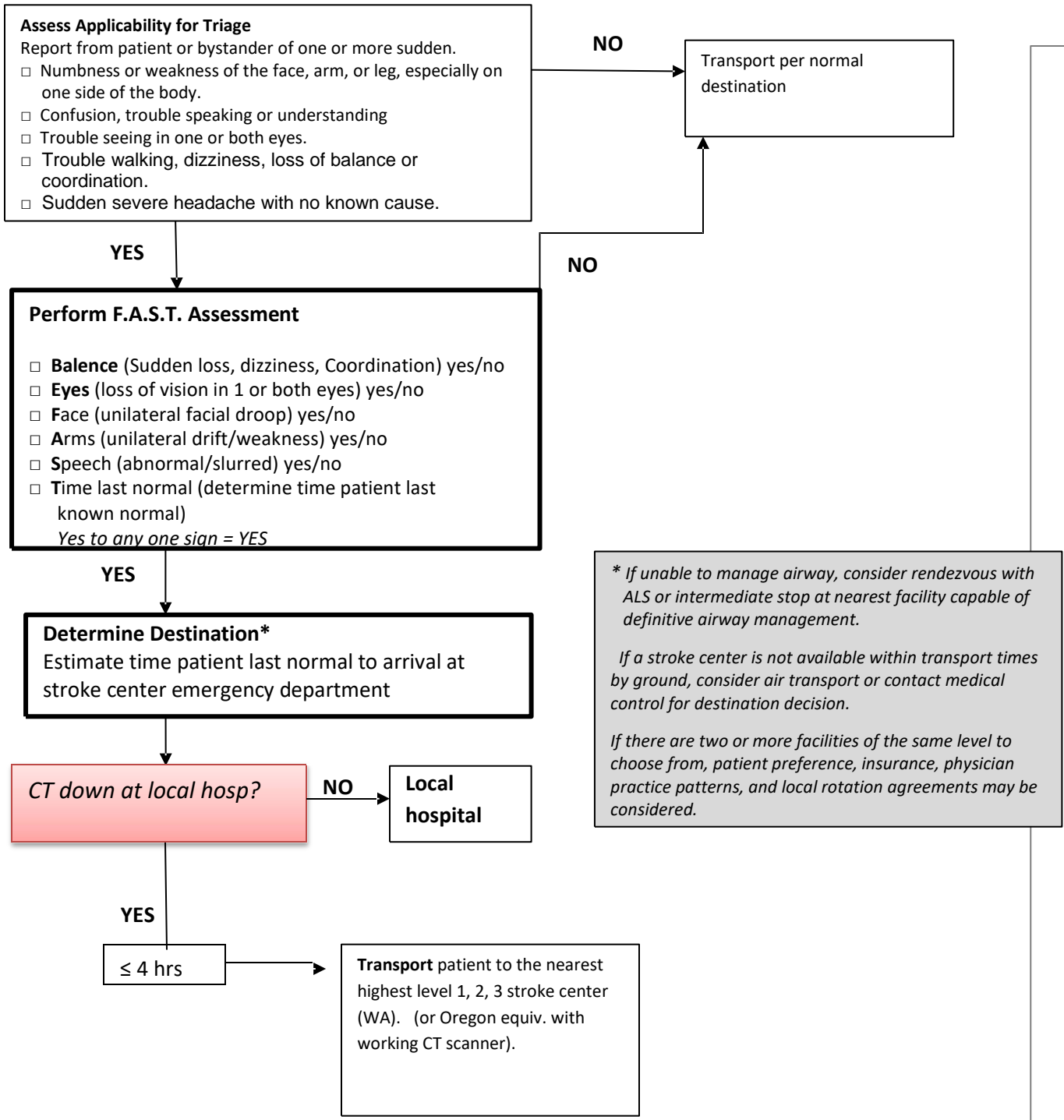
Law enforcement personnel may assume responsibility for patient restraint, but must personally accompany patient to the emergency department.
3. For Patients with severe Anxiety
  - a. **Ativan** 0.5-1mg IV
  - b. **Valium** 2-4mg IV

**PROTOCOL TITLE: STROKE**

- I. EMT**  
Notify Medical Control
1. Establish and maintain airway.
  2. Place patient in lateral position, on paralyzed side if present.
  3. Administer oxygen 2-4 L/min via nasal cannula.
  4. Obtain blood glucose level.
  5. Complete Stroke pre-screening criteria **B.E.F.A.S.T**
  6. Treat respiratory distress with O<sup>2</sup> at 10-15 L/min by nonrebreather. Suction PRN.
  7. If evidence of trauma, initiate spinal immobilization.
  8. If time permits, complete “Thrombolytic Checklist” below.
  9. If patient meets criteria, positive Stroke scale and less than 4.5 hours call **Stroke Alert** to Destination hospital.
- II. AEMT, EMT- I**
10. Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** @ TKO rate.
- III. Paramedic/RN**
11. Assess airway, if unstable or if no gag reflex present consider endotracheal intubation/RSI.
  12. Establish IV and cardiac monitor.
  13. Obtain blood glucose level. Treat hypoglycemia as necessary.
  14. Screen for thrombolytic therapy. If patient may meet criteria for thrombolytics initiate rapid, early transport and early notification of the receiving hospital. Patients who may meet criteria for thrombolytic therapy should be preferentially transported to a facility capable of utilizing thrombolytics.

**PROTOCOL TITLE: STROKE**

**Pre-hospital Stroke Triage Destination Procedure**



STROKE

## PROTOCOL TITLE: STROKE

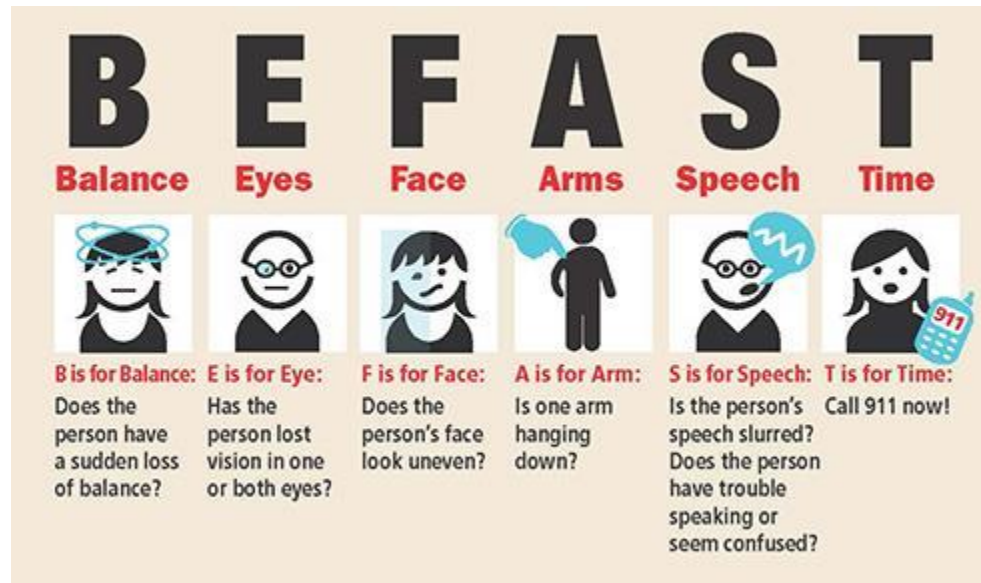
### Limit scene time and alert destination hospital en route ASAP

#### Purpose

The purpose of the Stroke Triage and Destination Procedure is to help you identify stroke patients in the field so you can take them to the most appropriate hospital. Like trauma, stroke treatment is time-critical the sooner a patient is treated, the better their chances of survival. Fast treatment can mean less disability, too. For strokes caused by a blood clot in the brain (ischemic), clot-busting medication must be administered within 4.5 hours from the time they first have symptoms. For bleeding strokes (hemorrhagic), time is also critical. As an emergency responder, you play a crucial role in getting patients to treatment in time.

#### Stroke Assessment – B.E.F.A.S.T.

The F.A.S.T assessment tool (also known as the Cincinnati Prehospital Stroke Scale + Balance, Eyes, and Time) is a simple but reasonably accurate way to tell if someone might be having a stroke. It's easy to remember: Balance, Eyes, Facial droop, Arm drift, Speech, + Time. If sudden loss of balance, vision, face, arms, or speech is abnormal, it's likely your patient is having a stroke. You should immediately transport the patient to a stroke center per the triage tool and regional patient care procedures. Alert the hospital on the way. Transport should not be delayed for IV and EKG monitoring.



#### Stroke warning signs:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body.
- Sudden confusion, trouble speaking or understanding.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, loss of balance or coordination.
- Sudden, severe headache with no known cause.

Encourage family to go to the hospital to provide medical history, or obtain contact information for a person who can provide medical history.

**Report to ED:** Possible IV t-PA contraindications: symptom onset more than 180 minutes • head trauma or seizure at on-set • recent surgery, hemorrhage, or heart attack • any history of intracranial hemorrhage

**PROTOCOL TITLE: STROKE**

**THROMBOLYTIC CHECKLIST**

This checklist is intended as a tool for the pre-hospital identification of patients who may benefit from the administration of thrombolytics for acute stroke and to facilitate the administration of thrombolytics in the ED.

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Amb/Unit#: \_\_\_\_\_ Run #: \_\_\_\_\_

Patient Name: \_\_\_\_\_ Age: \_\_\_\_\_ Est. Wt: \_\_\_\_\_ lbs/kg

Time last seen at baseline: \_\_\_\_\_

Time of symptom onset: \_\_\_\_\_

Onset Witnessed or reported by: \_\_\_\_\_

Symptoms from CPSS Scale (circle abnormal findings)

***ANY ONE FINDING = POSSIBLE STROKE***

FACIAL DROOP:                    R                    L

ARM DRIFT:                        R                    L

SPEECH:                            slurred                    wrong words                    mute

Possible Contraindications (check all that apply)

Current use of anticoagulants (e.g., warfarin sodium)	Yes	No	?
Has blood pressure consistently over 180/110 mm Hg	Yes	No	?
Witnessed seizure at symptom onset	Yes	No	?
History of intracranial hemorrhage	Yes	No	?
History of GI or GU bleeding, ulcer, varices	Yes	No	?
Is within 3 months of prior stroke	Yes	No	?
Is within 3 months of serious head trauma	Yes	No	?
Is within 21 days of acute myocardial infarction	Yes	No	?
Is within 21 days of lumbar puncture	Yes	No	?
Is within 14 days of major surgery or serious trauma	Yes	No	?
Is pregnant	Yes	No	?
Abnormal blood glucose level (<50 or >400): Blood Glucose: _____	Yes	No	?

Have you identified any contraindications to thrombolytic therapy?     YES     NO

**PROTOCOL TITLE: HYPERGLYCEMIA****I. EMT**

1. Establish and maintain airway.
2. Obtain vital signs.
3. Check blood glucose.

**II. AEMT**

4. Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** and administer 30mL/kg bolus if signs of dehydration or blood glucose > 300mg/dL.
5. Transport and obtain follow-up vital signs.

**III. EMT-I, Paramedic/RN**

6. Establish IV and cardiac monitor.
  - a. Administer 30mL/kg 0.9% **NaCl or Lactated Ringers** bolus if signs of dehydration or blood glucose > 300mg/dL.
  - b. For blood glucose readings greater than 300 mg/dL with altered mental status, consider a second IV line.

HYPERGLYCEMIA

## PROTOCOL TITLE: HYPOGLYCEMIA

### I. EMT

1. Establish and maintain airway.
2. If stable, administer O<sup>2</sup> @ 2-4 L/min via nasal cannula.
3. If unstable, administer O<sup>2</sup> @ 10-15 L/min via nonrebreather mask.
4. Determine blood sugar, if < 80 mg/dL and patient is conscious and able to swallow without difficulty:
  - a. Administer **Oral Glucose** 15 g.  
Or
  - b. Orange juice or an equivalent high concentration of sugar solution PO.

### II. AEMT

5. Establish peripheral IV access with 0.9% **NaCl or Lactated Ringers** @ TKO rate.
6. Adult Administer **Dextrose, D<sub>50</sub>** 25 g IV, IO bolus.
  - a. May repeat **D<sub>50</sub>** 25g after 5 minutes if no response and blood glucose < 80.
7. Pediatrics 0.5-1 g/kg **Dextrose** based on the following dilutions up to 25 g.
  - a. Age < 1 year dilute to **12.5% dextrose**.
  - b. Age 1-8 years dilute to or use **D25%**.
  - c. Age > 8 years may use **D50%**.
8. An adult patient may elect not to be transported if:
  - a. Blood sugar > 80.
  - b. Normal LOC.
  - c. The patient is able to eat on their own and re-check own blood glucose level.
  - d. The patient has someone on scene to assist them, and summon EMS if necessary.

### III. EMT-I

9. Establish IV, consider oxygen and cardiac monitor.

### IV. Paramedic/RN

10. If suspected alcohol abuse and/or malnutrition, administer **Thiamine (Betain®)** 100 mg IV bolus prior to administration of **D<sub>50</sub>**.
  - a. May repeat **D<sub>50</sub>** 25g after 5 minutes if no response and blood glucose < 70.
11. If unable to establish IV and patient is unable to take oral glucose, administer **Glucagon**, 1.0 mg IM.
12. An adult patient may elect not to be transported if:
  - a. Blood sugar > 80.
  - b. Normal LOC.
  - c. The patient is able to eat on their own and re-check own blood glucose level.
  - d. The patient has someone on scene to assist them, and summon EMS if necessary.

Note: If patient is on oral hypoglycemics they are at high risk for recurrent hypoglycemia - call online medical control.



**PROTOCOL TITLE: HYPOTENSION /HYPOVOLEMIA– UNKNOWN ETIOLOGY**

Adult with systolic blood pressure < 90mm Hg not clearly falling under another protocol.

**Pediatric**

Shock in children is subtle and may be difficult to detect. Use clinical judgment and incorporate vital signs.

**Assessment and Vital Sign Parameters**

Pt presents with cool, clammy, or mottled skin, and tachycardia. Pt. has a >5 second capillary refill. Additionally, pt is irritable or unresponsive, Altered mental status for self. History of vomiting and diarrhea, or trauma.

**TACHYCARDIA**

Newborn	HR > 180/min.
Infant	HR> 160/min.
Toddler	HR > 140/min.
Preschooler	HR> 130/min.
Adolescent	HR > 120/min.

**LOW SYSTOLIC BLOOD PRESSURE**

Newborn	SBP< 60 mm Hg
Infant	SBP < 70 mm Hg
Toddler	SBP < 80 mm Hg
Preschooler	SBP < 90 mm Hg
Adolescent	SBP < 100 mm Hg

**I. EMT**

1. Establish and maintain airway.
2. Administer O<sub>2</sub> @ 10-15 L/min per NRM, assist as needed with BVM and OPA.
3. Control bleeding.
4. Consider shock position.
5. Maintain body temperature above 97° F.
6. If patient will tolerate position, place patient supine and elevate lower extremities.

**II. AEMT**

7. Establish large-bore IV with 0.9% **NaCl . or Lactated Ringers**
  - a. Administer fluid bolus of 30 mL/kg 0.9% **NaCl or Lactated Ringers**. (May repeat x 1)
  - b. Administer 20 mL/kg 0.9% **NaCl or Lactated Ringers**. (May repeat x 1)

**III. EMT-I**

8. Establish IV and cardiac monitor.
9. If inadequate improvement after first IV fluid bolus and no signs of volume overload, consider repeating 30mL/kg fluid bolus.



**PROTOCOL TITLE: HYPOTENSION /HYPOVOLEMIA– UNKNOWN ETIOLOGY****IV. Paramedic/RN**

10. **Levophed** if no response or inadequate response to fluid challenges. Initial rate of 2-4mcg/min IV/IO, titrated to maintain systolic blood pressure >90mmHg. Consult drip table ([A-A2](#)) for rates
11. For hypotension refractory to fluid bolus and suspected beta blocker overdose, may give **glucagon** 2 mg IV push. Repeat per A-A1 Chart

HYPOTENSION / HYPOVOLEMIA- UNKNOWN ETIOLOGY

**PROTOCOL TITLE: NAUSEA AND VOMITING****I. EMT**

1. If stable, administer O<sup>2</sup> @ 2-4 L/min via nasal cannula.
2. If unstable, administer O<sup>2</sup> @ 10-15 L/min via nonrebreather mask.
3. Assess neurological and cardiac status.

**II. AEMT**

4. Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** @ TKO rate.  
Administer 30mL/kg IV bolus if evidence of hypovolemia.  
PEDs: Administer 20 mL/kg IV bolus if evidence of hypovolemia.

**III. EMT-I, Paramedic/RN**

5. Establish IV and Cardiac Monitor.  
Administer
  - a. **Zofran** 4-8 mg IV IM, IO, or PO.
  - b. **Phenergan** 12.5-25mg IV or IM
6. Pediatrics administer **Zofran** based on the following:
  - a. <1 yo 1 mg IV, IO, IM, PO.
  - b. 1-8 yo 2 mg IV, IO, IM, PO.
  - c. >8 yo 4 mg IV, IO, IM, PO.



## PROTOCOL TITLE: OBSTETRICAL EMERGENCIES

### I. EMT

Obtain history and perform physical assessment:

1. History to include, but not limited to:
  - a. Gravidity (number of times pregnant).
  - b. Parity (number of life births).
  - c. How many weeks pregnant.
  - d. Medical problems during the pregnancy.
  - e. High risk patient.
  - f. Taking medications regularly (e.g., insulin, seizure medications).
  - g. Recent use of drugs, (e.g., cocaine, ETOH).
2. Assessment to include:
  - a. Any vaginal bleeding?
  - b. Any fluid loss?
  - c. Cramps or contractions and frequency.
  - d. Palpate fundus for contractions.
3. Establish and maintain airway.
4. If stable, administer O<sup>2</sup> @ 2-4 L/min per nasal cannula.
5. If unstable, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask.
6. Transport in left lateral recumbent position.
7. For Vaginal Bleeding: Transport any recognizable or suspected products of conception or fetal material present at the scene to the receiving facility.
8. If crowning is present, or if multiparous patient and contractions <2 minutes apart, and transport time >15 minutes, prepare for delivery.



### II. AEMT/EMT-I

For complicated obstetrical emergencies, contact medical control.

9. Establish large-bore peripheral IV with 1000 cc bag of 0.9% **NaCl** or **Lactated Ringers** @ TKO rate.

### III. Paramedic/RN

#### POST-PARTUM HEMORRHAGE


10. If postpartum hemorrhage profuse and patient exhibiting sign of shock massage uterus firmly, treat hypovolemia with positioning, oxygen and IV fluids.
11. Consider **TXA** per [T5](#)

#### TOXEMIA

1. Pre-eclampsia: If BP > 160/110 with edema, **Magnesium** Sulfate 2-4 grams IV slow over 30 minutes diluted in 50-100 ml 0.9% NaCl.
  - Monitor Respiratory Rate (RR) and Deep Tendon Reflex (DTRs) q 5 minutes. Discontinue Mag if RR <12 or DTRs absent.
  - If RR does not improve or cardiac arrhythmias occur contact medical control for use of Calcium Gluconate 1g of 10% solution to reverse possible Mag toxicity.



**PROTOCOL TITLE: OBSTETRICAL EMERGENCIES**

- 
2. Eclampsia: (Toxemia), Seizure/Postictal
    - a) **Versed** 1 – 5 mg IV/IM/IN OR **Valium** 2-4 mg IV/IM/IN OR **Ativan** 1-2mg IV/IM up to 2-4mg IV/IM
    - b) **Magnesium Sulfate** 2-4 grams IV slow over 30 minutes diluted in 50-100 ml 0.9 % NaCl.

CARDIO-PULMONARY ARREST

1. For those patients who suffer cardiopulmonary arrest who are in the third trimester of pregnancy, full resuscitative measures should be continued, even if it is obvious that the mother will not survive. Patients who meet criteria of obvious nonacute mortality (such as dependent lividity, see protocol G6) should not receive resuscitation efforts.

## PROTOCOL TITLE: OVERDOSE

### I. EMT

1. Responsive, alert patient with gag reflex:
  - a. Establish and maintain airway.
  - b. If ventilating adequately, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask.
  - c. Ventilate or assist ventilation with BVM if patient apneic or hypoventilating.
  - d. If suspected **Opioid Overdose** and patient has a decreased or inadequate respiratory rate administer **Naloxone (Narcan)** 2mg IN 1 cc per nostril.

### II. AEMT, EMT-I

2. Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** @ TKO rate.
3. If suspected **opioid overdose** and patient has a decreased or inadequate respiratory rate:
  - a. Administer **Naloxone (Narcan®)**, 0.4 - 2 mg IV, IM, IO, or intranasally via intranasal drug delivery device. May repeat every 2-3 minutes to a maximum of 10 mg. Titrate to respiratory effect.
4. Ongoing assessment.

### III. Paramedic/RN

4. Assess airway, if unstable or if no gag reflex present consider endotracheal intubation/RSI.
5. Establish IV, consider oxygen and cardiac monitor.
6. If ingestion unknown and patient has diminished level of consciousness or depressed respiratory rate:
  - a. May administer:
    - i. **Narcan** 0.4-2 mg IV.
    - ii. **Thiamine** 100 mg IV.
    - iii. **D50** 25 grams, may repeat x 1 in 5 minutes, PRN.
7. If suspected **Opioid** overdose and patient has a decreased or inadequate respiratory rate:
  - a. Administer **Naloxone (Narcan®)**, 0.4-2 mg IV, IM, IO, or intranasally via intranasal drug delivery device. May repeat every 2-3 minutes to a maximum of 10 mg. Titrate to respiratory effect.
8. If suspected **Tricyclic Antidepressant (TCA)** overdose:
  - a. If HR sustained greater than 120 bpm, EKG shows QRS widening more than 0.12 s, hypotension refractory to fluid bolus, or ventricular dysrhythmias: may administer **sodium bicarbonate** 1mEq/kg slow IV push.
9. If suspected Beta Blocker overdose:
  - a. For SBP<90 give IV fluid bolus 30ml/kg. Place patient in trendelenburg position.
  - b. For hypotension refractory to fluid bolus, may give **glucagon** 2 mg IV push. Repeat per A-A1 Chart
  - c. For bradycardia, may administer **atropine** 0.5-1mg IV with repeated doses at 5 minute intervals until desired response.
  - d. Peds dose per A-A1 Chart of **glucagon**, no **atropine**



## PROTOCOL TITLE: OVERDOSE

10. If suspected Calcium Channel Blocker overdose:
  - a. For hypotension (BP<90) refractory to fluid bolus, may give **glucagon** 2 mg IVP.
  - OR
  - b. **Calcium Gluconate 10%**, 10 ml IV or IO over 5-10 min
11. Sympathomimetic Toxicity Causing Chest Pain (examples: Medications containing ephedrine, cocaine, amphetamines, methamphetamine, mephedrone, dietary supplements, MDMA, GHB bath salts)
  - a. Refer to Acute Coronary Syndrome protocol for patients with chest pain
  - b. (C-3). **Ativan** 0.5-2mg IV q 5min max 4mg
  - c. **Versed** 2-5mg IV or IM q 5min max 10mg
12. Magnesium Sulfate overdose:
  - a. **Calcium Gluconate 10%**, 10 ml IV or IO over 5-10 min
13. Hydrogen fluoride or Hydrofluoric acid exposure:
  - a. Skin Burns or exposure – apply topically
    - i. Mix 1 ampule of **calcium gluconate 10%** in 1 ounce (30cc) water-based, water soluble personal lubricant (such as K-Y jelly) and massage into burned area.
  - b. Inhalation exposure or pulmonary burns - via nebulizer
    - i. Administer 2.5% solution – mix 10% calcium gluconate with 3 volumes normal saline

**NOTE:** In all cases follow ACLS guidelines for dysrhythmia (per protocol).

OVERDOSE

## PROTOCOL TITLE: SEIZURES

### I. EMT

1. If stable, administer O<sup>2</sup> @ 4-6 L/min via nasal cannula.
2. If unstable, administer O<sup>2</sup> @ 10-15 L/min via nonrebreather mask.
3. Physical assessment and history.
  - If seizure terminates spontaneously and patient has history of previous seizures with ongoing medical management of those seizures, and clinical situation dictates – patient may have option of not being transported to the hospital.
  - For pediatric patients, assess whether the seizure may be febrile in nature. If so remove heavy or swaddling clothes, keep patient lightly dressed.

