

# SOUTH PLAINS EMERGENCY MEDICAL SERVICES

## PRE-HOSPITAL TREATMENT PROTOCOLS for EMT-BASIC

APPROVED FOR USE



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Effective Date

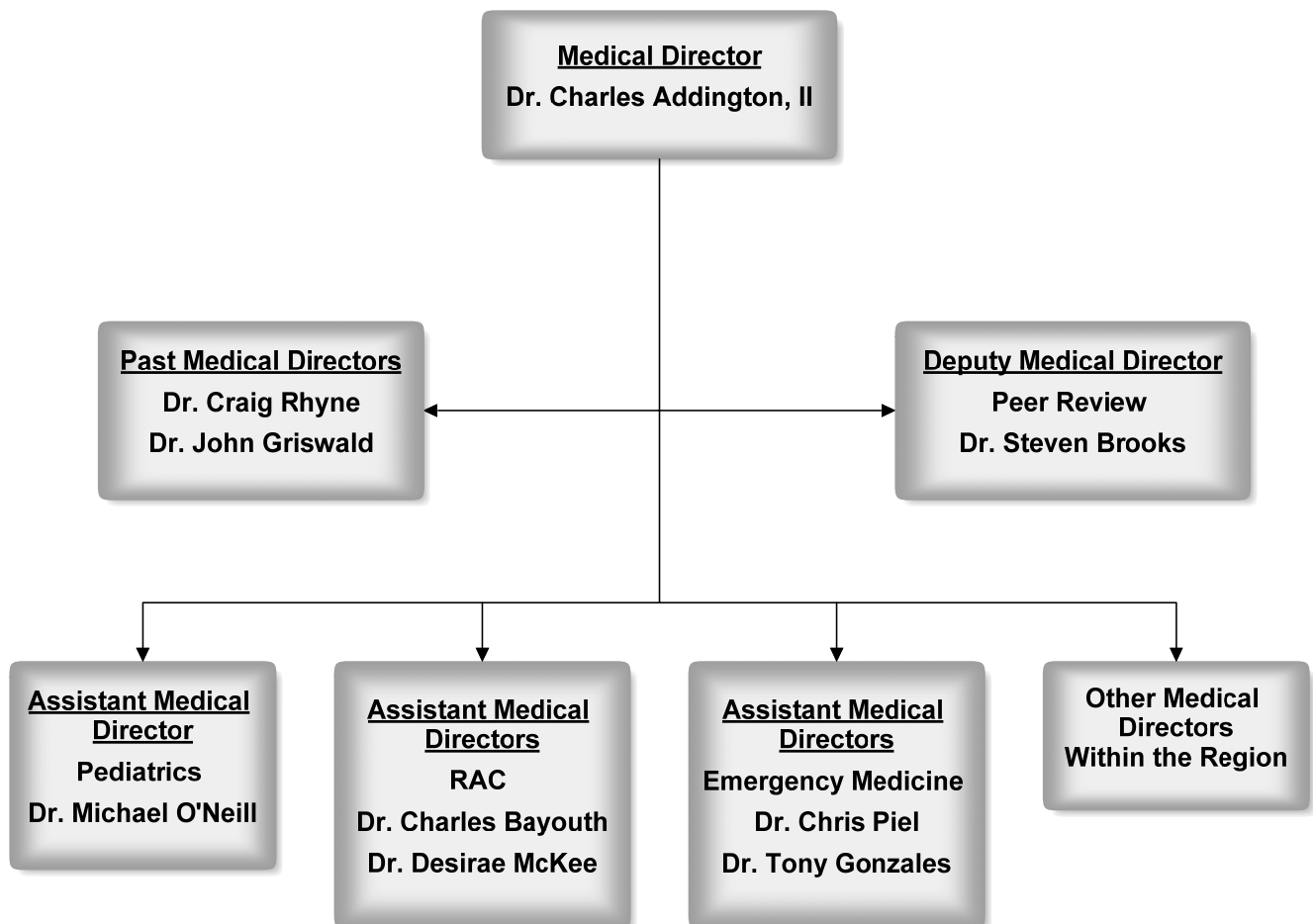
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Expiration Date

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## SPEMS Medical Direction Committee Organizational Chart



## **PREFACE**

These Protocols, originally developed by Francis C. Jackson, M.D., have been revised by the Protocol Committee of South Plains EMS, Inc. The patient care procedures are intended to reflect current recommendations from organizations including, but not limited to, the American Heart Association, The National Association of Emergency Medical Technicians, and the Committee on Trauma of the American College of Surgeons. They are not intended to restrict or substitute for the use of informed professional judgment by the Medical Control Physicians.