### II. AEMT, EMT-I

- Establish peripheral IV with 0.9% **NaCl or Lactated Ringers** @ TKO rate.
- Check blood glucose.
  - If less than 80 mg/dl administer **Dextrose** 50%, 25 g slow IV push.
  - For children 8 years old or less administer 0.5-1.0 mg/kg up to 25g of **Dextrose** diluted as follows:
    - i. <1 years of age, 12.5% solution.
    - ii. 1-3 years 25% Solution.
    - iii. >3 years 50% solution.
- Patients experiencing seizures lasting greater than 5 minutes, having reoccurring seizures or experiencing new onset of seizure without prior history must be transported.



### III. Paramedic/RN

- In the case of witnessed continuous seizure activity with respiratory compromise or repetitive seizures without a return to consciousness:
  - a. Establish IV/IO access.
  - b. Administer:
    - i. **Versed** 0.5-5 mg IV, IM or Intranasally using intranasal drug delivery device.
    - ii. **Valium** 2-10 mg IV, IM or IO every 3-5 min
    - iii. **Ativan** 1-2mg or 2-4mg IV/IM
  - c. Establish cardiac monitor.
  - d. Continue monitoring airway.
  - e. Check Blood Glucose, if less than 80 mg/dl administer **Dextrose** 50%, 25g slow IV push.

#### Pediatric Seizures

- a) Intranasal atomized **Versed** 0.2 mg/kg using a nasal drug delivery device;
- b) **Valium** 0.1-0.3 mg/kg IV, IM or IO Max 5 mg

**PROTOCOL TITLE: SEIZURES**

Or

**Ativan** 0.1mg/kg IV/IM Max 4mg

- c) After two unsuccessful attempts at peripheral venipuncture, and patient remains unconscious consider intraosseous (IO) route.
- d) Check blood glucose; if < 80 mg/dl administer 0.5-1.0 g/kg up to 25g of **Dextrose** diluted as follows:
  - i) <1 years of age, 12.5% solution.
  - ii) 1-3 years 25% solution.
  - iii) >3 years 50% solution.



Patients experiencing seizures lasting greater than 5 minutes, having reoccurring seizures, or experiencing new onset of seizure without prior history must be transported.

***\*Be alert for respiratory complications.***

SEIZURES



## PROTOCOL TITLE: ALTERED-MENTAL STATUS

## I. EMT

1. If pt. has good gag reflex & adequate respiratory drive, administer  $O_2$  @ 10-15 L/min, nonrebreather mask.
2. If pt. has no gag reflex, establish OPA & assist ventilation with BVM & supplemental  $O_2$  @ 10-15 L/min.
3. Look for underlying causes of unconsciousness as needed. Consider trauma.
  - a. Obtain blood sample with glucometer.
  - b. Normal levels run between 80-110 mg/dL.
  - c. Report findings to Medical Control.
  - d. Atomized **Narcan** 0.4-2 mg intranasally using intranasal drug delivery device.



## II. AEMT

4. Establish IV access with 0.9% **NaCl** or **Lactated Ringers** @ TKO rate.
5. Determine capillary blood glucose.
6. If BG < 80 mg/dl is determined, administer **Dextrose D<sub>50</sub>** 25 gm IV.
7. Administer **Naloxone (Narcan®)**, 0.4-2 mg IV, IM. Titrate 0.4 mg PRN to maintain airway and respirations.

## III. EMT-I

9. Establish cardiac monitor.

## IV. Paramedic/RN

10. If suspected chronic alcohol abuse or malnutrition, administer **Thiamine, (Betalin®)** 100 mg IV or IM, prior to administration of **D<sub>50</sub>**.

***This protocol should to be followed regardless of suspected events. If events unknown all treatments should be given, no assumptions should be made.***

ALTERED-MENTAL STATUS

## PROTOCOL TITLE: HYPERKALEMIA

## Recognition/Signs/Symptoms

- Suspected or known renal failure or dialysis patient.
- Signs/Symptoms
- Tingling, numbness, parasthesias, flaccid weakness, EKG changes (peaked T waves, prolonged P-R interval, wide QRS, PVC's, bigeminy, V-Tach, V-Fib)

## EMT

1. If pt. has good gag reflex & adequate respiratory drive, administer O<sub>2</sub> as needed to maintain SPO<sub>2</sub> of 94% or greater
2. If pt. has no gag reflex, establish OPA & assist ventilation with BVM & supplemental O<sub>2</sub> @ 10-15 L/min.
3. If patient is in Cardiac Arrest follow cardiac arrest protocols
4. Rapid Transport
5. **Albuterol 5mg** via Med Neb

## AEMT

6. Establish IV access with 0.9% **NaCl or Lactated Ringers** @ TKO rate.
7. Determine capillary blood glucose.
8. If BG < 80 mg/dl is determined, administer **Dextrose D<sub>50</sub>** 25 gm IV

## EMT-I

9. Establish Cardiac Monitor
10. Follow protocols for dysrhythmias

## Paramedic/RN

11. **Calcium Gluconate** 10ml IV or IO Slow over 5-10 min Flush tubing. (**caution calcium gluconate and sodium bicarb should be used in separate lines or make sure tubing is completely flushed in-between**)
12. **Sodium Bicarbonate** 50 mEq IV or IO slow over 10 min.
13. **10 Grams D-10**, Followed by 5 units of regular **Insulin IV** (if available from patient)
  - a. To obtain 50ml D10. Using D50 preload, discard 40ml of D50 and replace it with 40ml of NS.

HYPERKALEMIA

**PROTOCOL TITLE: SEPSIS**

**Recognition:**

**History**

- Known or suspected infection
- Weak immune system
- Malnutrition
- Recent Surgery
- Current indwelling catheter

**Patient Exam**

- Altered LOC
- Hypotension
- Hyperthermia (fever)
- Tachycardia
- Increased respiratory rate

**Differential Dx**

- Hypovolemia
- Cardiogenic Shock
- Pulmonary Embolus
- Anaphylaxis
- Adverse effect of Medication
- Adrenal Insufficiency

**EMT:**

1. Perform Primary and Secondary Exam
2. Maintain SpO2 above 95%
3. Check CBG
4. Use EtCO2 NC and determine if <25mmHg
5. Call ALS

**AEMT/EMT-I**

1. Establish Large bore IV. If possible more than 1
2. If MAP is >65 mmHg (SBP>90 mmHg) and septicemia is suspected, initiate 500-1000ml NS (10-20 ml/kg for pediatrics.)
3. If MAP is <65 mmHg (SBP<90 mmHg) treat per Hypovolemia protocol M8
4. Notify receiving hospital with "SEPSIS ALERT" if items below are met
  - a. Suspected infection

- +
- b. Two or more qSOFA Criteria

**Table 2 Quick Sequential Organ Failure Assessment (SOFA) score**

qSOFA (Quick SOFA) Criteria	Points
Respiratory rate ≥22/min	1
Change in mental status	1
Systolic blood pressure ≤100 mmHg	1

**Paramedic/RN**

1. Follow Hypovolemia Protocol M8 for advanced interventions

**SEPSIS**

## PROTOCOL TITLE: ASTHMA

### I. EMT

1. Establish and maintain airway.
2. If stable, administer O<sub>2</sub> @ 2-4 L/min via nasal cannula. If unstable, administer O<sub>2</sub> @ 10-15 L/min via nonrebreather mask.
3. If patient has no gag reflex, establish OPA and assist ventilation with BVM and supplemental oxygen @ 15 L/min.
4. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% **NaCl** if wheezing.\*\*\*(max 3 doses)
5. May Substitute 2<sup>nd</sup> and 3<sup>rd</sup> dose of **Albuterol** with **Duo-Neb** (2.5mg albuterol with 0.5mg ipratropium bromide). Max **Duo-Neb** is 2 doses. (Max 3 breathing treatments, max 2 dou-neb)

### II. AEMT, EMT-I

6. Using pulse oximetry, if available, administer oxygen, titrate SaO<sub>2</sub> to >93%. Monitor respiratory status regularly.
7. Establish peripheral IV with 0.9% **NaCl** @ TKO rate.
8. Intermediate consider cardiac monitor

### III. Paramedic/RN

9. Consider IV and cardiac monitor, supplemental oxygen with side stream EtCo<sub>2</sub>.
10. Moderate Asthma
  - a. **Dexamethasone** 10mg IV/IO/IM/PO
11. Severe Asthma
  - a. **Epinephrine** (1:1,000) 0.3-0.5 mg IM/SQ or Epi  
1:10,000 0.3-0.5 mg IV
  - b. **Epinephrine Drip** 2-10 mcg/min
  - c. If transport time is prolonged and Pt's condition deteriorates contact OLMC for consideration of **Mag Sulfate** (usual dose is 2 grams over 20 minutes)
12. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has a decreased level of consciousness or other signs of respiratory failure.



**PROTOCOL TITLE: ASTHMA****PEDIATRIC ASTHMA**

1. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% **NaCl** if wheezing.\*\*\*
  - a. May be repeated x 2
2. **Epinephrine** - 0.01 mg/kg of 1:1,000 IM, SQ, (max: 0.3 cc).
3. **Magnesium sulfate** 50 mg/kg IV over 15 minutes.
4. Moderate to severe asthma and patient not improving with treatment, consider **Dexamethasone** 0.3 mg/kg IV/IO/IM/PO up to 10 mg.
5. **Epinephrine drip** (per table AA-2)

\*\*\*NOTE: **Duoneb** may be substituted for Albuterol if in scope of practice (EMT or higher). May be repeated q 5 minutes X 2.

**ASTHMA**

**PROTOCOL TITLE: CHRONIC OBSTRUCTIVE PULMONARY DISEASE****I. EMT**

1. Establish and maintain airway.
2. Administer O<sup>2</sup> @ 2-4 L/min by nasal cannula.
3. If hypoventilating, assist ventilation with BVM.
4. Monitor SaO<sub>2</sub> & attempt to maintain at 90%.
5. If patient is in extreme distress, increase O<sup>2</sup> flow rate to 10-15 L/min by nonrebreather mask.
6. **Albuterol (Proventil®)**, 0.5 mL (2.5mg) in 3 cc unit dose of 0.9% **NaCl** via nebulizer.\*\*\* (max 3 doses)
7. **Duoneb** may be substituted 2<sup>nd</sup> dose of Albuterol. May be repeated q 5 minutes X 2. (Max 3 breathing treatments, max 2 dou-neb)
8. Consider CPAP.

**II. AEMT**

9. Establish peripheral IV.

**III. EMT I**

10. Cardiac monitor

**IV. Paramedic/RN**

11. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has a decreased level of consciousness or other signs of respiratory failure.
12. If severe respiratory distress administer **Dexamethasone** 10mg IV/IO/IM, or PO

**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

## PROTOCOL TITLE: PEDIATRIC RESPIRATORY EMERGENCIES

### I. EMT



1. Establish and maintain airway. If obstruction present, treat per protocol for airway obstruction.
2. Administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask. If not tolerated, may administer blow-by oxygen.
3. Allow the patient to assume a position of comfort.
4. Frequent vital signs.
5. If decreased level of consciousness assist ventilation with BVM.
6. Monitor SaO<sub>2</sub>.
7. **Albuterol (Proventil®)** 2.5 mg in 3 cc (unit dose) of 0.9% **NaCl** per nebulizer mask. May repeat x 2 as needed. (max 3 doses)

### II. AEMT



8. Establish IV.
9. If indicated, consider IO route.

### III. EMT I

10. Establish IV and cardiac monitor.

### IV. Paramedic/RN

11. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has a decreased level of consciousness or other signs of respiratory failure.



### ASTHMA

1. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% **NaCl** if wheezing.
2. **Magnesium sulfate** 50 mg/kg IV over 15 minutes. Contact OLMC.
3. **Dexamethasone** 0.3mg/kg up to 10mg IV/IO/IM/PO. Contact OLMC.
4. **Epinephrine** - 0.01 mg/kg of 1:1,000 IM, SQ, (max: 0.3 cc). (May repeat in 20 minutes).



### CROUP / EPIGLOTTITIS



1. Calm patient if possible keep patient in a seated position.
2. Assess rate and quality of respirations: note retractions.
3. Nebulizer of humidified oxygen for mild respiratory distress.
4. For stridor or retractions which are present at rest, or signs of significant respiratory distress:
  - A. Humidified High flow O<sup>2</sup>
  - B. **Epinephrine** 1:1,000, 5 ml via nebulizer, May repeat in 20 minutes
5. If child loses consciousness or develops periods of apnea with respiratory depression, initiate BVM ventilation.

**PROTOCOL TITLE: UPPER AIRWAY OBSTRUCTION****I. EMT**

1. If complete foreign body obstruction:
  - a. Use abdominal and/or chest thrusts. For pregnant patients, use chest thrusts.
  - b. Post-removal, suction and place patient in left lateral recumbent position.
2. Administer O<sup>2</sup> @ 10-15 L/min, per nonrebreather mask.
3. If partial obstruction and patient breathing satisfactorily, or if hypoxic after removal, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask and transport ASAP in position of comfort.

**II. AEMT, EMT-I**

4. Establish IV access, after airway is managed.

**III. ADVANCED LIFE SUPPORT**

5. If manual attempts unsuccessful perform direct laryngoscopy and attempt removal with Magill forceps or other appropriate instrument.
6. Follow with endotracheal intubation, if necessary.
7. If ventilation still not possible, perform cricothyrotomy per protocol.

**UPPER AIRWAY OBSTRUCTION**



**PROTOCOL TITLE: BURNS****I. EMT**

1. Critical burns are defined as combination burns involving partial thickness (2<sup>nd</sup> degree burns) and full thickness (3<sup>rd</sup> degree burns) involving more than 20% combined of the total body surface, or the presence of facial burns, or respiratory involvement.
2. Remove patient from hazardous environment.
  - a. Remove all constricting items and smoldering or non-adherent clothing.
  - b. Brush any dry solids off patient.
  - c. Dilute and rinse any chemicals with water.
3. Ensure an adequate airway.
4. If critical burns, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask.
5. Determine location, extent, and depth of burns and any associated trauma or complications.
6. Cover small burns with sterile dressing moistened with normal saline.
7. Cover moderate to severe burns with dry, sterile dressings.
8. If hands or feet involved, separate digits with sterile gauze pads.
9. Cover to conserve body heat and keep patient warm.
10. Obtain history to include: mechanism or source of burn; time elapsed since burn; whether patient was in a confined space with smoke or steam, and how long; and whether there was loss of consciousness.

**II. AEMT**

11. Establish large-bore IV with Lactated Ringers and run at a rate calculated by **1 hour Parkland Formula.**  
 $0.25 \times (\text{Body weight in kg}) \times (\% \text{BSA burned}) = \text{Fluid to be infused during first hour.}$ 
  - Lactated Ringers is fluid of choice for volume replacement in burn

**III. EMT I**

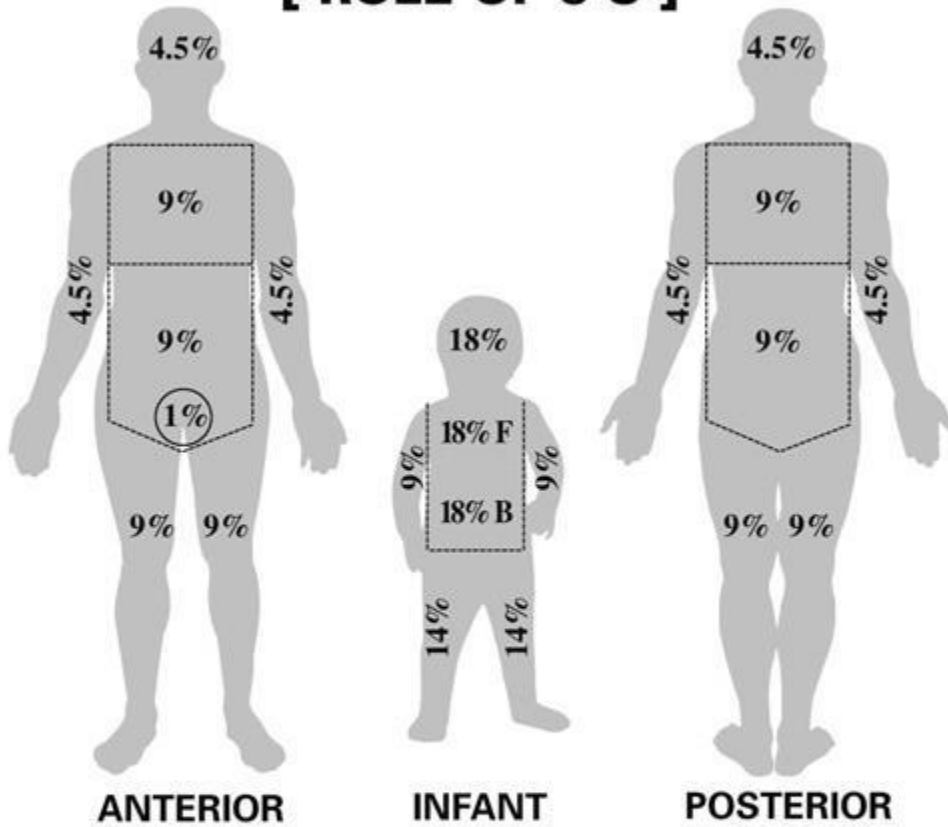
12. Pain Management with Fentanyl Citrate or Morphine per pain Management protocol.
- 13.

**IV. Paramedic/RN**

14. Monitor airway status, and treat as indicated with supplemental O<sub>2</sub>. Consider early endotracheal intubation/RSI (sux is contraindicated use roc or vec) for airway burns with respiratory distress.
15. Establish cardiac monitor and IV. IV fluid administration per the Parkland Formula above.
16. **Morphine, Hydromorphone or Fentanyl Citrate** per pain management protocol ([P-9](#)).

PROTOCOL TITLE: BURNS

[ RULE OF 9'S ]



**PALMAR METHOD**  
(Patient's palm)

1%

BURNS

**PROTOCOL TITLE: CHEST INJURIES****I. EMT**

1. Establish and maintain airway.
2. If stable, administer O<sup>2</sup> @ 2-4 L/min via nasal cannula.
3. If unstable, administer O<sup>2</sup> @ 10-15 L/min per nonrebreather mask.
4. Assess for penetrating injuries and apply occlusive dressings.
5. Spinal immobilization as indicated.

**II. AEMT**

6. If BP < 90 mmHg:
  - a. Establish large-bore peripheral IV with **Lactated Ringers** and run at rate that maintains blood pressure at 90 systolic or greater.
    1. Consider additional IV lines.
7. If BP >90 mmHg and patient is stable:
  - a. Establish large-bore IV with Lactated Ringers and run at TKO rate.

**III. EMT I**

8. Establish cardiac monitor and IV/IO. Consider 2<sup>nd</sup> IV access for unstable pt.
  - a. Other considerations:
    1. IV fluid resuscitation.
    2. Occlusive dressings for penetrating injuries.
9. For any severe chest injury, rapid transport and trauma team activation is indicated
10. Pain management per protocol ([P-9](#))

**IV. Paramedic/RN**

11. Monitor airway status, and treat as indicated with supplemental O<sub>2</sub>. Consider early endotracheal intubation/RSI for severe chest injury with respiratory distress.
12. Assess for tension pneumothorax and perform needle chest decompression as indicated.
13. Spinal immobilization as indicated (T-4)

**PROTOCOL TITLE: MULTISYSTEM TRAUMA****I. EMT**

1. Establish and maintain airway.
2. Administer O<sup>2</sup> @ 10-15 L/min by nonrebreather mask.
3. Control severe external hemorrhage as indicated.
4. Provide spinal immobilization.
5. Stabilize unstable pelvic or femur fractures.
  - a. Pelvic sling.
  - b. Femur traction splint.
6. **Do not delay** transport to splint minor fractures, or treat minor injuries.

**II. AEMT**

7. Establish 2 large-bore IVs Lactated Ringers and run at rate that maintains systolic blood pressure of 90.

**III. EMT – I**

8. Any patient involved in a traumatic incident should be evaluated using the Trauma Triage Destination Procedures Tool.
  - a. Consider early helicopter activation per A-B5
9. Spinal immobilization as indicated.
10. Early transport and trauma system activation.
11. Establish cardiac monitor and IV/IO. Consider 2<sup>nd</sup> IV access for unstable patients.
12. Stabilize major fractures: pelvic fractures and femur fractures.
13. IV fluid resuscitation.
  - a. Adults: 30mL/kg IV rapid infusion.
  - b. Pediatrics: 20/mL/kg IV rapid infusion.
14. Occlusive dressings for penetrating injuries.
15. Pain management (see [P-9](#)).

**IV. Paramedic/RN**

16. Monitor airway status, and treat as indicated with supplemental O<sub>2</sub>. Consider early endotracheal intubation/RSI for severe chest injury with respiratory distress.
17. Assess for tension pneumothorax and perform needle chest decompression as indicated.

**PROTOCOL TITLE: MULTISYSTEM TRAUMA**

**TRAUMA- Field Triage Decision Scheme: The National Trauma Triage Protocol**

**Step 1- Measure Vital Signs & Level of Consciousness**

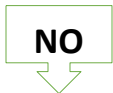
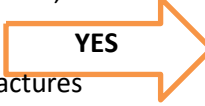
Glasgow Coma Scale <14 or  
Systolic BP <90mmHg or  
Respiratory Rate < 10 or > 29 (<20 in infant < one year)



**Take to a trauma center.** Steps 1 & 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

**Step 2- Assess Anatomy of Injury**

- Penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail Chest
- Two or more proximal long-bone fractures
- Crushed, degloved, or mangled extremity
- Pelvic Fracture
- Open or depressed skull fx
- Paralysis



**Step 3- Assess MOI and Evidence of high-energy impact**

**Falls**

- Adults >20ft (one story =10ft.)
- Children >10ft or 2-3 x's the height of the child

**High-Risk Auto Crash**

High energy transfer; rollover (unrestrained), motorcycle, bicycle, ATV.