To the best of our knowledge, drug dosages are consistent with national standards. Neither the Protocol Committee, the Medical Direction Committee, South Plains EMS, Inc., nor the Medical Directors shall be held liable for readers' errors, omissions, or misunderstanding of the text.

## **DISCLAIMER**

The original version of these protocols are located in the SPEMS office, any changes whatsoever are strictly prohibited without the express written permission of the SPEMS's Medical Director.

On occasion a variance, addendum, or other change may be needed to the current SPEMS protocols. In this event the request **MUST** be facilitated through the SPEMS office. The request will then be submitted to the SPEMS Medical Director for approval.

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## TREATMENT PROTOCOLS

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## **GENERAL GUIDELINES**

The algorithms in this manual consist of treatment protocols, which may be implemented by EMS technicians at the appropriate level of certification; they establish guidelines based on established standards of care to assist physicians in providing on-line medical control.

Only EMT-Basics certified by the Texas Department of State Health Services (TDSHS), who also have current medical control authorization from the South Plains Emergency Medical Services (SPEMS) Medical Director, may manage patients under these treatment protocols.

EMT-Basics who do not have current medical control authorization from the SPEMS Medical Director are prohibited from operating under these treatment protocols.

Execution of treatment protocols without medical control authorization will constitute the unauthorized practice of medicine and may result in action being initiated to revoke the offender's EMS certification.

**EMT-Basics should contact medical control whenever they believe that circumstances may indicate deviation from protocol or whenever a situation does not appear to be clearly governed by a specific protocol. In the event that the physician at the receiving hospital cannot be contacted, the medical control physician at University Medical Center shall be contacted immediately. While treatment procedures can be performed without on-line medical control, it is always available when needed. When in doubt, contact on-line medical control.**

Radio orders may be communicated through a registered nurse if the physician is physically present in the emergency department but is unable to come to the radio. If all efforts to establish voice contact fail, the authorized EMT-Basic should execute the appropriate protocols and transport. Attempts to establish voice contact with the receiving facility or University Medical Center should continue at least every 5 minutes throughout transport.

Use of these treatment protocols must be fully documented by EMT-Basics on the run report.

These treatment protocols are also intended to serve as guidelines to medical control physicians regarding the current standard for pre-hospital emergency care. These protocols will also provide a basis for auditing the quality of pre-hospital care delivered in the South Plains EMS System. These treatment protocols are not intended to restrict or substitute for the use of informed professional judgment by medical control physicians.

This manual is the result of a review and compilation by the South Plains EMS System Protocol Committee of current, nationally accepted standards for pre-hospital care. The Medical Director of the South Plains EMS System has approved these treatment protocols for use.

This document will be reviewed annually by the Protocol Committee and the Medical Director. Appropriate changes will be distributed following the annual review. If no changes are made, a letter to that effect will be circulated.

These treatment protocols will remain in effect for the duration of the provider license issued by the Texas Department of State Health Services, unless revoked by the SPEMS Medical Director.

## **MEDICAL CONTROL AUTHORIZATION**

Pursuant to the provisions of the Medical Practice Act, the Medical Director of South Plains EMS, Inc. and the SPEMS Medical Direction Committee have determined that the following requirements must be met by EMT-Basics who wish to operate under the treatment protocols in this manual.

Furthermore, these requirements must also be satisfied by any EMT-Basic who wishes to practice in the SPEMS system under the supervision of the SPEMS Medical Director. This requirement, established pursuant to 22 TAC, Sec. 197.3(b)(1), states that the medical director shall approve the level of pre-hospital care which may be rendered locally by each of the EMS personnel employed by and/or volunteering with the EMS under the Medical Director's supervision before the certificant is permitted to provide pre-hospital care to the public, regardless of the level of state certification.

It is the responsibility of the individual's EMS Service Provider to keep records of individual EMS certifications, immunization records, protocol exams, case review participation, skills exams and any specialized training required by the medical director i.e.: IM injections. These records are subject to examination at anytime, by the SPEMS Medical Director or his/her designate.

Each EMT-Basic must:

1. Provide documentation of current certification as an EMT-Basic by the Texas Department of State Health Services.  
**(A current National Registry card can NOT be used in the place of a current TDSHS certification)**
2. Be currently certified in Health Care Provider BLS.
3. Demonstrate approval of local hospital and/or the local medical director by providing a letter which:
  - a) States understanding that the EMT-Basic will be using the SPEMS protocols.
  - b) Acknowledges that the EMT-Basic will be using University Medical Center for on-line medical control under specific circumstances, and
  - c) States the circumstances under which this medical control will be used.
4. Have passed the protocol examination within the past year with a grade of 90% or higher. All initial testing will be done via the internet. A copy of the official protocol exam results email must be forwarded to all EMS directors in which the EMT is on the roster. Each EMT shall be allowed to take the test twice. Failure of the Protocol exam twice will require the EMT to contact the SPEMS office for additional testing and remediation. The Medical Director may require additional formal training in the protocols at any time.  
**NOTE:** The Protocol exam is open book and each EMT is encouraged to utilize the Protocols to complete the exam.
5. Participate in case review at least four times per year. Two of which are recommended by the end of the first half of the year and the remaining two by the end of the second half of the year. The SPEMS Medical Director, or his designee, shall attend all case reviews. A written record will be kept of all case reviews. This record will consist of at least a summary of the cases presented and recommendations made for changes in procedure.

Exemption: EMTs enrolled in a State approved EMT-I or EMT-P class may be exempted from a Case Review while enrolled and/or performing rotations during that quarter. This is subject to the approval of the EMS Director and local EMS services may opt to NOT allow such exemptions. This exemption can only apply to two (2) case reviews in a calendar year. All case review exemptions must be documented on the SPEMS Case Review Exemption form, located on the SPEMS website and will be submitted annually by the EMS Director along with the SPEMS Compliance Checklist. This exemption does not apply to the SPEMS required skills proficiencies. Therefore, all skills proficiencies must be verified per the protocols.

Example: An EMT is enrolled in an EMT-I course that the classroom runs from January through May and all rotations must be completed by August. That student may be exempted from the first 2 case reviews, with the EMS Director's approval and properly documented.

6. Documentation is a critical component of pre-hospital care. All documentation must be complete, accurate and done in a timely manner.

A patient contact form, list of medications given, and procedures performed will be given to the patient's nurse prior to leaving the receiving facility.

The full patient care report (PCR) must contain information that is accurate and must completely describe the patient's condition; treatment provided, response to treatment, and any other information that is pertinent to patient care. The full PCR must be completed within one business day of the delivery of the patient and submitted to the receiving facility per rule §157.11.

All SPEMS providers must use an approved standard run report form/software, with copies of all reports submitted, manually or electronically to the SPEMS Medical Director, through the SPEMS office, by the 10<sup>th</sup> of each month.

7. EMT's must demonstrate proficiency of the following skill at least twice per year between the period of January 1<sup>st</sup> through June 30<sup>th</sup> and July 1<sup>st</sup> through December 31<sup>st</sup>:
  - AED
  - King Airway
  - Intramuscular Epinephrine (If currently carried by your service)

Skills may be checked off by a SPEMS Peer Reviewer, Associate Medical Director, SPEMS Medical Director, or by a person approved by the SPEMS Medical Director. To be approved, a person must submit to the SPEMS Medical Director a list of qualifications and must receive an endorsement from the Peer Reviewer that performs peer review for that service. All skills will be verified according to the standards listed on the SPEMS website.
8. These protocols shall be utilized under medical direction of the SPEMS Medical Director in the SPEMS/TSA-B area or during routine transfers from one service area to another.
 

These protocols may also be followed in the performance of **GOOD SAMARITAN** duties when **OFF DUTY** and not responding with any emergency service agency (i.e. EMS, Police, or Fire Dept.). However, in the event that you are **OFF DUTY** and assisting an EMS service that is not under SPEMS medical direction, their online medical direction must be contacted for approval prior to performing any advanced procedures.
9. The intent of these protocols are for the EMS professionals to treat patients as they would want a member of their family treated.