- a. Extremes of age (<15 >60).
- b. Intrusion: > 12in. occupant site; > 18 in. any site
- c. Ejection (partial or complete) from automobile
- d. Death in same passenger compartment
- e. Vehicle telemetry data consistent with high risk of injury



**Auto v. Pedestrian/Bicyclist thrown, run over, or with Significant (>20mph) Impact**

**Motorcycle Crash > 20 mph**



**Transport to highest level trauma center** within 30 minutes transport time.

MULTISYSTEM TRAUMA

**PROTOCOL TITLE: MULTISYSTEM TRAUMA**

**Step 4- Assess Special Pt. or System Consideration**

**Age**

- Older Adults: Risk of injury death increases after 55 years
- Children: Should be triaged preferentially to pediatric-capable trauma centers

**Anticoagulation and Bleeding Disorders**



Contact medical control and consider transport to a trauma center or a specific resource hospital

**Burns**

- W/O other trauma mechanism: Triage to burn facility
- W/ trauma mechanism: Triage to trauma center

**Time Sensitive Extremity Injury**

**End- Stage Renal Disease Requiring Dialysis**

**Pregnancy > 20 weeks**

**EMS Provider Judgment**



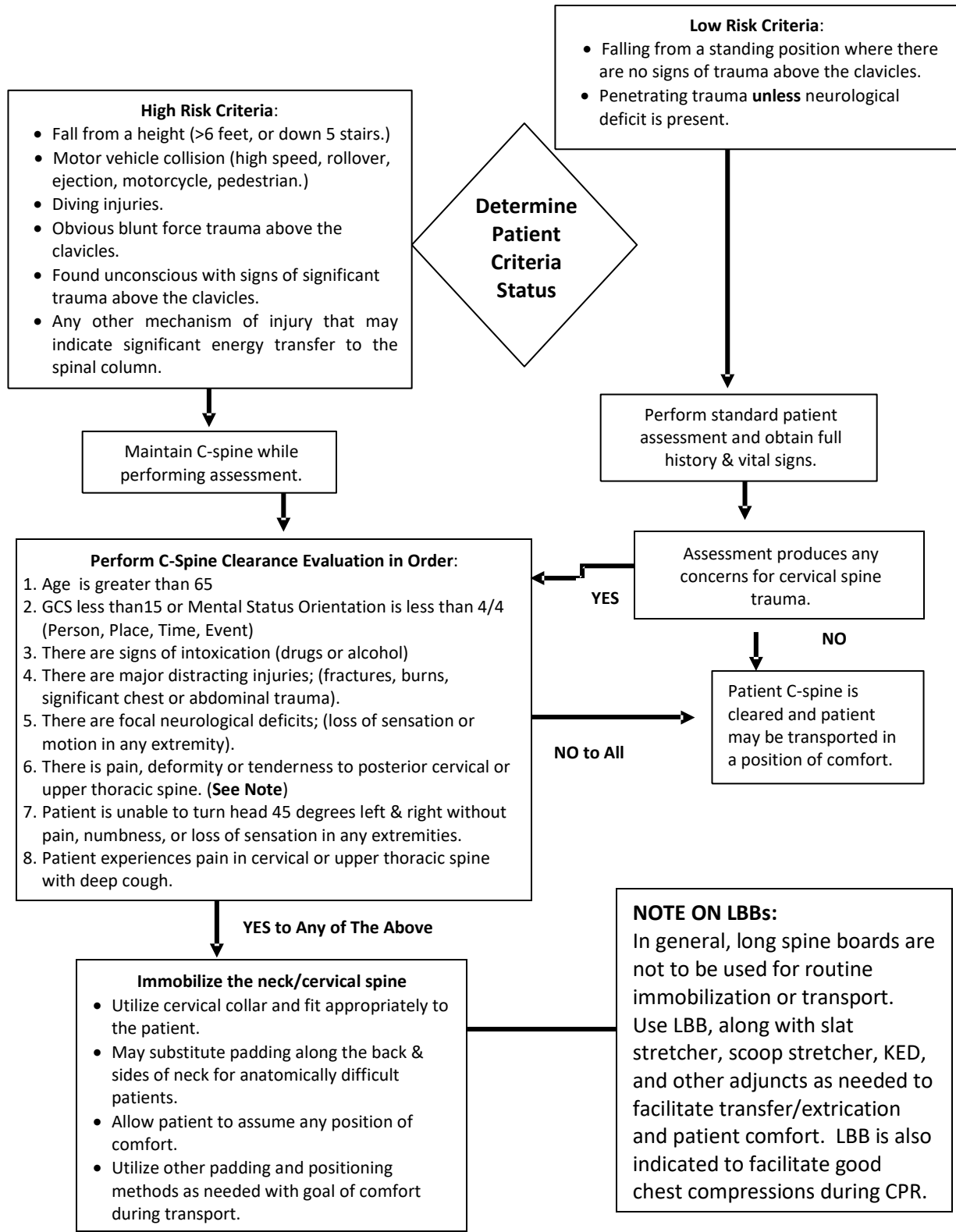
Transport according to protocol.

**Reminder:** Online Medical Control for any patient meeting trauma system criteria is the closest, highest level trauma center in the trauma system.

MULTISYSTEM TRAUMA

**PROTOCOL TITLE: ASSESSMENT OF SPINAL INJURIES**

**ASSESSMENT OF SPINAL INJURIES**



**Attention to spinal precautions among at-risk patients is paramount. This includes application of a cervical collar, adequate security to a stretcher, minimal movement/transfers, and maintenance of stabilization during any necessary movement/transfers.**

**PROTOCOL TITLE: TXA****I. Paramedic/RN****Tranexamic Acid (TXA)****TRADE NAME:** Cyklokapron**ACTION:**

Anti-fibrolytic, Anti-hemorrhagic; competitive inhibitor of plasminogen activation, inhibits both plasminogen activation and plasmin activity, thus preventing clot break-down rather than promoting new clot formation. With massive bleeding this may help stabilize clot formation and decrease extravascular bleeding. Onset peak serum concentration 5 minutes, 95% excreted unchanged in urine, half-life up to 2 hours.

**INDICATIONS:**

Sustained tachycardia “100” beats per minute and/or sustained hypotension **with** systolic blood pressure **90 mmHg or less with suspicion of major bleeding where compensation or surgical intervention is likely**

**And at least one of the following**

- + Trauma occurred within the last “3” hours
- + Adults (Age 16 or greater) with hemorrhagic shock from trauma (see below for pediatric dosing)
- + Must have obvious bleeding external wounds suspected severe internal injuries from blunt or penetrating trauma
- + Post-Partum Bleeding (See M9)
- + Suspected internal bleeding due to a medical nature including but not limited to aortic aneurism, esophageal varices bleeding ulcer,

**CONTRAINDICATIONS:**

- ✗ Non-hemorrhagic shock
- ✗ Hypersensitivity reaction (rare)
- ✗ Active intravascular clotting
- ✗ Acquired defective color vision
- ✗ History of thrombosis or thromboembolism
- ✗ Hemorrhagic shock stabilized with other hemostatic agents
- ✗ Has had Stent placed or an ischemic stroke within 1 year

**SIDE EFFECTS & PRECAUTIONS:**

- + Delayed effects up to 48 hours consistent with anti-inflammatory actions
- + Hypotension – especially if infused too quickly
- + GI: Nausea, vomiting and diarrhea
- + Blurred vision
  - Drug interactions : ~Factor VII, Human fibrinogen concentrate, anti-fibrinolytic agents (enhance thrombogenic events)

TXA



**PROTOCOL TITLE: TXA**

**ROUTE & DOSAGE:**

**Adult (Age 16 or greater)**

- ✚ 1 gram mixed in 100mL NS or D5W infused over 10 minutes
  - 10mg/mL infused over 10 minutes =10ml/per min.



**Pediatric Dosing (age<16)**

- 15mg/kg over 10 minutes

TRANEXAMIC ACID PEDIATRIC DOSING GUIDELINES												
Consider <u>ONLY</u> if within 3 hours of initial injury. Administer <b>BOLUS DOSE</b> (15 mg/kg over 10 minutes) <i>first</i> , then <b>MAINTENANCE DOSE</b> (2 mg/kg/hr for 8 hours).												
→ Use approximate weight for programming in Alaris® Pump	Approximate Weight	4 kg	6 kg	8 kg	10 kg	13 kg	16 kg	20 kg	26 kg	32 kg		
	Bolus Dose – <i>infuse over 10 min</i>		60 mg	90 mg	120 mg	150 mg	195 mg	240 mg	300 mg	390 mg	480 mg	1000 mg
	Maintenance Dose – <i>infuse over 8 hours</i>		64 mg	96 mg	128 mg	160 mg	208 mg	256 mg	320 mg	416 mg	512 mg	1000 mg

TXA

**PROTOCOL TITLE: LUCAS DEVICE**

**LUCAS Chest Compression Device**

**Indications:**

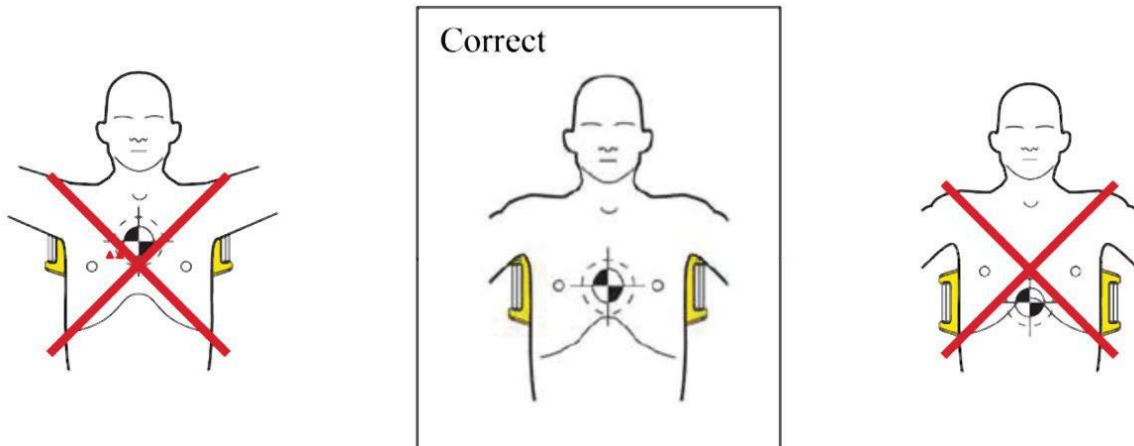
- A. The LUCAS device may be used in patients who have suffered non-traumatic cardiac arrest, where manual CPR would otherwise be used.

**Contraindications:**

- A. Patients who do not fit within the device.
  - 1. Too small patient: If LUCAS alerts with 3 fast signals when lowering the SUCTION CUP, and you cannot enter the PAUSE mode or ACTIVE mode.
  - 2. Too large patient: If you cannot lock the upper part of LUCAS to the backplate without compressing the patient's chest.
- B. Traumatic arrest.
- C. Pregnancy.
- D. LVAD or HVAD patients.

**Protocol for Placement**

- A. All therapies related to the management of cardiopulmonary arrest should be continued as currently defined.
- B. Initiate resuscitative measures:
  - 1. Manual chest compressions should be initiated immediately while the LUCAS device is being placed on the patient.
  - 2. **Limit interruptions in chest compressions to 10 seconds or less.**
  - 3. **Do not delay manual CPR for the LUCAS. Continue manual CPR until the device can be placed.**
- C. While resuscitative measures are initiated, the LUCAS device should be removed from its carrying case and placed on the patient in the following manner:
  - 1. **Backplate Placement**
    - a. The backplate should be centered on the nipple line and the top of the backplate should be located below the patient's armpits.



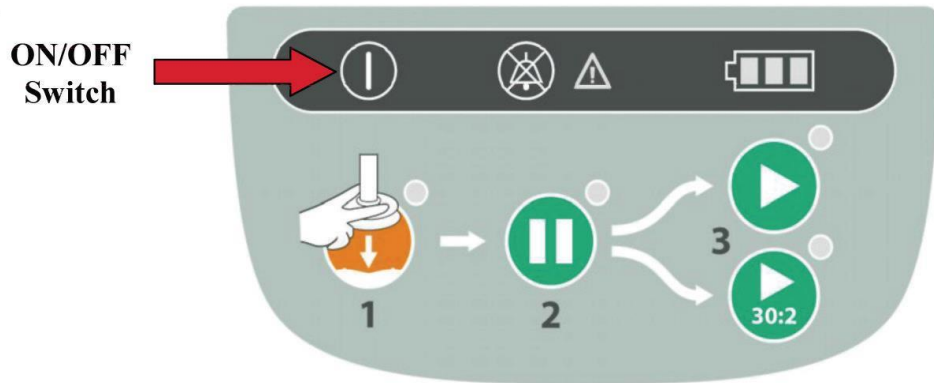
LUCAS DEVICE

**PROTOCOL TITLE: LUCAS DEVICE**

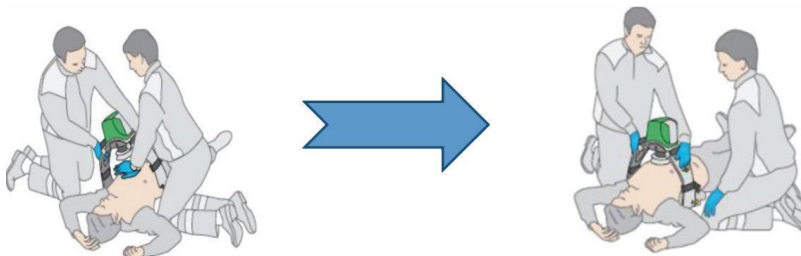
- b. If the patient is already on the stretcher, place the backplate underneath the thorax. This can be accomplished by log-rolling or sliding the backplate under the patient or raising the torso. Placement should occur during a scheduled discontinuation of compressions (e.g., after five cycles of 30:2 or two minutes of uninterrupted compressions).

**2. Position the Compressor**

- a. Turn the LUCAS device on (the device will perform a three second self test).



- b. Remove the LUCAS device from its carrying case using the handles provided on each side.
- c. With the index finger of each hand, pull the trigger to ensure the device is set to engage the backplate. Once this is complete, you may remove your index finger from the trigger loop.
- d. Approach the patient from the side opposite the person performing manual chest compressions.
- e. Attach the claw hook to the backplate on the side of the patient opposite from where compressions are being provided.
- f. Place the LUCAS device across the patient, between the arms of the person who is performing manual CPR.



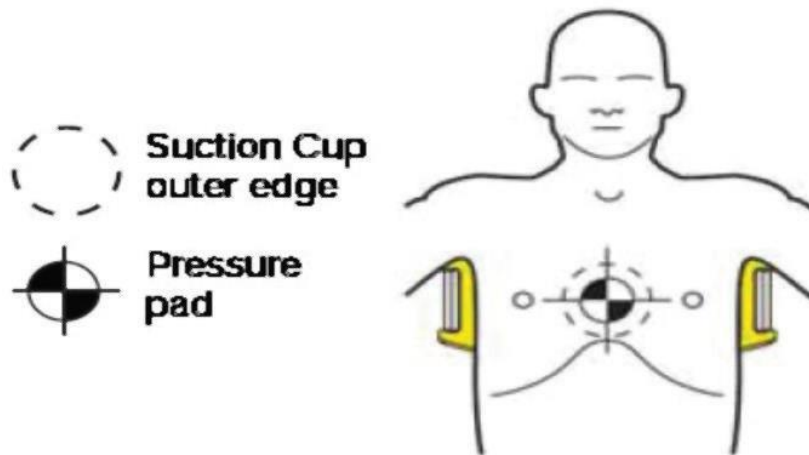
- g. At this point the person performing manual CPR stops and assists attaching the claw hook to the backplate on their side.
- h. Pull up once to make sure that the parts are securely attached.

LUCAS DEVICE

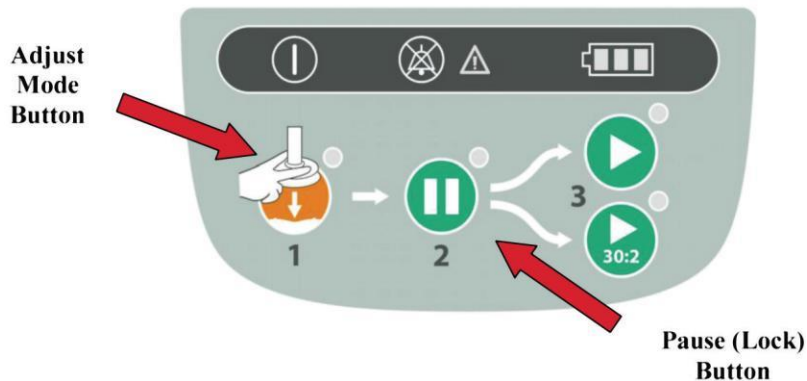
**PROTOCOL TITLE: LUCAS DEVICE**

**3. Adjust the Height of the Compression Arm**

- a. Use two fingers (V pattern) to make sure that the lower edge of the SUCTION CUP is immediately above the end of the sternum. If necessary, move the device by pulling the support legs to adjust the position.



- b. Press the ADJUST MODE BUTTON on the control pad labeled #1 (this will allow you to easily adjust the height of the compression arm).



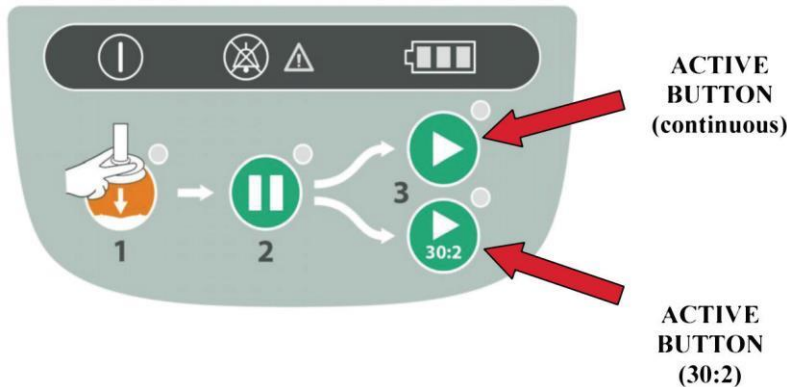
- c. To adjust the start position of the compression arm, manually push down the SUCTION CUP with two fingers onto the chest (without compressing the patient's chest).
- d. Once the position of the compression arm is satisfactory, push the green PAUSE BUTTON labeled #2 (this will lock the arm in this position), then remove your fingers from the SUCTION CUP.
- e. If the position is incorrect, press the ADJUST MODE BUTTON and repeat the steps.

LUCAS DEVICE

**PROTOCOL TITLE: LUCAS DEVICE**

**4. Start Compressions**

- a. If the patient is not intubated and you will be providing compression-to-ventilation ratio of 30:2 push ACTIVE (30:2) BUTTON to start.
- b. If the patient is intubated and you will be providing continuous compressions push ACTIVE (continuous) BUTTON.



**5. Patient Adjuncts**

- a. Place the LUCAS stabilization strap behind the patient's head and attach the straps to the LUCAS device.
  - i. This will prevent the LUCAS from migrating toward the patient's feet.
  - ii. Place the patients arms in the straps provided.

**Using the LUCAS during Resuscitation**

**A. Defibrillation**

1. Defibrillation can and should be performed with the LUCAS device in place and in operation. There is no need to stop LUCAS to deliver a shock.
2. One may apply the defibrillation electrodes either before or after the LUCAS device has been put in position.
  - a. The defibrillation pads and wires should not be underneath the SUCTION CUP.
  - b. If the electrodes are already in an incorrect position when the LUCAS is placed, you must apply new electrodes.
  - c. If double sequential defibrillation is anticipated, consider application of posterior therapy pad/electrode before LUCAS backplate placement.
3. For rhythm analysis, stop the compressions by pushing the PAUSE BUTTON. The duration of interruption of compressions should be kept as short as possible and should not be > 10 seconds. There is no need to interrupt chest compressions other than to analyze the rhythm.
4. Once the rhythm is determined to require defibrillation, the appropriate ACTIVE BUTTON should be pushed to resume compressions while the defibrillator is charging and then the defibrillator should be discharged.

LUCAS DEVICE

**PROTOCOL TITLE: LUCAS DEVICE****B. Pulse Checks/Return of Spontaneous Circulation (ROSC)**

1. Pulse checks should occur intermittently while compressions are occurring.
2. If the patient moves or is obviously responsive, pause the LUCAS device and evaluate the patient.
3. If there is a change in rhythm, but no obvious indication of responsiveness or ROSC, a pulse check while compressions are occurring should be undertaken. If the palpated pulse is asynchronous, consider pausing the LUCAS device. If the pulse remains, reassess the patient. If the pulse disappears, immediately restart the LUCAS device.
4. A sudden change in EtCO<sub>2</sub> may indicate ROSC.

**C. Disruption or Malfunction of LUCAS Device**

1. If disruption or malfunction of the LUCAS device occurs, immediately revert to manual CPR.

**Device Management (Power Supply, Battery Operation)****A. Changing the Battery**

1. Push PAUSE to temporarily stop the compressions.
2. Pull the battery out and then upward to remove it.



3. Install a fully-charged LUCAS battery. Put it in from above.
4. Wait until the green PAUSE mode LED illuminates.
5. Push ACTIVE (continuous) or ACTIVE (30:2) to start chest compressions again. The LUCAS Smart Restart feature remembers the settings and start position for 60 seconds.

**PROTOCOL TITLE: LUCAS DEVICE**

**B. Other Battery Operations**

1. When fully charged, the Lithium Polymer battery should allow 45 minutes of uninterrupted operation.
2. There is an extra battery in the LUCAS device carrying case.
3. The battery is automatically charged when the device is plugged into a wall outlet and not in operation. The device should be stored with the LUCAS device plugged into a wall outlet **(when detaching from the wall outlet, make sure that the cord is always with the LUCAS device)**.
4. When the orange Battery LED shows an intermittent light, replace the battery or connect to a wall outlet.
5. Ambulance: LUCAS is connected while stored in the ambulance (always keep a battery installed for the LUCAS device to remain operational).



**Power Supply  
Cord Slot  
(for charging  
and AC  
operation)**

**C. Care of the LUCAS Device After Use**

1. Remove the SUCTION CUP and the stabilization strap (if used, remove the patient straps).
2. Clean all surfaces and straps with a cloth and warm water with an appropriate cleaning agent.
3. Let the device and parts dry.
4. Replace the used battery with a fully-charged battery.
5. Remount (or replace) the SUCTION CUP and straps.
6. Repack the device into the carrying case.
7. Make sure that the charging cord is plugged into the LUCAS device.
8. The LUCAS device in the carrying case should be charging on and secure while stored in the ambulance.

**PROTOCOL TITLE: CPAP**

CPAP is an alternative method to maintain oxygenation in some patients. It should never be used if a patient is in severe distress that requires Intubation.



**I. Basic Life Support/ Intermediate Life Support/ Advanced Life Support**

Advise Medical Control ASAP when pt is placed on CPAP, so preparation can be made for patient arrival.

**Indications**

- 1. Acute Congestive Heart Failure.
- 2. Acute hypoxic respiratory failure.
- 3. Severe worsening COPD.
- 4. Patient's preference to avoid intubation.

**Exclusion Criterion/Contraindications**

- 1. Facial deformity.
- 2. Hemodynamic instability.
- 3. Inability to clear secretions.
- 4. Inability to tolerate mask.
- 5. Inability to maintain airway or respiratory drive.

**Initiating CPAP Therapy**

- 1. Explain therapy to patient.
- 2. Attach oxygen delivery tubing on oxygen regulator.
- 3. Prepare circuit to apply to patient.
- 4. Initiate setting at 15 L/min, titrate to clinical effect.
- 5. Apply mask manually, then tighten straps to stop any leaks.
  - a. Any leaks will be manifested with the sound of air hissing when pt is not breathing.
    - i. Press the mask firmly on patients face and hissing should stop.
    - ii. Re-adjust straps if necessary.
  - b. Oxygen supply will be rapidly consumed if there is a mask leak.
- 6. Reassess patient status frequently. If patient failing CPAP therapy, consider intubation/RSI.

**\*MONITOR CAPNOGRAPHY\***

CPAP



**PROTOCOL TITLE: EMT BLOOD GLUCOSE MONITORING****INDICATIONS**

- Any altered level of consciousness.
- Seizure or postictal states.
- Known or suspected diabetic.
- Clinically suspected hyper or hypoglycemia.

**I. EMT**

1. Use appropriate BSI precautions.
2. Prepare all necessary equipment.
3. Turn on meter, make sure meter is coded correctly to match strip.
4. Obtaining blood sample.
  - a. Use lancet device to obtain a capillary blood droplet.
  - b. Apply the drop of blood to the test spot. Make sure the drop of blood completely covers the test spot on the test strip.



Contact Medical Control with test results.

5. Record the results.
  - a. Normal levels for a non-diabetic pt. Run between 60 – 110 mg/dl.
  - b. A diabetic pt. with a blood sugar of 80 mg/dL or less, and showing signs & symptoms of hypoglycemia need to be given **oral glucose** (sugar) if conscious and able to swallow.

**II. AEMT, EMT-I, Paramedic/RN**

1. Follow Protocols M-5 and M-6

**PROTOCOL TITLE: INTRAOSSEOUS INFUSION EZ-IO ADULTS & PEDIATRIC****AEMT- EMT-I, Paramedic/RN****This Procedure is only Providers who have been trained in this technique.****EZ-IO DEVICE**

The use of I.O. for venous access in adults when vascular access is needed and peripheral IV cannot be established and patient exhibits ONE or more of the following:

1. An altered mental status (GCS of 8 or less).
2. Respiratory compromise.
3. Hemodynamic instability.

**CONTRAINDICATIONS**

1. Fracture of the Humerus, tibia or femurs.
2. Previous orthopedic procedures (I.O. within 24 hrs. knee replacement).
3. Pre-Existing Medical Condition (tumor near site or peripheral vascular disease).
4. Infection at insertion site.
5. Inability to locate landmarks.
6. Excessive tissue (severe obesity) and/or inability to clearly identify anatomical landmarks.

**PROCEDURE**

1. Locate insertion site (proximal humerus, proximal tibia, or distal tibia) and cleanse using aseptic techniques.
  - a. Prepare EZ-I.O. driver and needle set.
  - b. Select adult (blue or yellow)  
or
  - c. Pediatric (pink) 15 gauge needle set driver if patient fits on the Broselow tape.
2. Stabilize site, position driver at the insertion site with needle at a 90° angle to the surface of the bone.
  - a. Power the needle set through the skin at the insertion site until you feel the needle set tip encounter the bone. Continue to apply firm steady pressure through the cortex. Stop when the needle flange touches the skin or a sudden decrease in resistance is felt.
3. Remove driver from the Needle Set.
4. Remove the stylet from the catheter.
5. Confirm placement.
  - a. Connect primed EZ-Connect.
  - b. Consider adding 20- 50 mg **Lidocaine** to the Conscious adult pt., for anesthetic.
  - c. Flush or bolus the EZ-IO catheter rapidly with 10 ml of N.S.
6. Administer the infusion or medication.
7. Dress site, secure tubing.
8. If unsuccessful, or subcutaneous swelling occurs:
  - a. Stop IV, remove needle, cover wound.
  - b. Make second attempt in other site.

**PROTOCOL TITLE: SYNCHRONIZED CARADIOVERSION****Paramedic/RN Only****Indications**

1. Have a rate over 150 beats per minute
2. Patients that are exhibiting hemodynamically unstable tachycardias (wide or narrow complex) and exhibit one or more of the following.
  - i. Altered mental status
  - ii. Chest Pain
  - iii. Syncope
  - iv. Dyspnea
  - v. Hypotension
  - vi. Pulmonary congestion
  - vii. CHF
  - viii. AMI

**Contraindications**

Supraventricular tachycardia induced by non-cardiac conditions

- A. Medications (digitalis toxicity)
- B. Hypovolemia
- C. Hyperthermia
- D. Hypoxia (etc.)

**Procedure**

1. Explain procedure and reassure patient
2. Initiate sedation with **Versed** 2.5mg-5mg IV/IO/IN/IM or **Ativan** 0.5-4mg IV  
**Peds** 0.1mg/kg IV max 4mg
  - A. May defer sedation if patients level of consciousness is significantly diminished and the patient is hemodynamically unstable- administration after procedure is acceptable
3. Place pads anterior posterior if possible.
4. Set cardiac device to Synchronize
  - A. May need to reset this again for subsequent shocks
5. Select appropriate initial energy setting per manufactures recommendation.
  - A. Zoll recommends 70J, 120J, 150J, 200J.
6. Clear the patient and deliver the shock
7. Re-assess the patient and repeat the procedure as required.

**Considerations**

1. If energy is delivered without synchronization, ventricular fibrillation could result
2. Depending on the device used, synchronization may be required after each counter shock
3. Ensure synchronization is turned OFF if defibrillation becomes necessary.

**PROTOCOL TITLE: I-Gel Supraglottic Airway**

**I. BLS / INTERMEDIATE LIFE SUPPORT – AIRWAY / ADVANCED LIFE SUPPORT**

1. The I-Gel Supraglottic Airway is a sterile single use device intended for airway management.
2. All providers shall be trained in the placement of the I-Gel Supraglottic Airway before using the device in the field.
3. The I-Gel Supraglottic Airway is disposable.
4. The I-Gel Supraglottic Airway allows for stomach access and placement of a NG tube in addition to being disposable.

**Indications**

1. The I-GEL SUPRAGLOTTIC AIRWAY is intended for airway management in patients without controlled or spontaneous ventilation.

**Contraindications**

The following contraindications are applicable for routine use of the I-GEL SUPRAGLOTTIC AIRWAY:

1. Responsive patients with an intact gag reflex.
2. Patients with known esophageal disease.
3. Patients who have ingested caustic substances.

**Warnings**

1. The I-GEL SUPRAGLOTTIC AIRWAY does not protect the airway from the effects of regurgitation and aspiration. Mandatory: Use Suction Tube when in scope of practice.
2. High airway pressures may divert gas either to the stomach or to the atmosphere.
3. Lubricate the posterior surface of the I-GEL SUPRAGLOTTIC AIRWAY to avoid blockage of the aperture or aspiration of the lubricant.

**Insertion Instructions**

<b>i-gel size</b>	<b>Patient Size</b>	<b>Patient weight guidance</b>
<b>1</b>	<b>Neonate</b>	<b>2-5 Kg (5-11 lbs.)</b>
<b>1.5</b>	<b>Infant</b>	<b>5-12 Kg (11-25 lbs.)</b>
<b>2</b>	<b>Small pediatric</b>	<b>10-25 Kg (22-55 lbs.)</b>
<b>2.5</b>	<b>Large pediatric</b>	<b>25-35 Kg (55-77 lbs.)</b>
<b>3</b>	<b>Small adult</b>	<b>30-60 Kg (65-130 lbs.)</b>
<b>4</b>	<b>Medium adult</b>	<b>50-90 Kg (110-200 lbs.)</b>
<b>5</b>	<b>Large adult+</b>	<b>90+ Kg (200+ lbs.)</b>

- i. Using the information provided, choose the correct I-GEL SUPRAGLOTTIC AIRWAY based on patient size/weight.
- ii. Apply lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilator openings.

**I-GEL AIRWAY**

**PROTOCOL TITLE: I-Gel Supraglottic Airway**

- iii. Have a spare I-GEL SUPRAGLOTTIC AIRWAY ready and prepared for immediate use.
- iv. Pre-oxygenate, if possible
- v. Position the head. The ideal head position for insertion of the I-GEL SUPRAGLOTTIC AIRWAY is the “sniffing position”.
- vi. Hold the I-GEL SUPRAGLOTTIC AIRWAY at the connector with dominant hand. With non- dominant hand, hold mouth open and apply chin lift.
- vii. Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums.



- viii. Confirm proper position by auscultation, chest movement and verification of CO2 by capnography if available.
- ix. Secure I-GEL SUPRAGLOTTIC AIRWAY to patient using tape or other accepted means. A bite block can also be used, if desired.

I-GEL AIRWAY

**PROTOCOL TITLE: CRICOTHYROTOMY****ADVANCED PROCEDURE SURGICAL CRICOTHYROTOMY**

**ALS personnel should be trained in this procedure prior to performing this procedure.**

**Personal must document training in this procedure every 6 months to maintain this skill.**

**INDICATIONS:**

- A. When a patient's airway cannot be secured using nonsurgical methods (e.g. oral intubation and when rescue devices do not work).
- B. When an airway is required immediately in a patient who is not a candidate for orotracheal intubation (i.e. in the case of severe facial trauma).

**Contraindications:**

- A. Relatively contraindicated in children less than 10 years of age (needle cricothyrotomy preferred).

**Equipment needed:**

- A. Scalpel
- B. Bougie
- C. Size 5.5 or 6-0 ET TUBE
- D. Trach hook (highly recommended)

**PROCEDURE:**

- A. Assemble equipment
- B. Place the patient in the supine position.
- C. Hyperextend the patient's neck and straighten the airway by placing a blanket or similar object under the patient's neck or between the shoulder blades. Note that airway has priority over suspected c-spine injury. Have an assistant hold and stabilize the Thyroid Cartilage.
- D. Locate and prep the cricothyroid membrane.
  - 1. Place a finger of the nondominant hand on the thyroid cartilage (Adam's apple) and slide the finger down to find the cricoid cartilage.
  - 2. Palpate for the "V" notch of the thyroid cartilage.
  - 3. Identify the cricothyroid membrane by sliding the index finger down into the depression between the thyroid and cricoid cartilage.
- E. Prep the skin over the membrane with povidone-iodine.
- F. With a scalpel in the dominant hand, make a 3-4 cm vertical (head to toe) incision through the skin exposing the cricothyroid membrane.
- G. Once skin incised, palpate cricothyroid membrane position and blunt dissect with fingers through subcutaneous tissue until the membrane is readily identifiable. Ignore bleeding until airway is secure (ET TUBE placement usually has a tamponade effect)
- H. Relocate the cricothyroid space by touch and sight.
- I. Stabilize the larynx with one hand and make a 1-inch horizontal incision (arm to opposite arm) through the cricothyroid membrane with the scalpel blade. Drag scalpel blade from one side to the other then turn knife through 180 degrees and extend to the other side (some prefer to extend the membrane with forceps). NOTE: A rush of air may be felt through the opening. Look for bilateral rise and fall of the chest.

**PROTOCOL TITLE: CRICOTHYROTOMY**

- J. Push cover over scalpel and turn scalpel upside down into the cricoid membrane.
- K. If available, use the tracheal hook on the inferior portion of the tracheal cartilage and increase the opening by raising the hook.
- L. Insert the bougie into the tracheal opening. Confirm bougie position with finger, ensuring it passes through membrane. Bougie usually holds up at carina <10cm from the skin (may feel tracheal rings as the bougie advances), do not force advancement as perforation may occur.
- M. Insert the ET tube (5.5 or 6.0 F) or other airway tube over the bougie through the opening into the trachea at a 90° angle to the trachea. Ensure the ET TUBE balloon is fully deflated and twist ET TUBE as it passes the skin (hold up here is common). Once in the trachea, direct the tube toward the feet at a 45° angle. Only advance the ET TUBE until the balloon is within the airway and no longer visible. Avoid inserting the airway more than 3 -4 inches to avoid mainstem bronchus intubation.
- N. Inflate the ET cuff if applicable. Do NOT let go of the ET tube until it is secured (see below).
- O. Connect BVM bag to the tube and inflate the lungs. Check breath sounds.
- P. Connect EtCO2 monitor to confirm placement.
- Q. If air flows freely, and the patient is breathing on his own, proceed to next step. If the patient is NOT breathing on his own, continue providing respirations via BVM.
- R. Secure the ET tube using tape or ET Tube holder.
- S. Suction the patient's airway as necessary
- T. Apply a dressing to further protect the tube or catheter and incision using one of the techniques below.
  1. Cut two 4 X 4 s or 4 X 8 s halfway through. Place them on opposite sides of the tube so that the tube comes up through the cut and the gauze overlaps. Tape securely.
  2. Apply a sterile dressing under the patient's tube by making a V-shaped fold in a 4X 8 gauze pad and placing it under the edge of the catheter to prevent irritation to the patient. Tape securely.
- U. Monitor patient's respirations on a regular basis. Reassess air exchange and placement every time the patient is moved.

**Precautions:**

- A. Troubleshooting ET placement.
  1. Unilateral breath sounds and unilateral rise or fall of the chest indicate that the tube is past the carina or patient has a pneumothorax.
  2. Air coming out of the patient's mouth indicates that the tube is pointed away from the lungs. Deflate the cuff on an ET tube, remove the tube, reinsert, inflate the cuff and recheck for air exchange and placement.
- B. Control excessive bleeding with direct pressure. Apply combat gauze if necessary, with direct pressure.

**PROTOCOL TITLE: CRICOTHYROTOMY****ADVANCED PROCEDURE QUICK-TRACH CRICOTHYROTOMY**

**ALS personnel should be trained in this procedure prior to performing this procedure.**

**INDICATION**

Life-threatening upper airway obstructions where other non-invasive or manual measures have failed to establish an airway and attempts at ventilation have failed and tracheal intubation is not feasible, or has failed.

**NOT TO BE USED IN PEDIATRIC MANAGEMENT.**

PROCEDURE: QuickTrach®:

1. Place the patient in a supine position. Assure stable positioning of the neck region and hyperextend the neck.
2. Locate the cricothyroid membrane (in the midline between the thyroid cartilage and the cricoid cartilage).
3. Prepare the area with Betadine wipes.
4. Pinch the skin and make a horizontal incision in a downward motion with a scalpel over the cricothyroid membrane large enough to introduce device.
5. Secure the larynx laterally between the thumb and middle finger and reconfirm the location of the cricothyroid membrane.
6. Firmly hold the device and puncture the cricothyroid membrane at a 90 degree angle.
7. After puncturing the cricothyroid membrane, check the entry of the needle into the trachea by aspirating air through the syringe. If air is present, the needle is within the trachea.
8. Change the angle of insertion to 60 degrees and advance the device forward into the trachea to the level of the stopper.
9. Remove the stopper. After the stopper is removed, be careful not to advance the device further with the needle still attached.

**CRICOTHYROTOMY**



**PROTOCOL TITLE: CRICOTHYROTOMY**

10. Hold the needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck. Carefully remove the needle and syringe. Next, secure the cannula with the neck tape, apply the connecting tube to the 15mm connection, and connect the other end to the resuscitation bag or ventilation circuit.

**Precautions:**

Should no aspiration of air be possible in Step Five because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made. Once this is verified, continue as in Step Eight. Damage to nearby structures can occur.

- A. Major vessels to either side of the midline.
- B. The vocal cords if the puncture is made too high.
- C. Through-and-through puncture of the trachea with entry into the esophagus lying immediately behind if the puncture is made too deeply.

**PROTOCOL TITLE: OROTRACHEAL INTUBATION (OTI)****Paramedic/RN only**

It is expected that the procedure for Orotracheal Intubation is well understood and practiced by the paramedic. This protocol is a general protocol for OTI and other advanced airway management procedures performed by the paramedic. OTI should be initiated in a short period of time so as to prevent delay in the provision of adequate ventilation, and airway protection.

1. Prepare the following equipment and supplies:
  - a. BVM with functioning O<sup>2</sup> system.
  - b. Suction unit with rigid pharyngeal tip.
  - c. Laryngoscope, endotracheal tubes, stylet, and 10mL syringe.
2. Assist ventilation with supplemental O<sup>2</sup> as necessary; hyperoxygenate prior to intubation attempt.
  - a. Perform the intubation.

**Primary placement confirmation**

1. Direct visualization, watching tube pass through chords.
2. Watch for chest to rise & fall.
3. Look for mist in the tube.
4. Auscultate lateral lung fields and epigastrium with a stethoscope.
5. Continuous Waveform Capnography

**Secondary placement confirmation**

1. Cardiac Arrest: Use the EDD, or end-tidal CO<sub>2</sub>.
2. Perfusing Rhythm: use the end-tidal CO<sub>2</sub> detection device, may use EDD also but this should not replace CO<sub>2</sub> detection device.
3. Once ET tube placement has been confirmed, secure tube and continue ventilation with the BVM.
4. Proper tube placement using a primary and secondary confirmation technique must be reassessed following any point at which a patient is moved (e.g., floor to stretcher; ambulance to ED; etc.).

NOTE: If unable to intubate using ETT, consider using a I-GEL, or other rescue device.

**Documentation of OTI**

1. Proper documentation of the placement of an Endotracheal Tube (ETT) requires the following items:
  - a. Date and time.
  - b. Medications used if applicable.
  - c. Primary placement confirmation technique used.
  - d. Secondary placement confirmation technique used.
  - e. ETCO<sub>2</sub> reading and Capnograph strip
  - f. ETT Placement verification used after significant patient movement.
  - g. Size of tube, and depth of tube at the teeth.
  - h. How tube was secured

## PROTOCOL TITLE: PAIN CONTROL

### EMT-I, Paramedic/RN

#### (EMT-I only allowed Fentanyl Citrate, Ketorolac, Morphine and Zofran)

When controlling and managing pain, narcotics should be administered in a timely, prudent and aggressive manner.

1. The use of the following medications are appropriate for pain management:
  - a. **Fentanyl Citrate** 25 – 100 mcg - IV, IO to a maximum of 3 mcg/kg titrated to effect. (Ped) 1 mcg/kg IV, IO.  
OR  
**Fentanyl Citrate** 2mcg/kg **intranasal**  
OR
  - b. **Ketorolac (Toradol)**, 30mg IV or 60mg IM.  
OR
  - c. **Dilaudid (Hydromorphone)**, 1-4 mg IV, IO, IM titrated to effect.  
Not recommended for pediatrics  
OR
  - d. **Morphine** 2-5mg up to 10mg IV, IO Titrate to effect. (Ped) 0.1-0.2mg/kg slow IV/IO



2. If pain unrelieved and BP >100 mmHg systolic. Administration of **Fentanyl Citrate** beyond 3mcg/kg, and **Dilaudid** 4 mg, requires consultation with medical control.
3. For the relief of muscle spasms in joint or long bone injuries the following may be administered:
  - a. **Ketamine** 15-30mg IV may be used in conjunction with above therapies. If utilized it should be given early in therapy.  
OR
  - b. **Versed** 0.5-2.5 mg slow IV, IM, IN q 2-3 min up to 5mg max dose.  
OR
  - c. **Diazepam** 2-10 gm IV or IM every 3-5 minutes up to 10mg max dose  
OR
  - d. **Ativan** 0.5-1mg IV for Anxiety

Note: For nausea administer

- a. **Zofran** 4-8 mg IV, IO, IM, PO.
- b. **Phenergan** 12.5-25mg IV or IM

## PROTOCOL TITLE: PEDIATRIC NEEDLE CRICOTHYROTOMY

**ALS personnel should be trained in this procedure prior to performing this procedure.**

### Paramedic and RN

1. Indications:
  - a. Foreign body airway obstruction that cannot be removed by laryngoscopy and Magill forceps, and is not distal to the cricothyroid membrane.
  - b. Infection (epiglottitis), trauma, angio edema or other conditions that preclude proximal access to the glottic opening.
  - c. Only to be used in the pediatric patient under 12 years old.
  - d. Multiple failed attempts at orotracheal intubation by the most skilled provider.
  - e. Complete Inability to ventilate patient using a BVM despite repositioning.
  - f. A last resort rescue procedure where the alternative is death.

**This is considered a temporizing means of rescue oxygenation until a more definitive airway can be placed.**

2. Prepare the following in advance:
  - a. 12-14 gauge 1 1/4 inch angiocath.
  - b. BVM
  - c. 10 cc Syringe with 3 cc NaCl.
  - d. 3.0 ETT with the BVM-ETT attachment piece removed (fits on a 14 gauge angio- catheter).
  - e. Betadine Swabs.
3. Needle Cricothyrotomy Placement Procedure:
  - a. Identify the Cricothyroid membrane if possible, using the same technique as in adult Cricothyrotomy. Place a towel under the shoulders to facilitate hyperextension.
  - b. Cleanse the area with betadine or equivalent.
  - c. Immobilize the larynx with thumb and middle finger of non-dominant hand, while the index finger palpates the membrane.
  - d. Introduce a 14 gauge 1 1/4 inch angiocatheter attached to a 10 cc syringe with 3 cc of 0.9% **NaCl** through the cricothyroid membrane caudally in the long axis of the trachea at a 30 degree angle to the skin.
  - e. As the needle enters the trachea pull back on the syringe, and bubbling should be seen indicating successful placement into the trachea. Resistance indicates the catheter is in the tissue.
  - f. Once in the trachea, the catheter can be advanced and the needle with syringe removed.
  - g. Attach the BVM-ETT adaptor from a 3.0 ETT to the angio catheter.
4. Ventilation of the Needle Cricothyrotomy.
  - a. Pediatric patient <5 years old:
    - i. Use of a BVM attached to an oxygen source is adequate, and preferred in the pediatric patient less than 5 years old.
    - ii. Provide a 0.5 to 1 second burst ventilation with the BVM to overcome resistance.
    - iii. The I:E ratio for BVM method should be 1:3, and adjusted based on oxygen saturation and ETCO<sub>2</sub> readings, and chest rise.



**PROTOCOL TITLE: PEDIATRIC NEEDLE CRICOTHYROTOMY**

## b. Pediatric Patient &gt;5 years old:

- i. A BVM may be used, and should be attempted first, and evaluated for oxygen saturation and chest rise.
- ii. Provide a 0.5 to 1 second burst ventilation with the BVM to overcome resistance.
- iii. The I:E ratio should be 1:3, and adjusted based on oxygen saturation and ETCO<sub>2</sub> readings, and chest rise.

Note: If progressive resistance is encountered with bag ventilations, allow for additional expiratory time and consider manually expelling air with gentle bilateral chest compression.

**The pressures required to ventilate the pediatric patient using a BVM will cause the pop-off valve to open. This valve must be occluded to allow flow into the catheter**

**PEDIATRIC NEEDLE CRICOTHYROTOMY**

**PROTOCOL TITLE: PLEURAL DECOMPRESSION****III. Paramedic and RN****INDICATION**

Tension pneumothorax in a rapidly deteriorating patient.