## **EMS DIRECTOR'S RESPONSIBILITIES**

Each EMS Director has the responsibility to assure that each EMT on their service meets all of the SPEMS Protocol requirements. Specifically, each EMS Director is required to:

- To assure all personnel meet all SPEMS requirements
- To complete and submit the SPEMS Compliance Check List to the SPEMS office by January 31 for the previous calendar year. This check list is available on the SPEMS website
- To maintain records of successful completion of all SPEMS Protocol requirements including skills proficiencies, case reviews, training, testing, etc.
- To remove from active duty any EMT that fails to meet the requirements as set forth by the SPEMS Protocols.
- To submit copies of any documentation of SPEMS requirements if requested by the SPEMS office or by the Medical Director

## **PROCEDURAL GUIDELINES FOR MEDICAL CONTROL AUTHORIZATION**

Documentation of continuing education, skills proficiency, and case review attendance will be maintained by the EMS technician's training officer. Failure to maintain appropriate documentation may result in the EMS technician's medical control authorization being suspended.

Suspension means that the technician may not practice until completion of all medical control authorization requirements are documented. Suspension may only be removed by the Medical Director, immediately following documentation of all requirements. The fact that an EMS technician's medical control has been suspended does not relieve the technician of the responsibility for meeting all requirements for the subsequent reporting period.

The individual's EMS service director will determine the administrative consequences of suspension of medical control authorization.

Use of the treatment protocols, or practice as an EMT-Basic without current medical control authorization will constitute the unauthorized practice of medicine and may result in action being initiated to revoke the offender's EMS certification.

Upon suspension of medical control authorization, the concerned individual will be notified by a personal letter from the SPEMS Medical Director.



## **INFECTION CONTROL**

### **GENERAL:**

1. Each EMS organization participating in SPEMS will designate an individual to act as its Infection Control Officer. The Infection Control Officer will be responsible to the administrative director of the EMS organization and to the Medical Director of SPEMS for ensuring compliance with these procedures.
2. Each EMS organization participating in SPEMS should demonstrate compliance with the OSHA Blood Borne Pathogen Rule, "29 CFR, Part 1910.0130," as fully as possible. All EMS personnel should receive formal initial training on the Blood Borne Pathogen Rule. All personnel should complete refresher training annually.
3. EMS personnel are strongly encouraged to document immunity to the following diseases by immunization or, when applicable, by history of prior infection:
  - Rubella (German Measles)
  - Red Measles
  - Mumps
  - Hepatitis B
  - Tetanus-Diphtheria
  - Influenza (yearly)
4. EMS personnel should be tested annually for tuberculosis unless contraindicated. Positive reactors should be referred to the public health authorities for appropriate follow-up.
5. In the unpredictable and uncontrollable pre-hospital environment, it is safest to follow body substance isolation practices, which consider all body substances to be potentially infectious (i.e. "If it's wet, it's bad!"). The following should be considered as potentially infectious:
 

<ul style="list-style-type: none"> <li>• Amniotic fluid</li> <li>• Blood</li> <li>• Body fluids with visible blood</li> <li>• Cerebrospinal fluid (CSF)</li> <li>• Feces</li> <li>• Nasal secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Pericardial fluid</li> <li>• Peritoneal fluid</li> <li>• Semen</li> <li>• Sputum</li> <li>• Sweat</li> <li>• Synovial Fluid</li> </ul>	<ul style="list-style-type: none"> <li>• Tears</li> <li>• Teeth</li> <li>• Tissues</li> <li>• Urine</li> <li>• Vaginal secretions</li> <li>• Vomitus</li> </ul>
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6. The routine utilization of exposure control procedures and appropriate Personal Protective Equipment (PPE) by the individual EMS employee/volunteer is essential to the safety of all involved personnel. Its use can help ensure protection from infectious materials to the EMS employee/volunteer, that individual's family members, other members of the EMS department, subsequent patients and the general public.
7. The selection and utilization of appropriate Personal Protective Equipment (PPE) should be based upon its ability to provide an impervious barrier between any potentially contaminating body fluids and the EMS employee/volunteer. Each participating SPEMS department is responsible for the supply, repair, cleaning, replacement, and safe disposal of all exposure control-related Personal Protective Equipment. All required PPE should be supplied to that department's personnel and subsequently maintained by the individual department at no expense to the employee/volunteer.

### **ROUTINE VEHICLE CLEANING:**

1. All exposed surfaces in the patient compartment will be kept clean with a 1:10 solution of household bleach in water, or a NIOSH-approved hospital germicide that also has tuberculocidal properties. Gloves will be worn during cleaning.
2. All reusable hard equipment, spine boards, cervical immobilization devices and cervical collars will be cleaned after each use with hot soapy water, rinsed, disinfected with a germicidal agent and dried. Spine boards and other wooden equipment with exposed splinters should be discarded or sanded and resealed. Gloves will be worn during cleaning.