**MANAGEMENT**

1. Establish airway.
2. Administer 100% O<sup>2</sup> via NRB mask 10-15 LPM.
3. Follow trauma protocol for chest trauma
4. Decompress chest.
  - a. Identify the second intercostal space in midclavicular line on the side of the tension pneumothorax  
OR
  - b. 4<sup>th</sup> or 5<sup>th</sup> *intercostal* space in the anterior axillary line
  - c. Prep with iodine soap.
  - d. Attach a #10-#14 gauge over-the-needle catheter to a 35 or 50 mL syringe.
  - e. If pt is conscious place patient in upright or semi-fowler position.
  - f. If unconscious Pt may be supine when procedure performed.
  - g. Insert needle/catheter into the skin at a 25-30 degree angle to chest wall directly over the superior aspect, (over the top) of the third rib into the second intercostal space.
  - h. Intercostal nerve, artery and vein run beneath the ribs so avoid this area.
  - i. Puncture the parietal pleura; a “pop” is usually felt. A rush of air with a rapidly improving patient helps confirm the diagnosis.
  - j. Aspirate as much air as possible; if necessary, the syringe can be removed to allow “free flow” of air from the pneumothorax until equilibrium is reached.
  - k. Remove the needle, secure the catheter to the skin; apply a flutter-valve, if possible.

**CAUTIONS**

1. Understand and review the signs and symptoms of tension pneumothorax.
  - a. Hypoxia, Respiratory distress, Hypotension
  - b. Hyperresonance over the affected side
  - c. Distended neck veins, Tracheal shift away from the affected side is a very late finding and may not be present at all.
  - d. Traumatic arrest, significant blunt or penetrating trauma
2. This procedure to be used only if life-threatening situations.
3. Complications include local hematomas, cellulitis, and pneumothorax.
4. This procedure will create a pneumothorax whether one previously existed or not.

## PROTOCOL TITLE: RSI

### III. Paramedic and RN

#### RAPID SEQUENCE INTUBATION (RSI)

1. **Prepare** the following equipment and supplies:
  - a. BVM with functioning O<sup>2</sup> system.
  - b. Suction unit with rigid pharyngeal tip.
  - c. Laryngoscope, endotracheal tubes, stylet, and syringe.
  - d. Appropriate medications to be utilized.
    - i. Ensure of functioning and secure IV line is in place.
    - ii. Establish cardiac monitor, pulse oximetry.
    - iii. Assess (MOANS/LEMON) for possible difficult airway, have a back-up plan.
2. **Pre-Oxygenate**
  - a. Patient on NRB high flow for > 3 minutes or 8-10 Vital Capacity breaths.
  - b. Patient with CPAP on 100% fio<sub>2</sub> for > 3 minutes.
  - c. Assisting ventilations with BVM but DO NOT FORCE AIR INTO GUT, no positive pressure ventilations.
3. **Pre-medicate** as appropriate and as time permits, you should wait 3 minutes before intubating.

#### **Head Injury suspected**

- a. In cases requiring control of intracranial pressure such as traumatic head injuries, hypertensive crisis, intracranial bleed or patients at risk for ventricular dysrhythmia, you may administer **lidocaine**, 1.0-1.5 mg/kg IV, IO bolus, and **Fentanyl** 1 mcg/kg wait 3 minutes prior to intubating.  
**History of Reactive Airway or Lung disease (COPD, Asthma etc)**
- b. (Optional) **Lidocaine** 1-1.5 mg/kg 3 minutes prior to intubating  
**History or Cardiovascular Disease or Current AMI (AAA, HTN, CAD)**
- c. **Fentanyl** 1 mcg/kg 3 minutes prior to intubation

#### **Pediatric RSI**

- d. In cases involving a pediatric patient, < 3 years old administer **Atropine**, 0.02 mg/kg IV, IO bolus, (minimum of 0.1mg). Note: BVM ventilation is preferred management in this age group and should always be attempted first.

4. **Paralysis with Induction** Administer an Induction agent (sedation):
  - a. **Etomidate (Amidate)** 0.3mg/kg. Etomidate is the drug of choice for patients with hypotension, and ICP.  
OR
  - b. **Midazolam (Versed®)** 0.1-0.2mg/kg, IV or IM q 2-3 minutes up to 20 mg dose. Three minutes prior to to Paralytic administration.  
OR
  - c. **Ketamine** 2mg/kg IV. Ketamine may be the drug of choice for patients in status asthmaticus



**PROTOCOL TITLE: RSI**

- d. Position patient in preparation for intubation, and explain to them what you are doing.
- e. Administer Paralytic medication, Succinylcholine has many side effects and due to these effects we will be delegating it to second choice paralytic.
- f. **Rocuronium** 0.6-1.2mg/kg Perform intubation approximately 2-3 minutes after  
OR
- g. **Vecuronium 0.1mg/kg** Perform intubation approximately 2-3 minutes after  
OR  
**Succinylcholine** (If Rocuronium or Vecuronium are contraindicated.) 1.5 mg/kg (depolarizing agent). Perform intubation approximately 1 minute after. Peds only: 2mg/kg IV.
5. **Placement and Proof-** Perform direct laryngoscopy and place ET Tube per Endotracheal Intubation protocol 20 seconds.
  - a. If first attempt is unsuccessful, re-oxygenate using BVM for 30-60 seconds.
  - b. If relaxation was inadequate, redose with Vecuronium 0.1mg/kg, repeat doses of Succinylcholine may cause bradycardia or asystole
  - c. If repeated intubation attempts fail, ventilate with BVM until spontaneous respiration returns, or move to rescue airway.
  - d.. If further intubation attempts fail and patient cannot be ventilated per BVM, perform cricothyrotomy per protocol.
  - e. Confirm tube placement utilizing primary and secondary confirmation techniques.
6. **Post Intubation Management-**
  - a. **Versed 1-5mg IV/IM /IN** (Use cautiously in hypotensive patients). Repeat q 15 min.  
OR  
**Valium 1-5mg IV/IM/IN.** Repeat q 25 min.
  - b. To Potentiate the action of Versed or Valium use Narcotic Pain medication.  
**Fentanyl 50-100mcg.** Repeat q 10-15 min. When short acting agent is indicated.  
OR  
**Hydromorphone (Dilaudid) 0.5-1mg IV; 1-2mg IM,** Repeat q 15-20 min.
7. **Consider Long-Term Neuromuscular Inhibition:** If any of the following:
  1. Prolonged transport time
  2. Inadequate control of line or ETT integrity **despite** above sedatives

**Required!: Continuous reliable End-tidal CO2 monitoring**  
Administer **Midazolam (Versed)** 1-2mg Q 5-10 minutes for sedation if VS or activity indicate the patient is distressed. Max dose 20 mg.  
OR  
Administer **Vecuronium** (Maintenance Dose) 0.01-0.015 mg/kg IV 25-40 minutes after initial Paralysis. Repeat 12-15 minutes as needed, or IV infusion of 1mcg/kg/min.



**PROTOCOL TITLE: RSI****OR**

Administer **Rocuronium** (Maintenance Dose) 0.1-0.2mg/kg IV repeat  
PRN or (Continuous Infusion) 0.01-0.012 mg/kg/min IV

**NOTE:** Consider using an I-GEL, as a rescue airway.

**Bradycardia in the Adult secondary to RSI**

1. In the event that Bradycardia occurs in the adult during the direct laryngoscopy attempt, stop and ventilate per BVM with supplemental O<sub>2</sub>.
2. Administer 0.5 mg **Atropine** IVP prior to any reattempt at intubation, and start at "I"

**RSI**

**PROTOCOL TITLE: 2<sup>ND</sup> CONFIRMATION DEVICES-OROTRACHEAL INTUBATION****END-TIDAL CO<sub>2</sub> / CAPNOGRAPHY**

1. Quantitative End Tidal Monitoring is the preferred method. In the absence of quantitative measuring equipment a colorimetric device may be substituted.
2. Observe for waveform on monitor.
3. Attach end-tidal CO<sub>2</sub> detection device in line between ETT and BVM.
4. Cardiac Arrest ET CO<sub>2</sub> readings.
  - a. Set a goal of ET CO<sub>2</sub> of >30 mm/Hg. If not greater than 25mm/Hg change chest compressor.
5. RSI End-tidal CO<sub>2</sub> readings.
  - b. End-tidal readings should be maintained between 35-45 mm/Hg, may vary for people with lung disease.
  - c. If ET CO<sub>2</sub> is >45 increase RR.
  - d. If ET CO<sub>2</sub> is <35 decrease RR.

NOTE: The absence of returned end-tidal CO<sub>2</sub> in a patient who is in cardiac arrest is not itself an indication for extubation but should cause the paramedic to further investigate the placement of the ETT

**PROTOCOL TITLE: TRANSCUTANEOUS PACING****Paramedic and RN****TRANSCUTANEOUS PACING****INDICATIONS**

- A. Hemodynamically unstable or symptomatic bradycardia. (eg. hypotension, AMS, angina, pulmonary edema)
- B. Pacing readiness in the setting of AMI
- C. Type II second degree Heart block
- D. Third degree heart block
- E. Bradycardia with symptomatic ventricular escape rhythms.

**\* No longer recommended for asystolic cardiac arrest\***

- A. Procedure:
  1. Establish rhythm and baseline vitals.
  2. High flow O<sup>2</sup> via NRB mask 10-15 lpm..
  3. **Atropine** per Bradycardia protocol.
  4. Attach pacing pads, and monitoring electrodes.
  5. Turn Pacer function "on"
  6. Select: demand operation, if stand-alone pacemaker.
  7. Adjust ECG gain to sense intrinsic QRS complexes if necessary.
  8. Set pacing rate 80 bpm.
  9. Increase mA incrementally until electrical capture is achieved.
    - a. electrical capture: wide QRS, and broad T- wave after each pacer spike.
    - b. Add 2 mA to setting to maintain capture
  10. Feel for a pulse, preferably femoral or radial to confirm mechanical capture.
    - a. Mechanical capture: Pulse, rise in BP, increase in LOC, improved color/temperature, etc.
  11. Document with rhythm strips.

**SEDATION**

12. If patient is conscious, assess patient comfort, consider sedation as needed.
  - a. **Midazolam (Versed®)**, 1.0-2.5 mg, max 5 mg IV, IO, IM. Or **Ativan** 0.5-4mg IV
- B. Documentation:
  1. Date, time baseline rhythm, pacing rhythm strips.
  2. Current required to capture.
  3. Pacing rate and mode selected.
  4. Patient response to pacing: electrical/mechanical.
  5. Medications used.
  6. Date, time pacing terminated.

**Contraindications:**

- A. Asystole as presenting rhythm.
- B. Pediatric patient too small for correct application of pacer pads.

**PROTOCOL TITLE: TRANSCUTANEOUS PACING**

- C. Severe hypothermia.
- D. Patient meeting death in field criteria.
- E. Patient with signs of penetrating or blunt trauma.

**TRANSCUTANEOUS PACING**

**PROTOCOL TITLE: AUTOPULSE APPLICATION****I. Indications:**

- a. Cardiac Arrest

**II. Warnings/Contraindications:**

1. The AutoPulse is intended for use on adults, 18 years of age or older.
2. The AutoPulse is not intended for patients with traumatic injury (wounds resulting from sudden physical injury or violence).
3. When cardiopulmonary resuscitation (CPR) is indicated, it should start immediately and should not be postponed.
4. The AutoPulse must be used only in cases that manual CPR would normally be initiated.
5. Personnel certified in manual CPR must always be present during the AutoPulse operation.
6. Do not use the AutoPulse in the presence of an oxygen-rich (greater than 25% oxygen) atmosphere, flammable anesthetics, or other flammable agents (such as gasoline). Using the AutoPulse near the site of a gasoline spill may cause an explosion.

**III. Protocol for Management:**

<http://www.zoll.com/medical-products/product-manuals/>

**IV. Documentation:**

- a. Document use of Auto Pulse device on Patient care Report.

**PROTOCOL TITLE: HIGH PERFORMANCE CPR****I. STANDARD**

Improve survival rates for cardiac arrest.

**II. PURPOSE**

The High Performance CPR (HPCPR) guideline is built upon a common framework including: clearly identified roles, common terminology, interoperability between agencies, similar equipment, continually practiced skills, and a common goal of increased survival for cardiac arrest patients.

**III. PROCEDURE**

Agencies and responders are encouraged to do the best you can with the resources available. Agencies should develop practices to identify how they will fill the HPCPR common roles and how to best utilize their resources to achieve success. Agencies and responders should practice and reinforce their skills on a frequent and regular basis utilizing CPR training equipment capable of providing CPR quality feedback as much as possible.

**1. HPCPR COMMON ROLES**

- a. Scout / Initial Compressor
- b. AED / Monitor Operator
- c. Time Keeper / Coordinator
- d. IV / Airway

The common roles are listed in order of priority and should be filled in that order as much as possible and resources allow. It is understood that these rolls may be shared or combined based on the resources available on scene until additional help arrives.

**2. SCOUT/INITIAL COMPRESSOR**

- a. Responders assuming this role should quickly locate the patient and identify the presence of cardiac arrest. Patients in cardiac arrest will be unconscious and not breathing, or not breathing normally, e.g. agonal respirations, and will not have a pulse. Pulse checks should be achieved in less than 10 seconds.
- b. If possible "Push clothes up" to reveal the chest; otherwise begin compressions on clothing until it can be removed.
- c. Immediately start high quality chest compressions.
- d. High quality chest compressions include compressions on a hard surface with full recoil, the proper depth and appropriate rate. Full recoil means the personnel performing the compressions does not lean or place any weight on the patient between compressions. The proper depth for adult compressions is 50 mm or 2 inches. The appropriate rate is 100-120 per minute. The compressor should count

**PROTOCOL TITLE: HIGH PERFORMANCE CPR**

out loud during compressions. Strictly limit interruptions. Do not stop compressions for IV/IO, ETT, or IGEL procedures.

**3. AED/MONITOR OPERATOR**

- a. The AED / Monitor operator should set up and apply the AED/Monitor to the patient. Do NOT disturb compressor, do not interrupt compressions. Cut or remove the clothes from the patient.
- b. Two minutes of high quality compressions should be completed prior to any rhythm analysis or pulse check.
- c. Depending on resources available on scene the AED / Monitor Operator can initiate BVM- Ventilations until the 1:30 mark at which point they should prepare for rhythm analysis on the AED / Monitor. If resources on scene allow personnel to be dedicated to BVM- Ventilations, follow the guidelines as below.
- d. BVM-Ventilations should be performed at a ratio appropriate for the training level of the provider. If appropriately trained and practiced the ventilations can be performed at a ratio of 10:1 without interruption of compressions. A ratio of 30:2 with brief interruptions for ventilations can be performed until providers can demonstrate proficiency at the practice of 10:1. One of the overall goals of the HPCPR program is to strictly limit interruptions to only 2 minute rhythm checks. CPR Providers are strongly encouraged to learn and practice the 10:1 ratio as this will become the standard practice in the HPCPR program.
- e. As an alternative or, if resources on scene are limited, a passive O2 delivery system can be utilized during the first 6 minutes of HPCPR. Passive O2 delivery systems could be achieved by placing a non-rebreather mask on the patient's face with high flow O2 in place of the BVM.

**4. TIME KEEPER COORDINATOR**

- a. The Time Keeper / Coordinator starts and monitors the stop watch on scene and communicate the time to all the providers on scene. The Coordinator is responsible to evaluate CPR performance, ensuring the compressor is performing compressions correctly with full recoil, proper depth, and the appropriate rate. The Coordinator is responsible to ensure interruptions to compressions are strictly limited to the 2 minute mark. The Coordinator is also responsible to coordinate compressors and ensure smooth compressor transitions every 2 minutes.
- b. The coordinator also gathers information on scene and relays pertinent information to other providers.
- c. The Coordinator calls out the time **BENCHMARKS**.

**PROTOCOL TITLE: HIGH PERFORMANCE CPR**

- i. **“30 Seconds”** – This allows all the providers on scene to keep track of time.
    - ii. **“1 minute”** – The half way mark.
    - iii. **“1 minute 30 seconds”** – The trigger for the monitor operator to get into position and prepare for charging. At this point the Coordinator solicits or if necessary designates the next compressor, who should move into position to prepare to take over compressions.
    - iv. **“1 minute 45 seconds, Charge The Monitor”** – The Monitor operator selects the energy level and charges the monitor, and checks for a pulse during compression to verify pulse, therefore is in position to check for a pulse during rhythm analysis.
    - v. **“10, 9, 8, 7, 6, 5, 4, 3, 2, 1 – 2 minutes”** – The pivotal moment that requires strict coordination and practice to ensure the absolutely shortest pause as possible, no more than 10 seconds. Rhythm analysis occurs, clearing the patient, and shocking occurs as appropriate. The next compressor is in position immediately begins compressions following the shock or no shock indication.
    - vi. AED Specific 2 minute Guideline
  - d. Do not touch the patient during rhythm analysis. If SHOCK is indicated – Perform 30 compressions while AED is charged and then SHOCK. If NO-SHOCK is indicated check pulse for < 10 seconds and immediately start 2 minutes of CPR if no pulse.
5. IV/AIRWAY
  - a. The IV/IO skills are to be completed by the appropriately certified personnel during the 2 minute compression periods. Do not interrupt compressions to complete these procedures. If the first line ACLS medication can be administered soon, IV/IO should be given priority over airway. Place an IGEL if unable to intubate without interruption of CPR and consider ETT after ROSC has occurred.
6. MECHANICAL CHEST COMPRESTION DEVICES (MCD)
  - a. Follow the manufacturer’s instructions regarding appropriate use. MCD’s can be utilized for patients older than 18 years old and are appropriate for cardiac arrest of non-traumatic nature.
  - b. Use of MCD’s should not delay or significantly interrupt high quality chest compressions and should be implemented by highly trained and very proficient providers. Agencies and providers who utilize MCD’s should be prepared for possible device failure and have the necessary resources available to continue HPCPR without their use.



**PROTOCOL TITLE: HIGH PERFORMANCE CPR**

## 7. FOLLOW-UP

- a. Following completion of the cardiac arrest incident providers should complete a thorough and complete patient care report. For QA/QI purposes providers should contact their dispatch agency and advise them that the incident was a cardiac arrest. Providers should also email the EMS DIRECTOR with the following information: Date, Agency, and Incident Number. Include in the Subject line: Cardiac Arrest.

**PROTOCOL TITLE: LVAD**

**Left Ventricular Assist Device**

**Background**

A Left Ventricular Assist Device (LVAD) is used in patients with severe congestive heart failure to allow them to return home to their family and community. The LVAD is dependent on an external power supply, either 110 volt AC or rechargeable. A patient needing an LVAD may have enough cardiac function to maintain life, but not enough to allow any significant activities. A patient with an LVAD, along with his or her close family members or friends, will have received extensive training in the use and operation of the LVAD. Some patients may have a Right Ventricular Assist Device (RVAD) in addition or instead.

The level of consciousness will be of prime importance in evaluating the patient's condition. Patients with an LVAD will likely not have a palpable pulse, blood pressure detectable by EMS personnel (unless using a Doppler) or reliable pulse oximeter reading. The mean arterial pressure (MAP), if measureable, should be at least 50 mm Hg. End tidal CO2 measurements will be reliable with a normal value of 35-45 mm Hg and should be at least 20 mm Hg. A hum from the implanted pump will usually be heard or palpated in the patient's central or left lower chest. Most patients with an LVAD will have received an Automatic Implantable Cardioverter Defibrillator (AICD), typically in the left upper chest.

Patient with an LVAD The 2 most common reasons for LVAD pump failure are disconnection of the power and failure of the driveline.

**I EMT**

- a. Oxygen
- b. Ensure LVAD is On and Working. Exchange the Controller
- c. Defibrillation as Normal
- d. ETCO2 Monitoring
- e. Contact LVAD Center
  - 1. St Vincent 971-678-4042
  - 2. Stanford 650-723-4000
- f. Package Patient to avoid constriction on LVAD or tension on Cables
- g. One Patient companion knowledgeable about LVAD should be transported in the back with the patient
- h. Transport ALL LVAD equipment
  - i. Chest compressions may be performed is the patient is unconscious apneic and without an LVAD Hum

**II. AEMT**

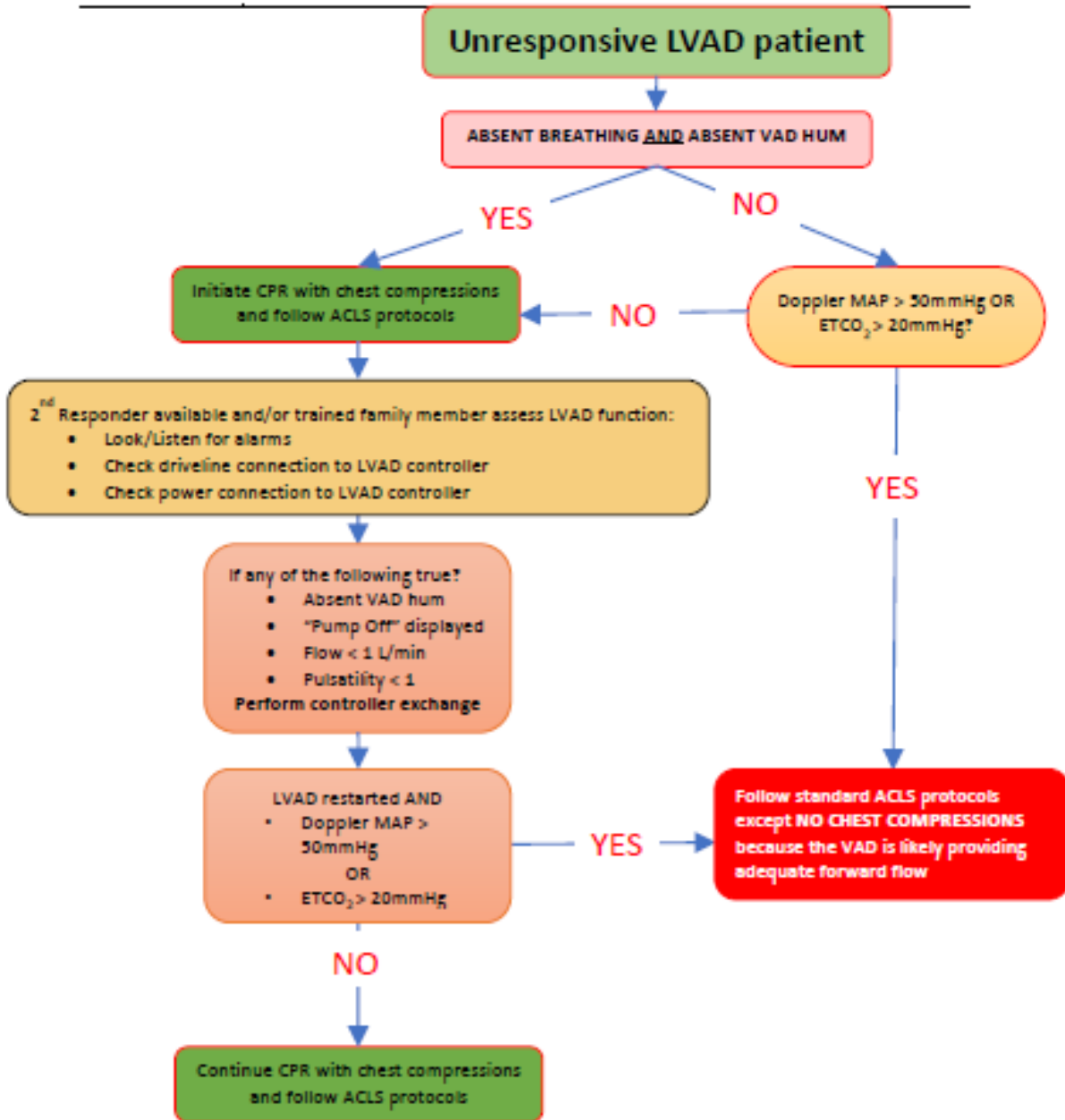
- a. IV/IO with NS or LR

**III. I/Paramedic/RN**

**LVAD**

**PROTOCOL TITLE: LVAD**

- a. Cardiac monitor
- b. Cardiac Meds
- c. 12 Lead



LVAD

**PROTOCOL TITLE: ResQPOD**

**Introduction:**

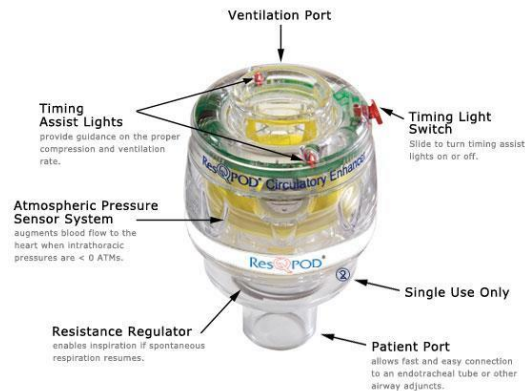
ResQPOD® is an impedance threshold device (ITD) that enhances the vacuum formed in the chest during the chest recoil phase of CPR. Studies have shown that this process draws more blood back to the heart (increases preload), and increases cardiac output, blood pressure, perfusion to vital organs and survival rates.

**Indications:**

To be used on all patients 20 pounds or 10 kg in cardiac arrest.

**Contraindication:**

- Where cardiopulmonary resuscitation (CPR) is not indicated
- Patient WITH a pulse or spontaneous breathing
  - If CPR is discontinued remove ResQPOD immediately from ventilation circuit.
- Patients under <20 pounds or 10 kg
- Patients with a flail chest



**Procedure:**

Used with either basic or advanced life support during cardiac arrest, with a bag-valve mask attached to a face mask, an endotracheal (ET) tube, or other airway devices (e.g. – I-Gel)

1. Select airway adjunct (tube or mask).
2. Attach bag-valve to air intake port on ResQPOD.
3. Slide the Ventilation Timing Assist Light switch to on when using the ResQPOD in an intubated patient.
4. Begin CPR
  - Allow for complete chest recoil
  - Follow recommended ventilation rates.
  - DO NOT hyperventilate.
  - Use 30:2 compressions:ventilation ratio (15:2 for infants and children with 2 rescuers) for basic life support when using a facemask.
  - Ventilate intubated patients 8-10 breaths/minute with each breath lasting 1.5 seconds (maximum) to optimize CPR and ResQPOD efficacy.
  - Excessive ventilation rates will reduce the effectiveness of the ResQPOD.

\*Clean or suction vomit and secretions from the ResQPOD by removing it from the airway adjunct and shaking or blowing debris out, using a ventilation source.

**NOTE: After pulse and/or spontaneous respirations have been restored, immediately remove ResQPOD from ventilation circuit and help patient breath as needed.**

**ResQPOD**

**PROTOCOL TITLE: Pelvic Stabilization**

**PURPOSE:**

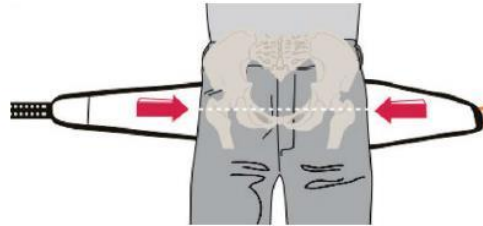
The initial reduction of an unstable pelvic fracture (to lessen ongoing internal bleeding and to ease the pain by splinting the fracture) using either a specifically applied sheet or another approved device.

**INDICATIONS:**

- A. To be applied in all trauma patients who have appropriate mechanism(s) of injury and who present with pelvic instability.
- B. Consider pelvic wrap in trauma patients who have appropriate mechanism(s) of injury and who are in shock.

**PELVIC SLING PROCEDURE:**

- A. Remove objects from patient's pocket or pelvic area. Place SAM Pelvic Sling gray side up beneath patient at level of trochanters (hips).

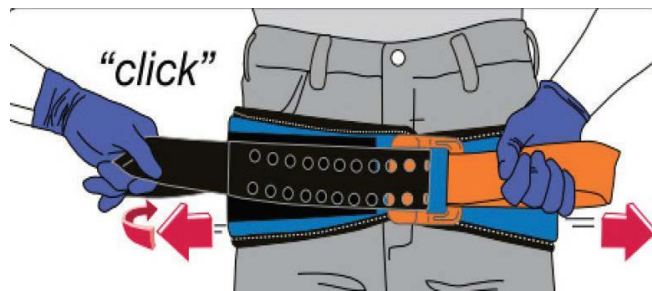


- B. Place BLACK STRAP through buckle and pull completely through.



- C. Hold ORANGE STRAP and pull BLACK STRAP in opposite direction until you hear and feel the buckle click.

Maintain tension and immediately press BLACK STRAP onto surface of SAM Pelvic Sling to secure.



Pelvic Stabilization

**PROTOCOL TITLE: Health Crisis**

**Note:** The purpose of this guideline is to enhance EMS provider safety in the setting of suspected respiratory viruses

**I. Initial Assessment**

EMS providers should minimize the number of crew members in close contact with the patient until the initial interview is completed.

Perform initial interview of all patients with fever or respiratory illness wearing an N-95 or greater mask, gown, gloves and eye protection. Attempt to maintain distance of at least six (6) feet away, to determine if additional PPE precautions are necessary.

**II. Treatment - for suspected Severe Acute Respiratory Infection (SARI,) adhere to the following guidelines:**

Apply droplet and contact precautions for all patients:

1. Droplet and contact precautions prevent direct or indirect transmission from contact with contaminated surfaces or equipment (i.e. contact with contaminated oxygen tubing/interfaces).
2. Use PPE (N95 mask, eye protection, gloves and gown) when caring for patient.
3. Give suspect patient a Surgical mask
4. If possible, use either disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect between each patient use.
5. Refrain from touching eyes, nose, and mouth with potentially contaminated gloved or ungloved hands.

Apply airborne precautions when performing an aerosol generating procedure:

1. When performing aerosol-generating procedures (i.e. open suctioning of respiratory tract, intubation, bronchoscopy, CPAP, cardiopulmonary resuscitation) use PPE, including gloves, long-sleeved gowns, eye protection, and fit-tested particulate respirators (N95 or equivalent, or higher level of protection).
2. Whenever possible, use adequate ventilation during procedures

**III. Transport:**

1. For patients in whom SARI is suspected, only providers' essential for patient care should be in the patient compartment of the ambulance.
2. Turn on ambulance exhaust fans in the patient compartment to the highest possible setting. If feasible, open the outside air vents.
3. Alert receiving hospital personnel of the possibility of an infectious patient as soon as possible, and hold suspected infectious patients in the ambulance until either the ED or hospital staff is ready to receive them.

**PROTOCOL TITLE: Health Crisis****IV. Cleaning and Disinfection**

1. EMS personnel cleaning equipment and patient care areas should wear full PPE including face and airway protection prior to initiating cleaning.
2. Upon completion of the call, use an approved U.S. Environmental Protection Agency (EPA) registered hospital disinfectant for any non-enveloped virus to thoroughly clean all equipment and all patient-care areas (including stretchers, railings, medical equipment control panels, and adjacent flooring, walls, and work surfaces).
3. After completing cleaning tasks, including cleaning and disinfection of reusable equipment, cleaning personnel should carefully remove and dispose of PPE.
4. Remove the ambulance from any patient care service until fully deconned.

**V. Recommending against Transport**

1. In some instances, crews will give the patient recommendations from the CDC which state, "we are recommending that you stay at home and call your providers office. At this time, ERs are not performing XXXX tests. When your provider knows when and where these will be located, they will help get an order for you to get tested."
2. This advice will be given if the patient meets the following criteria:
  - a. Pulse ox  $\geq$ 94% on room air
  - b. HR < 110 bpm
  - c. RR < 24
  - d. SBP > 110 or it's at patients baseline
  - e. The patient is not having any signs of new altered mental status or respiratory distress ie/ retractions"

**VI. Right of Refusal**

1. This portion of the procedure is to **only be implemented in extreme situations!** This is where EMS is able to refuse to transport patients against their will. This can only be implemented when the following is met. This portion could be implemented in only one agency or county wide depending on the situation.
  - a. Pandemic worldwide or local has been officially declared
  - b. State of emergency has been declared in the State of Oregon
  - c. County Health has been consulted
  - d. Effected hospitals have been consulted

**PROTOCOL TITLE: Health Crisis**

- e. Supervising Physician has agreed and signed a letter stating in consultation with the above agencies we are instituting “Agency Right of Refusal to Transport”
2. Patient must meet criteria set in section “V” of this procedure

**VII. Right of Refusal Procedure**

1. Signature if not transporting.
  - a. Recommend obtaining a signature as a treat and release (as providing an assessment) or a refusal. In the setting the patient wants to be transported but crew with or without medical control consultation determines patient is sick but does not need transport, patient may refuse to sign anything, then document in narrative “right of refusal under pandemic procedure.”
2. Assessment documentation.
  - a. Document signs and symptoms patient reporting that suggest Current viral or influenza-like illness (fever + lower respiratory symptoms such as cough, difficulty breathing, SOB).
  - b. Obtain past medical history specifically screening for lung disease (asthma, COPD, emphysema, etc) and heart disease (heart failure, coronary artery disease, etc).
  - c. Set of vital signs including blood pressure, heart rate, respiratory rate, and pulse oximetry. Obtain temperature.
  - d. Physical exam specifically including lung sounds and +/- signs of respiratory distress (ie tachypnea, work of breathing, retractions, etc).
  - e. if patient not transported despite their wishes to be transported to the hospital, document “right of refusal per local pandemic protocol” if meeting criteria, ie no respiratory distress, hypoxia, lung disease, and heart disease.
3. In general, do not minimize the complaint(s). Rather acknowledge that they are sick, however appear to be maintaining. A key will be to show them their oxygen is adequate at greater than or equal to 94%. They are safe to remain home under quarantine. Review symptom management with rest, staying hydrated, Tylenol and Motrin or whatever is recommended by CDC. Recommend providing the one page handout produced by the CDC.
4. May become necessary to refuse treatment to other minor injured or ill patients as well. Above criteria however will follow. Thoroughly assess and document any patient that meets refusal of transport criteria.

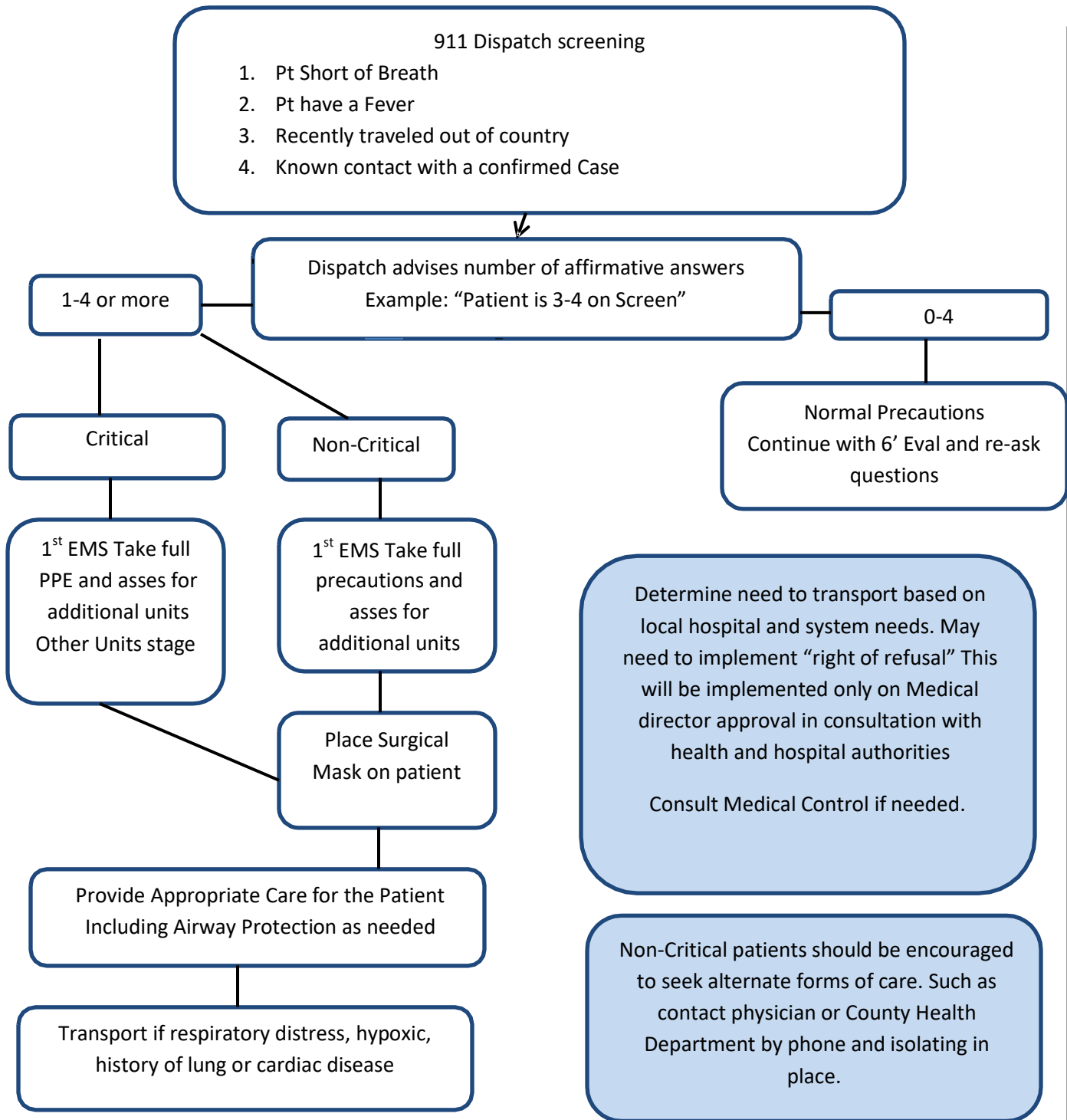





**PROTOCOL TITLE: Health Crisis**

- 5. This is a last resort procedure in an emergency health crisis. If getting push back from patient contact Med Control and/or health department. Officer in charge of the agency for the day, in consultation with Med Control, will have final say.

**Health Crisis**

# Respiratory Disease Protocol





NAME	DOSING	DRUG PROFILE	PROTOCOL
<p><b>Adenosine</b> (Adenocard®) Antiarrhythmic</p> 	<p><b>Adult:</b> 6 mg IV, rapidly via proximal IV. Flush with 10mL saline. If no effect in 1-2 minutes, Second dose of 12 mg IV rapidly. May repeat 12 mg bolus.</p> <p><b>Peds:</b> 0.1 mg/kg IV, IO max 6 mg first dose max 12 mg second dose.</p>	<p><b>Indications:</b> PSVT refractory to vagal maneuvers</p> <p><b>Contraindications:</b> 2<sup>nd</sup> or 3<sup>rd</sup> degree heart block, sick sinus syndrome, known hypersensitivity</p> <p><b>SE:</b> facial flushing, HA, SOB, dizziness, nausea all self limiting</p>	<p><a href="#">C8</a></p>
<p><b>Albuterol</b> (Proventil®) Sympathetic agonist B2 selective</p> 	<p><b>Adult:</b> 2.5 mg (0.5ml) diluted in 3 mL 0.9% NaCl via nebulizer mask.</p> <p><b>Peds:</b> &gt;6 mo 2.5 mg diluted on 3 cc 0.9% NaCl &lt;6 mo 1.25 mg diluted in 3 cc 0.9% NaCl.</p>	<p><b>Indications:</b> Bronchospasm, COPD, Asthma</p> <p><b>Contraindications:</b> Known hypersensitivity</p> <p><b>SE:</b> palpitations, anxiety, dizziness, HTN, arrhythmia chest pain, N/V</p>	<p><a href="#">M3</a> <a href="#">R1</a> <a href="#">R2</a> <a href="#">R3</a></p>
<p><b>Amiodarone</b> Antiarrhythmic</p> 	<p><b>Adult:</b> <i>Pulseless Arrest :</i> 300 mg IV, IO. May repeat 150 mg IV, IO in 3-5 min.</p> <p><i>Wide-Complex Tach. (Stable):</i> 150 mg IV over 10-15 min., may repeat 150 mg IV once. <i>See Drug table for recommendation.</i></p> <p><b>Peds:</b> <i>Refractory V-fib Pulseless V-tach:</i> 5mg kg IV, IO, bolus may repeat x2 max of 15 mg/kg in 24 hours.</p> <p><i>Perfusing arrhythmias supraventricular and ventricular:</i> 5 mg/kg load IV, IO over 20-60 minutes. may repeat x 2, max dose 15 mg/kg in 24 hours. Max single dose 300 mg.</p>	<p><b>Indications:</b> Used in life threatening cardiac arrhythmias such as V-Tach or V-Fib; control of PVC's</p> <p><b>Contraindications:</b> Severe sick sinus syndrome, 2<sup>nd</sup> and 3<sup>rd</sup> degree AV block, symptomatic bradycardia, known hypersensitivity</p> <p><b>SE:</b> hypotension, bradycardia</p>	<p><a href="#">C6</a> <a href="#">C8</a></p>

DRUG PROFILES CHART




**APPENDIX A: DRUG PROFILES CHART**

**A-A1**

<p><b>Anectine</b></p>	<p>See Succinycholine</p>	<p>See Succinycholine</p>	
<p><b>Aspirin</b> Acetylsalicylic Acid Non-enteric coated</p> <p>Platelet aggregation inhibitor &amp; anti-inflammatory agent</p> 	<p><b>Adult:</b> 324 mg</p> <p><b>Peds:</b> N/A</p>	<p><b>Indications:</b> Chest Pain suggestive of AMI</p> <p><b>Contraindications:</b> Known hypersensitivity, relative contraindication in active ulcer disease, asthma</p> <p><b>SE:</b> heart burn, wheezing, N/V, prolonged bleeding</p>	<p><a href="#">C3</a></p>
<p><b>Ativan see Lorazepam</b></p>			
<p><b>Atropine Sulfate</b></p> <p>Anticholinergic, (parasympatholytic)</p> 	<p><b>Adult:</b> <i>Symptomatic Bradycardia:</i> -0.5-1 mg IV q 3-5 minutes; up to 3 mg</p> <p><i>Organophosphate Poisoning:</i> 1-5 mg IV q 5 minutes until vital signs improve.</p> <p><b>Peds:</b> <i>Cardiac arrest, and symptomatic bradycardia:</i> 0.02 mg/kg, may double the dose for 2<sup>nd</sup> IV or IO dose. Minimum dose 0.1mg Max dose: Child 1 mg Adolescent 2 mg</p> <p><i>Organophosphate Poisoning:</i> <i>0.05 mg/kg in children</i> until vital signs improve.</p> <p>Pediatric RSI: Pre-medicate with 0.02 mg/kg (minimum of 0.1mg)</p>	<p><b>Indications:</b> hemodynamically significant symptomatic bradycardia Organophosphate Poisoning, GB, VX Nerve Agent Exposure, Asthma, Pediatric RSI</p> <p>Pediatrics: Symptomatic bradycardia unresponsive to oxygenation ventilation and epinephrine.</p> <p>Efficacy in Cardiac arrest is unknown, trial dose may be given.</p> <p><b>Contraindications:</b> None in the emergent setting</p> <p><b>SE:</b> Blurry vision, dilated pupils, dry mouth, tachycardia, drowsiness, and confusion</p>	<p><a href="#">C1</a> <a href="#">C6</a> <a href="#">M11</a> <a href="#">P12</a> <a href="#">P14</a></p>
<p><b>Atrovent or Duoneb</b></p>	<p>See Ipratropium Bromide</p>		
<p><b>Benadryl</b></p>	<p>See Diphenhydramine</p>	<p>See Diphenhydramine</p>	


**DRUG PROFILES CHART**



<p><b>Cardizem</b></p>	<p>See Diltiazem</p>	<p>See Diltiazem</p>	
<p><b>Calcium Gluconate 10%</b></p>	<p>Hyperkalemia, Calcium Channel blocker/ Magnesium Sulfate Overdose Adult: 10ML IV or IO over 5-10 min Peds: 0.6-0.75 ml/kg IV or IO over 5-10 Min</p> <p>Hydrogen fluoride or hydrofluoric acid exposure or burn Skin Burns or exposure – apply topically Mix 1 ampule of 10% calcium gluconate in 1 ounce (30cc) water-based, water soluble personal lubricant (such as K-Y jelly) and massage into burned area. Inhalation exposure or Pulmonary Burns- Via nebulizer Administer 2.5% solution- mix 10% calcium gluconate with 3 volumes normal saline.</p>	<p>Indications: Antidote for overdoses of calcium channel blockers or magnesium Treatment for hydrogen fluoride or hydrofluoric acid exposure of skin and lungs.</p> <p>Contraindications: Known sensitivity to calcium gluconate</p> <p>SE: will precipitate if infused in same line with sodium bicarbonate. Use with caution in patients taking digoxin</p>	<p><a href="#">M11</a> <a href="#">M14</a></p>
<p><b>Dexamethasone</b>  (Decadron®)</p>	<p>ADULT DOSING: Respiratory distress, severe allergic reaction, anaphylaxis - 10 mg IV/IO/IM/PO. Flavoring may be used if available if for oral dosing.</p>	<p><b>INDICATIONS:</b> Moderate to severe asthma/COPD Severe allergic reaction Croup</p> <p><b>CONTRAINDICATIONS:</b> Do not use in patients with known hypersensitivity to corticosteroids.</p> <p><b>PRECAUTIONS:</b> May cause hypertension and hyperglycemia.</p> <p><b>SIDE EFFECTS AND NOTES:</b> May cause nausea, vomiting, headache, or dizziness.</p>	<p><a href="#">M2</a> <a href="#">M10</a> <a href="#">R1</a> <a href="#">R2</a> <a href="#">R3</a></p>

<p><b>Dextrose 50%</b> Nutrient, carbohydrate</p> 	<p><b>Adult:</b> 25 g IV, IO, may repeat with additional 25 g.</p> <p><b>Peds:</b> 0.5-1.0 g/kg up to 25 g.</p> <p>&lt;1 year old dilute to 12.5% concentration 1-8 year old dilute to 25% concentration &gt;8 year old 50% concentration</p>	<p><b>Indications:</b> Coma, unconscious unresponsive unknown etiology, hypoglycemia, insulin shock</p> <p><b>Contraindications:</b> None in the emergent setting</p> <p><b>SE/complication:</b> tissue necrosis and phlebitis at injection site.</p>	<p><a href="#">M7</a> <a href="#">M11</a> <a href="#">M12</a> <a href="#">M13</a> <a href="#">M14</a> <a href="#">P3</a></p>
<p><b>Diazepam (Valium)</b> Benzodiazepine</p> 	<p><b>Adult:</b> 2-10 mg IV or IM every 3-5 minutes</p> <p><b>Pediatric:</b> 0.1-0.3 mg/kg IV, IO, or IM(Max dose 5 mg)</p>	<p><b>Indications:</b> Sedation for painful procedures Muscle relaxation for patients with dislocations or fractures Post RSI sedation Seizures</p> <p><b>Contraindications:</b> Known sensitivity</p> <p><b>SE/Complications:</b> Respiratory depression, hypotension, sedation. Paradoxical excitement or agitation may occur.</p>	<p><a href="#">M4</a> <a href="#">M10</a> <a href="#">M11</a> <a href="#">M12</a> <a href="#">P9</a> <a href="#">P12</a></p>
<p><b>Diltiazem</b> (Cardizem®) Calcium Channel Blocker</p> 	<p><b>Adult:</b> 0.25 mg/kg Minimum 10mg/Max 20mg IV over 2 min. May repeat in 15 min, @ 0.35 mg/kg Minimum 15mg/Max 25mg over 2 min.</p> <p>Drip at 5 - 15 mg/HOUR after bolus to maintain rate control</p> <p><b>Peds:</b> Not FDA Approved</p>	<p><b>Indications:</b> To control rapid ventricular rate in A-Fib &amp; A-Flutter., PSVT</p> <p><b>Contraindications:</b> Hypersensitivity, 2<sup>nd</sup> or 3rd degree Heart Block, Sick Sinus Syndrome, WPW, cardiogenic shock, V-Tach,</p> <p><b>Caution:</b> AV Block, CHF, can cause systemic hypotension</p> <p><b>SE:</b> Hypotension (3-4%), dizziness, HA, Vomiting (1.5-3%),</p>	<p><a href="#">C8</a></p>

**APPENDIX A: DRUG PROFILES CHART**

**A-A1**



<p><b>Diphenhydramine</b> (Benadryl®) Antihistamine</p> 	<p><b>Adult:</b> <i>Allergic reaction:</i> 25-50 mg slow IVP, or deep IM.</p> <p><i>Extra Pyramidal symptoms:</i> 25-50 mg slow IVP, or deep IM.</p> <p><b>Peds:</b> <i>Allergic reaction:</i> 1-2 mg/kg IV, IO slowly, or IM.</p>	<p><b>Indications:</b> Allergic reactions, Extra Pyramidal symptoms</p> <p><b>Contraindications:</b> neonates</p> <p><b>SE:</b> Sedation, confusion,</p>	<p><a href="#">M3</a></p>	
<p><b>Epinephrine</b> (Adrenalin®) Sympathomimetic</p>	<p><b>Adult:</b> <i>Allergic reaction:</i> 0.3-0.5 mg 1:1000 SQ, <i>See Epinephrine auto Injector</i></p> <p><b>Anaphylaxis:</b> 0.3-0.5 mg 1:10,000 IV, IO. See Epinephrine auto injector <i>severe persistent hypotension, and severe refractory S&amp;S</i> Epi drip 2-10 mcg/min</p> <p><b>Asthma:</b> 0.3-0.5 mg 1:1,000 IM. 0.3-0.5 mg 1:10,000 IV <i>severe respiratory distress</i> Epi drip 2-10 mcg/min</p> <p><b>Note:</b> IM route preferred over SQ route</p> <p><b>Cardiac arrest:</b> 1 mg IV, IO 1: 10,000 q 3-5 minutes.</p> <p><b>Symptomatic Brady/Cardio Shock</b> Epi-drip 2-10mcg/min</p> <p><b>Peds:</b> <b>Pulseless Arrest and Symptomatic Bradycardia:</b> 0.01 mg/kg 1:10,000 (0.1 ml/kg) IV, IO q 3-5 min Or 0.1 mg/kg (0.1 ml/kg) of 1:1000 ETT.</p> <p><b>Allergic reaction:</b> 0.01mg/kg 1:1000 IM maximum 0.5 mg. Note: IM route preferred over SQ route</p>	<p><b>Indications:</b> Allergic reaction Anaphylaxis, Asthma, Cardiac arrest</p> <p><b>Contraindications:</b> Patients with known underlying cardiovascular disease, HTN, pregnancy, tachyarrhythmias</p> <p><b>SE:</b> Palpitations, anxiety, tremors, N/V</p>	<p><a href="#">C1</a> <a href="#">C2</a> <a href="#">C6</a> <a href="#">M3</a> <a href="#">R1</a> <a href="#">R3</a></p>	<p><b>DRUG PROFILES CHART</b></p>

	<p><b>Anaphylaxis:</b> Pediatric epi pen; 0.01 mg/kg 1:1000 SQ maximum 0.5 mg <b>severe persistent hypotension, and severe refractory S&amp;S</b> Epi drip 0.1-2 mcg/min <b>Asthma:</b> 0.01 mg/kg 1:1000 SQ maximum 0.5 mg- severe refractory S&amp;S Epi drip 0.1-2 mcg/min</p>		
<p><b>Epinephrine Auto-Injector</b></p> 	<p><b>Adult:</b> <i>Allergic Reaction, Anaphylaxis:</i> 1 auto-injector 0.3 mg.</p> <p><b>Peds:</b> <i>Allergic reaction; anaphylaxis:</i>  1 auto-injector 0.15 mg.</p>	<p><b>Indications:</b> severe allergic reaction</p> <p><b>Contraindications:</b> known cardiovascular disease</p> <p><b>SE:</b> Palpitations, anxiety, tremors, N/V</p>	<p><a href="#">M2</a></p>
<p><b>Etomidate</b>  (Amidate®)</p>	<p><b>ADULT:</b> Induction agent for rapid sequence intubation - 0.3 mg / kg IV/IO slow push. <b>PEDIATRIC:</b> Same as adult</p>	<p><b>INDICATIONS:</b> As an induction agent for use in rapid sequence intubation. <b>CONTRAINDICATIONS:</b> Etomidate is contraindicated in patients who have a known hypersensitivity to the drug</p> <p><b>PRECAUTIONS:</b> Excessively rapid injection may cause a fall in blood pressure.</p> <p><b>SIDE EFFECTS AND NOTES:</b> A. The most frequent adverse reactions are transient venous pain on injection and transient skeletal muscle movements. B. Etomidate may also cause nausea and/or vomiting.</p>	<p><a href="#">P12</a></p>



**APPENDIX A: DRUG PROFILES CHART**

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<p><b>Fentanyl Citrate</b> (Sublimaze) Synthetic narcotic</p> 	<p><b>Adult:</b> <i>Pain Control:</i> 1mcg/kg titrated to max of 3 mcg/kg slow IV, IO</p> <p>2mcg/kg intranasal (IN)</p> <p><i>AMI:</i> 50 mcg titrated to effect max 3 mcg/kg slow IV, IO</p> <p><b>Peds:</b> <i>Pain Control:</i> 1mcg/kg slow IV, IO</p>	<p><b>Indications:</b> Pain Control, AMI, adjunct to RSI, maintenance of analgesia</p> <p><b>Contraindications:</b> Known hypersensitivity, shock</p> <p><b>SE:</b> Potentially fatal respiratory depression if not monitored, chest wall rigidity if administered too quickly</p>	<p><a href="#">C3</a> <a href="#">T1</a> <a href="#">P9</a> <a href="#">P12</a></p>
<p><b>Glucagon</b> hormone</p> 	<p><b>Adult:</b> <i>Hypoglycemia</i> 0.5-1 mg or unit (0.5-1 ml) IM.</p> <p><i>Beta Blocker or Calcium Channel blocker OD</i> 2.0 mg IV, may repeat Q 2 min up to 10mg PRN hypotension.</p> <p><b>Peds:</b> <i>Hypoglycemia</i> <i>Beta Blocker OD</i> <i>Calcium Channel Blocker OD</i> 0.1 mg/kg IV up to 1 mg.</p>	<p><b>Indications:</b> <i>Hypoglycemia</i> with altered mental status in a diabetic</p> <p><i>Beta blocker or calcium channel blocker overdose with hypotension</i></p> <p><b>Contraindications:</b> Known hypersensitivity</p> <p><b>SE:</b> Occasional N/V, rash</p>	<p><a href="#">M7</a> <a href="#">M8</a> <a href="#">M11</a></p>
<p><b>Glucose (Oral)</b></p>	<p>Hypoglycemia</p> <p>1 tube 15 G</p> <p>Place inside cheek and gum and allow to absorb in mucosa</p>	<p><b>Indications:</b> Hypoglycemia with symptoms and CBG &lt;80mg/dl</p> <p><b>Contraindications:</b> Unconscious or unable to swallow</p>	<p><a href="#">M7</a></p>

ES CHART

DRUG

**APPENDIX A: DRUG PROFILES CHART**

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<p><b>Haldol (haloperidol)</b> Antipsychotic</p>	<p><b>Adult:</b> 5-10 mg IM, may repeat up to 10mg maximum</p>	<p><b>Indications:</b> <i>Psychosis, aggressive and agitated behavior</i></p> <p><b>Contraindications:</b> Comatose states and CNS depression due to alcohol or other depressant drugs</p> <p><b>SE:</b> Physical and mental impairment</p>	<p><a href="#">M4</a></p>	
<p><b>Hydromorphone (Dilaudid)</b> Opioid, Analgesic</p>	<p><b>Adult:</b> 1-4 mg IM or slow IV/IO</p>	<p><b>Indications:</b> Severe Pain including burns</p> <p><b>Contraindications:</b> BP&lt;100 Respiratory depression History of severe asthma Pregnancy Head injury/increased intracranial pressure Altered level of consciousness</p> <p><b>Precautions &amp; S.E.:</b> Schedule II opioid agonist – HIGH ABUSE POTENTIAL. Respiratory depression risk; associated alcohol, other opioids and CNS depressants may increase risk of potentially fatal respiratory depression. May cause circulatory depression. Severe hypotension</p>	<p><a href="#">T1</a> <a href="#">P9</a> <a href="#">P12</a></p>	

**DRUG PROFILES CHART**





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<p><b>Ketorolac (Toradol)</b></p>	<p><b>Adult:</b> 30 mg IV or 60 mg IM</p>	<p><b>Indications:</b> Pain</p> <p><b>Contraindications:</b> Renal Disease Major Trauma Dehydration Active bleeding</p>	<p><a href="#">P9</a></p>
<p><b>Levophed</b></p> 	<p><b>Adult:</b> Initial Dose: 2-4mcg/min. Dosing range 1-30mcg/min.</p> <p><b>Peds:</b> Contact Medical Control for use &amp; dosing.</p>	<p><b>Indications:</b> Cardiogenic shock, hypotension, low cardiac output, poor perfusion of vital organs.</p> <p><b>Contraindications:</b> MAOI's &amp; hypersensitivity S/E: Headache, dizziness, anxiety, cardiac dysrhythmias including bradycardia, dyspnea.</p>	<p><a href="#">C2</a> <a href="#">M8</a></p>
<p><b>Lidocaine 2%</b> (Xylocaine®) Antiarrhythmic</p> 	<p><b>Adult:</b> <i>Cardiac arrest VT/VF:</i> 1-1.5 mg/kg IV, IO; then repeat at 0.5-0.75 mg/kg q 5-10 minutes. Maximum 3 mg/kg. <i>Lidocaine Drip:</i> After conversion to a pulsed rhythm at &gt;60 bpm, start drip @ 2-4 mg/minute.</p> <p><b>Peds:</b> 1mg/kg IV</p>	<p><b>Indications:</b> Cardiac arrest VT/VF, Ventricular Tachycardia malignant PVC's, Anesthetic for procedures</p> <p><b>Contraindications:</b> High degree heart blocks, PVC's in conjunction with bradycardia</p> <p><b>SE:</b> Anxiety, drowsiness, dizziness, confusion, N/V, Convulsions widening of QRS</p>	<p><a href="#">C6</a> <a href="#">C8</a> <a href="#">M7</a> <a href="#">P4</a> <a href="#">P12</a></p>




**DRUG PROFILES CHART**

<p><b>Lorazepam</b></p> 	<p><b>Adult:</b> Seizure 1-2mg IV or IM Status epilepticus 2-4mg IV or IM Sedation before cardioversion/pacing 0.5-4mg IV Anxiety: 0.5-1mg IV Chest Pain in sympathomimetic OD 0.5-2mg IV rpt Q 5min to max 4 mg</p> <p><b>Peds:</b> Seizures/status 0.1mg/kg IV (max 4mg) or IM</p> <p>Sedation 0.1mg/kg IV(max 4mg)</p>	<p><b>Indications:</b> Active seizure, Status epilepticus, sedation before cardioversion/pacing, sever anxiety</p> <p>Contraindications Hypersensitivity</p> <p>SE: Hypotension, bradycardia, decreased LOC</p>	<p>M4 M10 M11 M12 P5 P9 P14</p>
<p><b>Magnesium Sulfate</b></p> 	<p><b>ADULT:</b> V Fib / V Tach - 2 grams IV/IO over 1-2 minutes. Eclampsia - Contact OLMC for dosing in this situation. Asthma - Contact OLMC for dosing in this situation. Usual dose is 2 grams over 20 minutes.</p> <p><b>PEDIATRIC:</b> V Fib / V Tach - 25 mg/kg IV/IO over 1-2 minutes. Asthma - Contact OLMC for dosing in this situation.</p> <p>Dilute each gram (2 ml) of magnesium sulfate in 8 ml of normal saline. (Example: Mix 1 gram (2 cc) in 8 cc's of NS; mix 2 grams (4 cc) in 16'cc of NS)</p>	<p><b>INDICATIONS:</b> A. In cardiac arrest after defibrillation, epinephrine, lidocaine and amiodarone in the treatment of ventricular fibrillation and pulseless ventricular tachycardia. B. For the treatment of seizures in women with pre-eclampsia/eclampsia with OLMC approval. C. In severe asthma as a smooth muscle relaxant and inhibitor of histamine with OLMC approval.</p> <p><b>CONTRAINDICATIONS</b> : None in the emergency setting.</p> <p><b>PRECAUTIONS:</b> In the non-arrest patient, magnesium sulfate may cause hypotension, bradycardia, decreased reflexes and respiratory depression.</p>	<p><a href="#">C6</a> <a href="#">M10</a> <a href="#">R1</a> <a href="#">R3</a></p>

**APPENDIX A: DRUG PROFILES CHART**



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<p><b>Metoprolol</b> (Lopressor)</p>	<p><b>Adult:</b> 2.5-5mg IV slow, every 5 min up to 15mg Max</p> <p><b>Ped:</b> Not indicated</p>	<p><b>Indications:</b> Rapid A-Fib/Flutter or SVT Refractory to adenosine</p> <p><b>Contraindications:</b> Hypersensitivity, heart block</p> <p><b>Caution:</b> with other Beta Blockers, Avoid use with digoxin, Diltiazem, and Amiodarone. Impaired liver function.</p> <p><b>Side Effects:</b> Headache, Dizziness, Hypotension, Bradycardia and Heart Failure.</p>	<p><a href="#">C8</a></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>DRUG PROFILES CHART</b></p>
<p><b>Morphine</b></p>	<p><b>Adult:</b> Pain: 2-5mg IV, IO up to 10mg</p> <p><b>Ped:</b> Pain: 0.1-0.2mg/kg IV, IO no more than Adult dose</p>	<p><b>Indications:</b> Pain Management</p> <p><b>Contraindications:</b></p> <ul style="list-style-type: none"> <li>- Volume depletion or hypotension.</li> <li>- Head trauma.</li> <li>- Acute asthma.</li> <li>- Known hypersensitivity to MS.</li> </ul> <p><b>SE:</b></p> <p>CNS: Euphoria, drowsiness, papillary constriction, respiratory arrest.</p> <p>Cardiovascular: Bradycardia, hypotension.</p> <p>GI: Decreases gastric motility, nausea and vomiting.</p> <p>GU: Urinary retention.</p> <p>Respiratory: Bronchoconstriction, decrease cough reflex.</p>	<p><a href="#">C3</a> <a href="#">T1</a> <a href="#">P9</a></p>	

<p><b>Midazolam</b> (Versed )  Sedative/anxiolytic</p> 	<p><b>Adult:</b> <i>Sedation:</i> 1.0-2.5 mg slow IV, IM, IN q 2-3 minutes up to 5 mg dose maximum</p> <p><i>Seizures:</i> 0.5-5 mg IV, IM or IN</p> <p><i>Induction Agent:</i> 0.1-0.2 mg/kg, slow IV or IM q 2-3 minutes to 20 mg.</p> <p><b>Peds:</b> <i>Sedation or induction:</i> 0.5-1 mg IV over 2-3 minutes.</p> <p><i>Seizures:</i> 0.2 mg/kg IN</p>	<p><b>Indications:</b> sedation of patients; status epilepticus, seizures, as an induction agent in RSI to promote amnesia</p> <p><b>Contraindications:</b> Caution --Rapid bolus</p> <p><b>SE:</b> Respiratory depression and arrest, pediatrics can lead to hypotension</p>	<p><a href="#">C7</a> <a href="#">C8</a> <a href="#">M4</a> <a href="#">M10</a> <a href="#">M12</a> <a href="#">P5</a> <a href="#">P9</a> <a href="#">P12</a> <a href="#">P14</a></p>
<p><b>Naloxone</b> (Narcan®) Narcotic antagonist</p> 	<p><b>Adult:</b> 0.4-2 mg IV, IM, IN may repeat every 2-3 minutes to a maximum of 10 mg. titrate to respiratory effect.</p> <p>Narcan drip:  mix 4 mg Narcan in 500 mL 0.9% NaCl. Start drip at 125 ml/hour may titrate to effect.</p> <p><b>Peds:</b> 0.01 mg/kg x1 IV, IO, IN, may repeat with 0.1 mg/kg.</p>	<p><b>Indications:</b> Opiate overdose, coma</p> <p><b>Contraindications:</b> known hypersensitivity</p> <p><b>SE:</b> Vomiting, withdrawls</p>	<p><a href="#">M11</a> <a href="#">M13</a></p>
<p><b>Nitroglycerine Tablets</b> <b>Nitroglycerine Paste</b> <b>Nitro Spray</b>  antianginal</p> 	<p><b>Adult:</b> <i>Nitro tabs:</i> 0.4 mg SL, may repeat in 3-5 minutes (maximum: 3 doses).</p> <p><i>Nitro Spray:</i> Spray for 0.5 – 1.0 sec. @ 5 min, intervals.</p> <p><b>Peds:</b> Not indicated</p>	<p><b>Indications:</b> Angina, Hypertension, CHF with acute pulmonary edema</p> <p><b>Contraindications:</b> Hypotension, children under 12, taken erectile dysfunction medication within 24 hours (Viagra, Cialis)</p> <p><b>SE:</b> <i>Hypotension, dizziness, HA</i></p>	<p><a href="#">C3</a> <a href="#">C4</a></p>

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<p><b>Ondansetron</b> (Zofran) Antiemetic agent</p> 	<p><b>Adult:</b> 4-8 mg IV, IO, IM, PO</p> <p><b>Peds:</b> &lt;1 yr 1 mg IV, IO, IM, PO 1-8 yrs 2 mg IV, IO, IM, PO &gt;8 yrs 4 mg IV, IO, IM, PO</p>	<p><b>Indications:</b> Prevention or cessation of nausea and vomiting. ** Will not prevent motion sickness</p> <p><b>Contraindications:</b> Allergy to Zofran</p> <p><b>SE:</b> HA, Dizziness, diarrhea</p>	<p><a href="#">M1</a> <a href="#">M9</a> <a href="#">P9</a></p>	
<p><b>Phenergan (Promethazine)</b></p>	<p><b>Adult:</b> 12.5-25mg IV/IM <b>Ped:</b> Not Recommended</p>	<p><b>Indications:</b> Nausea not taken care of with Zofran.</p> <p>Contraindication: Hypersensitivity, Narrow angle Glaucoma</p> <p>SE: Hypotension, Anxiety, Dystonic Reactions</p>	<p><a href="#">M1</a> <a href="#">M9</a> <a href="#">P9</a></p>	
<p><b>Rocuronium</b> Neuromuscular Blockers, nondepolarizing</p> 	<p><b>Adult:</b> Rapid Sequence Intubation 0.6-1.2mg/kg IV Maintenance 0.1-0.2mg/kg IV repeat PRN Continuous 0.01-0.012 mg/kg/min IV</p> <p><b>PEDS:</b> &lt; 3 months safety not established 3 months to adult Rapid Sequence Intubation 0.6mg/kg IV Maintenance 0.1-0.2mg/kg IV repeat PRN Continuous 0.01-0.012 mg/kg/min IV</p>	<p><b>Indications</b> Temporary paralysis to facilitate oral intubation <b>OR</b> Sustained neuromuscular blockade in the intubated patient</p> <p><b>Contraindications:</b> Hypersensitivity</p> <p><b>SE:</b> Hypotension, hypertension, anaphylaxis, residual paralysis, myopathy, asthma, wheezing, arrhythmia</p>	<p><a href="#">P12</a></p>	

**DRUG PROFILES CHART**



**APPENDIX A: DRUG PROFILES CHART**


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<p><b>Sodium Bicarbonate</b>  (NaHCO<sub>3</sub>) Alkalinizer</p> 	<p><b>Adult:</b> <i>Tricyclic antidepressant OD with QRS &gt; .12sec:</i> 1 mEq/kg slow IVP Hyperkalemia 50 mEq slow over 10 min Cardiac arrest 50mEq to reverse suspected acidosis <b>Peds:</b> 1 mEq/kg initially followed by 0.5 mEq</p>	<p><b>Indications:</b> Tricyclic antidepressant overdose.</p> <p><b>Contraindications:</b> Alkalotic states</p> <p><b>SE:</b> <i>Alkalosis</i></p>	<p><a href="#">M11</a> <a href="#">M14</a></p>
<p><b>Succinylcholine</b> (Anectine®) depolarizing neuromuscular blocker</p> 	<p><b>Adult:</b> 1.5 mg/kg IV, IO (onset: 1 minute/recovery: 4-6 minutes).</p> <p><b>Peds:</b> 8 years of age or older: 1.5 mg/kg IV, IO.</p> <p>BVM use is the preferred method of ventilation for children less than 8 years old.</p>	<p><b>Indications:</b> Temporary paralysis to facilitate oral intubation</p> <p><b>Contraindications:</b> Hypersensitivity, penetrating eye injuries, narrow angle glaucoma, providers inexperienced with its use and application</p> <p><b>SE:</b> wheezing, respiratory depression, apnea, aspiration, arrhythmia, bradycardia, sinus arrest, hypertension, hypotension, increased intraocular pressure, increased ICP</p>	<p><a href="#">P12</a></p>
<p><b>Thiamine</b> (Betalin®) vitamin</p> 	<p><b>Adult:</b> 100 mg IV or IM preferably prior to IV glucose.</p> <p><b>Peds:</b> Rarely indicated</p>	<p><b>Indications:</b> Thiamine deficiency, mental confusion or coma</p> <p><b>Contraindications:</b> None in the emergent setting</p>	<p><a href="#">M7</a> <a href="#">M11</a> <a href="#">M13</a></p>

**DRUG PROFILES CHART**

**APPENDIX A: DRUG PROFILES CHART**

**A-A1**

<p><b>Tranexamic Acid (TXA)</b></p>	<p><b>Adult (Age 16 or greater)</b></p> <ul style="list-style-type: none"> <li>✚ 1 gram mixed in 100mL NS or D5W infused over 10 minutes             <ul style="list-style-type: none"> <li>➤ 100mg/mL infused over 10 minutes</li> </ul> </li> </ul>	<p><b>INDICATIONS:</b></p> <ul style="list-style-type: none"> <li>✚ Trauma occurred in last 3 hours</li> <li>✚ Adults (16 or greater) with hemorrhagic shock from trauma</li> <li>✚ Sustained Tachycardia "100" per minute or sustained hypotension with systolic less than 90mmhg</li> </ul>	<p><a href="#">M10</a> <a href="#">T5</a></p>	
<p><b>Vecuronium</b></p> 	<p><b>Adult &amp; Peds:</b> RSI 0.1 mg/kg IV or IO</p> <p>Maintenance dose 0.01mg/kg IV or IO</p>	<p><b>Indication:</b> <b>RSI</b> Sustained neuromuscular blockade in the intubated patient</p>	<p><a href="#">P12</a></p>	
<p><b>Verapamil</b></p> <p><b>Only used if Diltiazem is unavailable.</b></p>	<p><b>Adult:</b> 5 mg slow IV over 2 minutes (over 3 minutes in older patients) May repeat every 15 min up to 20 mg total</p> <p><b>PEDS:</b> Do not use</p>	<p><b>Indications:</b> PSVT unresponsive to adenosine narrow QRS complex and adequate BP with preserved LV Function To control HR in A-fib, A-flutter, or multifocal atrial tachycardia with rapid ventricular response</p> <p><b>Contraindications:</b> BP&lt;100, Shock, wide complex tachycardia's, poisoning/drug induced tachycardia. 2° or 3° AVB w/o a functioning pacemaker, V, WPW, short PR and sick sinus syndromes, Hypersensitivity. SE: May ↓BP if used IV or Oral B blockers, nitrates, quinidine. Dizziness, ↓ BP ↓ Myocardial contractility, sinus arrest, heart blocks, nodal escape rhythms, rarely bradycardia/asystole, Nausea/Vomiting, injection site reaction, flushing.</p>	<p><a href="#">C8</a></p>	

**DRUG PROFILES CHART**

**APPENDIX A: DRUG PROFILES CHART****A-A1**

<b>Versed</b>	See Midazolam	See Midazolam	
<b>Zemuron</b>	See rocuronium	See rocuronium	

**DRUG PROFILES CHART**

**APPENDIX A: DRUG DRIP RATE TABLE**
**A-A2**

DRUG	Concentration	Admin. Set	Rate	Dose
<b>Lidocaine-Premixed</b>	4mg/ml	60 gtt secondary	30 gtts/min	2 mg/min
			45 gtts/min	3 mg/min
			60 gtts/min	4 mg/min
<b>Amiodarone (10 minute bolus)</b>	<i>Inject 150 mg Amiodarone in 50 ml of D5W or NaCl</i>			
	3mg/ml	10 gtt secondary	50 gtts/min	150 mg/10 min
	<b>Alternative Method:</b>			
	<i>Inject 150 mg Amiodarone into 100 ml of D5W or NaCl</i>			
	1.5 mg/ml	10 gtt secondary	100 gtts/min	150 mg/10 min
<b>Levophed</b>	Inject 4mg in 500ml of D5W or NaCl or 2mg in 250ml			
	8 mcg/ml	60 gtt secondary	See table below	Initial Dose: 2-4mcg/min. Dosing range 1-30mcg/min
<b>Epinephrine</b>	<i>Inject 2 mg epi into 500 ml NaCl or mix 1mg in 250cc</i>			
	4 mcg/ml	60 gtt secondary	See chart below	Adult: 2-10 mcg/min
				Pediatric 0.1-2 mcg/min
<b>Narcan</b>	<i>Inject 4 mg Narcan into 500 ml NaCl or 2mg in 250ml</i>			
	8 mcg/ml	60 gtt secondary	125 ml/hr (125 drops/min)	1 mg/hr
<b>Diltiazem {Cardizem} (Maintenance Infusion)</b>	<i>100 mg Diltiazem into 100 ml NaCl or D5W</i>			
	1 mg/ml	60 gtt secondary	5-15 gtts/min	5-15 mg/hr

**Epinephrine infusion table:**

<b>DOSE mcg/min</b>	<b>ADULT</b>	<b>PEDIATRIC</b>
	Mix 2 mg epinephrine 500 ml NaCl 4 mcg/ml concentration Or Mix 1 mg epinephrine 250 ml	Mix 2 mg epinephrine 500 ml NaCl 4 mcg/ml concentration Or Mix 1 mg epinephrine 250 ml
<b>0.1</b>	<b>N/A</b>	<b>1.5 gtt/min</b>
<b>0.25</b>	<b>N/A</b>	<b>3.75 gtt/min</b>
<b>0.5</b>	<b>N/A</b>	<b>7.5 gtt/min</b>
<b>1</b>	<b>N/A</b>	<b>15 gtt/min</b>
<b>2</b>	<b>30 gtt/min</b>	<b>30 gtt/min</b>
<b>3</b>	<b>45 gtt/min</b>	<b>N/A</b>
<b>4</b>	<b>60 gtt/min</b>	<b>N/A</b>
<b>5</b>	<b>75 gtt/min</b>	<b>N/A</b>
<b>6</b>	<b>90 gtt/min</b>	<b>N/A</b>
<b>7</b>	<b>105 gtt/min</b>	<b>N/A</b>
<b>8</b>	<b>120 gtt/min</b>	<b>N/A</b>
<b>9</b>	<b>135 gtt/min</b>	<b>N/A</b>
<b>10</b>	<b>150 gtt/min</b>	<b>N/A</b>

**Levophed infusion table: Using a 60 gtts secondary**

8 mcg/mL

<b>Desired Dose</b>	
4 mg/500 mL Or 2 mg/250 mL	
<b>mcg/min</b>	<b>gtts/min</b>
<b>2</b>	<b>16</b>
<b>4</b>	<b>30</b>
<b>6</b>	<b>44</b>
<b>8</b>	<b>60</b>
<b>10</b>	<b>76</b>
<b>12</b>	<b>90</b>
<b>14</b>	<b>105</b>
<b>16</b>	<b>120</b>
<b>18</b>	<b>135</b>
<b>20</b>	<b>150</b>
<b>22</b>	<b>165</b>
<b>24</b>	<b>180</b>
<b>26</b>	<b>195</b>
<b>28</b>	<b>210</b>
<b>30</b>	<b>225</b>

**APPENDIX A: DRUG DRIP RATE TABLE**
**A-A2**

<b>MINI-MED Pump Settings</b> <b>Mix all with Normal Saline</b>					
<b>DRUG</b>	<b>Mix Concentration</b>	<b>Weight</b>	<b>Enter under concentration</b>	<b>Enter Dose</b>	<b>Rate Appears</b>
<b>Amiodarone 150mg/10min</b>	3ml/60cc syringe 150mg/60ml	Not needed	150mg/60ml	25mg/min	600ml/hr
<b>Calcium Gluconate 10% 10ml/10min</b>	10ml/10cc syringe 1G/10ml	Not needed	100mg/10ml	100mg/min	600ml/hr
<b>Cardizem Diltiazem (in drug list) 5-15mg/h</b>	10ml/60cc syringe 50mg/60ml	Not needed	50mg/60ml	5-15mg/h	6ml/hr 12ml/hr 18ml/hr
<b>Epinephrine 2-10mcg min</b>	1ml/250cc bag 4mcg/ml 1:1000	Not needed	1mg/250cc	2mcg/min Up to 10mcg/min	30ml/hr Up to 150ml/hr
<b>Lidocaine-Premixed (in drug list) 2-4mg/min</b>	2 Grams in 250ml	Not needed	2 G/250ml	2-4 mg/min	15 ml/hr 22.5 ml/hr 30 ml/hr
<b>Magnesium Sulfate (in Drug List) 2-4G over 20 or 30 min</b>	4ml/20cc or 8ml/40cc 2G/20cc or 4G/40cc	Not needed	2G/20ml	20mi 6G/h or	60ml/hr
			4G/40ml	12G/h	120ml/hr
			2G/20ml	30mi 4G/h	40ml/hr
			4G/40ml	8G/h	80ml/hr
<b>Norepinephrine Levophed (in drug list) 2-4mcg/min</b>	2ml/250cc bag 8mcg/ml	Not needed	2mg/250ml	2-4mcg/min	15ml/hr up to 30ml/h
<b>TXA 1G/10min in 100cc</b>	10ml/100cc soluset 10mg/ml	Not needed	1G/100ml	100mg/min	600ml/hr
<b>Rocuronium 0.01- 0.012mg/kg/min</b>	10ml/60cc syringe 100mg/60ml	Enter weight	100mg/60ml	10- 12mcg/kg/min	Varies on Weight

**APPENDIX A: DRUG DRIP RATE TABLE****A-A2**

<b>MINI-MED Pump Settings Mix all with Normal Saline</b>					
<b>DRUG</b>	<b>Mix Concentration</b>	<b>Weight</b>	<b>Enter under concentration</b>	<b>Enter Dose</b>	<b>Rate Appears</b>
<b>Sodium Bicarb 50mq over 10/min</b>	Move to different 60 cc syringe	Not needed	50mq/50cc	5mq/min	300ml/hr
<b>Vecuronium (in drug list) 1mcg/kg/min</b>	10mg/100cc soluset 10mcg/ml	Enter weight	10mg/100ml	1mcg/kg/min	Varies on Weight

# APPENDIX B

## OPERATING POLICIES

## TABLE OF CONTENTS

## PATIENT CARE GUIDELINES

# 1	ACLS and PALS Requirement .....	<a href="#">A-B1</a>
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# 5	Helicopter response .....	<a href="#">A-B5</a>
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**PROTOCOL TITLE: OPERATING POLICY #1**

<b>OPERATING POLICY # 1</b>	Effective Date: 4/1/2015 Reviewed: Revised:	Page: 1 of 1
SUBJECT: ACLS AND PALS REQUIREMENT		

**I. STANDARD**

To retain Protocol Privilege within Hermiston, Stanfield, and Umatilla all pre-hospital ALS personnel shall maintain a current ACLS certification and a current PALS certification.

To retain Protocol Privilege within Pendleton Fire ASA all pre-hospital ALS personal shall maintain a current ACLS certification.

**II. PURPOSE**

To ensure that the ALS care giver has the most current information provided by the American Heart Association for the treatment of a broad range of patients with life-threatening cardiac rhythms and other life threatening illnesses and injuries.

**III. PROCEDURE**

1. Participate and pass an approved AHA ACLS class at least once every 2 years.
2. Participate and pass an approved AHA PALS course at least once every 2 years. If required by department standard.

**IV. QUALITY ASSURANCE:**

ACLS codes will be reviewed by the EMS DIRECTOR and/or designee. Deviation from a standard algorithm may require on-line physician consultation. These algorithms should not be construed as prohibiting flexibility as long as each action is justified and thoroughly documented. Critical or otherwise atypical/interesting cases may be reviewed by the EMS DIRECTOR QA/QI process.

**PROTOCOL TITLE: OPERATING POLICY #4**

<b>OPERATING POLICY # 4</b>	Effective Date: 4/1/2015 Reviewed:	Page: 1 of 1
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SUBJECT:  
EMS DIRECTOR MANDATORY  
MEETING REQUIREMENT

**I. STANDARD**

To maintain protocol privileges in our ASA all paramedics are required to physically attend a minimum of 50% EMS DIRECTOR/Physician Advisor meetings within their 2 year certification period. All online cognitive and practical skills tests must be completed.

**II. PURPOSE**

The purpose of this requirement is to insure that all Paramedics have an on-going forum to:

1. Develop a Dialogue with the EMS DIRECTOR/Physician Advisor.
2. Review and receive feedback on patient care issues.
3. Receive information on new protocols and protocol changes.
4. Share system problems and goals.
5. Have periodic formal evaluation of skills and knowledge.

**III. PROCEDURE**

EMS DIRECTOR/Physician Advisor meetings will be held monthly. Individuals must attend at least (50%), EMS DIRECTOR/Physician Advisor meetings within the individual's 2 year certification period.

Individuals are responsible for registering their attendance at these meetings by signing the roster. The roster shall be maintained by the EMS DIRECTOR. Your attendance will be tracked for compliance. Failure to maintain these annual requirements may result in the loss of the Protocol privileges in our ASA. Reinstatement will occur once the provider has successfully made up the meetings missed or completed other remediation and education tasks to the satisfaction of the EMS DIRECTOR/Physician Advisor.

**IV. QUALITY ASSURANCE**

Strive to link the CME programs to CQI. Provide a mechanism to help ensure a uniform application of performance standards and enhance the system's ability to provide quality patient care.

**PROTOCOL TITLE: OPERATING POLICY #5**

<b>OPERATING POLICY #5</b>	Effective Date: 4/1/2015 Revised: Reviewed	Page: 1 of 1
SUBJECT: HELICOPTER ALERT & RESPONSE		

**I. STANDARD**

To appropriately request an aero medical evacuation of a critically ill or injured patient in an expeditious manor when ground transport could likely put the patient at increased risk of morbidity or mortality.

**II. PURPOSE**

To define the criteria for requesting an aero medical evacuation, and who may initiate the request.

**III. PROCEDURE**

1. On-scene ALS helicopter may be requested for time critical patients in areas where air transport will save 15 minutes or more over ground ambulance transport.

Responding EMS or Fire shall consider alerting helicopter service to a stand-by or launch mode in those cases where there are prolonged response and return times, gravity of the incident, prolonged extrications, or seriousness of the patient's condition.

2. Ideally the highest level EMS certified person on-scene should determine the need for helicopter response; however, on-scene law enforcement personnel may request helicopter response where EMS personnel are not readily available.
3. Request for on-scene ALS helicopter shall be initiated through the appropriate emergency-dispatching agency. The dispatching agency will provide the helicopter with the correct radio frequency to use to contact the ground unit.
4. If the patient meets trauma system or triage criteria 1 the ALS helicopter will transport the trauma patient to the highest-level trauma facility within 30 minutes air transport time and the helicopter crew is expected to make contact with the receiving trauma facility in a timely manner while transporting the patient.

**IV. QUALITY ASSURANCE**

1. The EMS DIRECTOR will review all helicopter emergency launches, including cancellations. Email each report to the EMS Director with the subject of HELICOPTER LAUNCH.

**PROTOCOL TITLE: OPERATING POLICY #6**

<b>OPERATING POLICY # 6</b>	Effective Date: 4/1/2015 Reviewed:	Page: 1 of 1
SUBJECT: EMS/MEDICAL CONTROL COMMUNICATION		

**I. STANDARD**

Communications between Pre-hospital personnel and Medical Control will be standardized for all complicated medical and trauma patients.

Reference "Communication with the Hospital Protocol" in Patient Care Guidelines for additional information.

**II. PURPOSE**

To define methods of expedient communications between Pre-hospital personnel and Medical Control.

**III. PROCEDURE**

1. Contact Medical Control as often as necessary to provide adequate notification and instructions for all complicated medical and trauma patients.

This may include, but is not limited to contact:

- a. En Route.
- b. At the scene, with quick scene size-up.
- c. Report with pertinent patient information.

**IV. QUALITY ASSURANCE**

1. Communication problems will be reviewed through local measures and reported to the CQI committee for review if necessary.
2. Communication problems effecting patient care will be reviewed locally and reported to the CQI committee for review.

**PROTOCOL TITLE: OPERATING POLICY #7**

<b>OPERATING POLICY # 7</b>	Effective Date: Reviewed: 4/1/2015	Page: 1 of 1
SUBJECT: HOSPITAL DESTINATION		

**I. STANDARD**

To define a standard method for determining patient’s destination.

**II. PURPOSE**

To assure prompt transport to the appropriate Hospital.

**III. PROCEDURE:**

In general, patients with non-life-threatening injuries or illnesses may request transport to the hospital of their choice. This destination may also be selected by the patient’s family members or private physician as appropriate. This hospital choice should be within reasonable range of the ambulance and not unnecessarily take the transporting unit out of service for an extended period of time. For example, a patient in Pendleton may request transportation to St Anthony Hospital or to Hermiston, however transport to Walla Walla or Tri-cities would likely be unreasonable.

In the event of an unstable airway uncontrolled in the field, the patient should be transported to the nearest Emergency Department for stabilization regardless of eventual destination.

Exceptions to intended transport destinations in extreme circumstances may be requested by online medical control and should be immediately honored by the transporting unit. Any exceptions will be referred by the transporting unit to be reviewed by the EMS Director.

**V. QUALITY ASSURANCE**

Hospital Destination Issues will be reviewed by the EMS Director.

Hospital	Trauma Level	Stroke Level	Cardiac Level
Good Shepard	III	II (equiv*)	II (equiv*)
Kadlec Regional Medical Center	III	II	I
Trios Southridge Hospital	III/IIIpeds	II	I
St Anthony Hospital	IV	II	N/A
St Marys	III	II	I

\*Good Shepard is not accredited, but equivalent of level II

# APPENDIX C:

A-C

## APPENDIX E: ABBREVIATIONS

<b>abd</b>	Abdomen	<b>F</b>	Female
<b>ACE</b>	Angiotensin Converting Enzyme	<b>fx</b>	Fracture
<b>ACS</b>	Acute Coronary Syndrome	<b>GI</b>	Gastrointestinal
<b>AED</b>	Automated External defibrillator	<b>GCS</b>	Glasgow coma scale
<b>AF</b>	Atrial Fibrillation	<b>GSW</b>	Gun shot wound
<b>ALS</b>	Advanced life support	<b>gtt</b>	Drop
<b>ARB</b>	Angiotensin Receptor Blocker(s)	<b>HCTZ</b>	Hydrochlorothiazide
<b>ASA</b>	Aspirin	<b>HEENT</b>	Head, ears, eyes, nose, throat
<b>AMI</b>	Acute Myocardial Infarction	<b>Hg</b>	Mercury
<b>AVPU</b>	Alert, Verbal, Painful, Unresponsive (Stimuli)	<b>HIV</b>	Human Immunodeficiency virus
<b>BS</b>	Breath sounds/Blood sugar	<b>HP-CPR</b>	High Performance CPR
<b>BBB</b>	Bundle Branch Block	<b>H2O</b>	Water
<b>BSA</b>	Body surface area	<b>HTN</b>	Hypertension
<b>BSI</b>	Body substance isolation	<b>Hx, hx</b>	History
<b>BVM</b>	Bag-valve mask	<b>IDDM</b>	Insulin dependent diabetes mellitus
<b>Ca</b>	Cancer	<b>IM</b>	Intramuscular
<b>CC</b>	Chief Complaint	<b>IO</b>	Intraosseous
<b>CHF</b>	Congestive heart failure	<b>IV</b>	Intravenous
<b>CO</b>	Carbon Monoxide	<b>IVP</b>	Intravenous push
<b>CO2</b>	Carbon Dioxide	<b>JVD</b>	Jugular vein distension
<b>c/o</b>	Complaining of	<b>KVO</b>	Keep vein open
<b>COPD</b>	Chronic obstructive pulmonary disease	<b>kg</b>	Kilogram
<b>CP</b>	Chest pain	<b>LLQ</b>	Left lower quadrant
<b>CPR</b>	Cardiopulmonary resuscitation	<b>LOC</b>	Level of consciousness\loss of consciousness
<b>CVA</b>	Cerebrovascular accident	<b>LPM</b>	Liter per minute
<b>DKA</b>	Diabetic Ketoacidosis	<b>LUQ</b>	Left Upper Quadrant
<b>DOA</b>	Dead on arrival	<b>M</b>	Male
<b>DOB</b>	Date of birth	<b>mcg</b>	Microgram
<b>DM</b>	Diabetes Mellitus	<b>mg</b>	milligram
<b>DNR</b>	Do not resuscitate	<b>MCI</b>	Mass Casualty Incident
<b>DVT</b>	Deep vein thrombosis	<b>NC</b>	Nasal cannula
<b>ECG</b>	Electrocardiogram	<b>NKDA</b>	No known drug allergies
<b>ETCO<sub>2</sub></b>	End Tidal Carbon Dioxide	<b>NIDDM</b>	Non-insulin dependent diabetes mellitus
<b>ETI</b>	Endotracheal intubation	<b>NRM</b>	Non-rebreather mask
<b>ETT</b>	Endotracheal tube	<b>NS</b>	Normal saline
<b>ETOH</b>	Alcohol (ethanol)		

ABBREVIATIONS

# APPENDIX C:

A-C

## APPENDIX E: ABBREVIATIONS

<b>NSR</b>	Normal sinus rhythm	<b>y/o</b>	Year old
<b>NTG</b>	Nitroglycerine		
<b>N/V</b>	Nausea / vomiting		
<b>O<sub>2</sub></b>	Oxygen		
<b>SaO<sub>2</sub></b>	Oxygen saturation		
<b>OD</b>	Overdose		
<b>PEA</b>	Pulseless electrical activity		
<b>PERL</b>	Pupils equal and reactive to light		
<b>PE</b>	Pulmonary embolism		
<b>PJC</b>	Premature Junctional Contraction		
<b>PMS</b>	Pulse, Motor function, Sensation		
<b>POLST</b>	Physician's Orders for Life Sustaining Treatment		
<b>PSVT</b>	Paroxysmal supraventricular tachycardia		
<b>PVC</b>	Premature ventricular contraction		
<b>PWD</b>	Pink, warm, dry		
<b>Q</b>	Every		
<b>RLQ</b>	Right lower quadrant		
<b>ROM</b>	Range of motion		
<b>RUQ</b>	Right upper quadrant		
<b>Rx</b>	Prescription medication		
<b>SOB</b>	Shortness of breath		
<b>SOG</b>	Standard operating guidelines		
<b>S/S</b>	Signs and symptoms		
<b>STEMI</b>	ST-Elevation Myocardial Infarction		
<b>SVT</b>	Supraventricular Tachycardia		
<b>TIA</b>	Transient ischemic attack		
<b>TKO</b>	to keep (vein) open		
<b>Tx</b>	Treatment		
<b>VF</b>	Ventricular fibrillation		
<b>VT</b>	Ventricular Tachycardia		
<b>VS</b>	Vital signs		
<b>w/</b>	with		
<b>WNL</b>	Within normal limits		
<b>w/o</b>	without		
<b>x</b>	Times		

ABBREVIATIONS