3. Stock items and medications will be checked at shift change (or as otherwise specified by local policy & procedure) for expiration dates. Materials with the shortest time to expiration should be used first. Expired materials will not be used and will be removed from the vehicle and disposed of properly.

Proper disposal of medications should be made when (1) the container is cracked, (2) the contents are obviously contaminated, (3) the medication has not been stored in accordance with the directions on the label or package insert, or (4) the date has expired.

4. Disposable equipment will be used whenever possible. Used disposable equipment that has been contaminated with body fluids will be placed in a sealed and appropriately labeled "Biohazard" container until it can be incinerated.
5. Following each use, non-disposable equipment will be washed with hot soapy water, rinsed, disinfected with a tuberculocidal/germicidal agent, and dried. Gloves will be worn during cleaning. If non-disposable equipment cannot be cleaned immediately, it should be placed in a sealed and appropriately labeled "Biohazard" container until it can be properly cleaned.
6. After patient contact, priority will be given to spills of blood or other body fluids. All contaminated areas should be cleaned with an appropriate germicidal agent. Gloves will be worn during cleaning.
7. After patient contact, stretcher linens will be changed. Used linens will be placed in an impermeable bag or will be double-bagged until they can be removed from the ambulance. Used linens will be removed from the ambulance at the earliest possible time for laundering. Gloves will be worn when handling linens obviously contaminated with body fluids. Bags containing contaminated linens should be labeled "Biohazard."
8. Sharp objects will be immediately placed in a puncture-resistant container. Needles will not be recapped, cut, bent, or removed from the syringe. The entire needle-syringe unit should be discarded. When filled, the container will be discarded in accordance with the local medical facility's "Biohazard Waste" policies.

### PATIENT CARE PRECAUTIONS:

1. Gloves should be worn on every ambulance call and should be applied before patient contact is made. However, the driver of the emergency vehicle should put on his gloves either before he departs for the emergency or immediately upon arrival. He should not attempt to put on gloves while driving. Latex gloves do not provide puncture protection. At an accident scene, leather gloves should be worn over latex gloves.
2. Eye protection should be worn when there is a risk of splattering with body fluids. Eyeglasses with plain glass lenses may be used if industrial safety glasses or face shields are unavailable or impractical, but safety glasses/shields with side panels are preferred due to their added protection.
3. Mouth-to-mouth breathing should NOT be performed. The pocket mask with one-way valve or a bag-valve mask should be used for ventilating patients.
4. Clothing soiled with blood or body fluids should be changed as soon as practical. It is recommended that a change of clothing, a jump suit or a surgical scrub suit be available on the ambulance for each crewmember. If the crewmember's skin has been contaminated, he should be allowed to remove contaminated clothing and, if needed, shower as quickly as possible.
5. Patients should wear a mask if a pathogenic organism could be present in their respiratory secretions. If the patient will not tolerate the mask, or must receive continuous respiratory care precluding a mask, the ambulance crew should wear a mask. Also, the ambulance exhaust fan should be utilized and, weather permitting, the windows opened to increase the exchange of air out of the vehicle. High-risk conditions indicating the wearing of masks are known cases of mumps; measles; chicken pox; active tuberculosis; or meningitis; or fever accompanied by rash, stiff neck, or productive cough.
6. Known AIDS patients should wear a mask to protect them from infection. If the patient will not tolerate the mask, or must receive continuous respiratory care precluding a mask, the ambulance crew should wear a mask. They should notify the patient that this is being done to protect the patient from possible infectious organisms.

7. Pregnant EMS technicians should avoid providing direct care to known AIDS patients, since many of the patients excrete cytomegalovirus. CMV is known to cause birth defects.
8. EMS technicians with known or suspected infectious diseases should avoid providing direct care until a physician determines that there is no risk of transmitting infection to immunocompromised patients.

### HAND WASHING/HAND CARE:

1. Vigorous scrubbing of the hands with a germicidal soap under running water for 30 seconds will remove or kill most pathogens. Hands should be washed at the beginning and on completion of duty and immediately following each call as soon as gloves are removed. Wearing gloves does not eliminate the need to wash hands.
2. Lotion should be applied following hand washing to avoid chapping of the skin, but some lotions can affect the integrity of latex gloves.
3. Cuts or other open lesions on the hands or other exposed skin should be covered with a fluid resistant bandage. Bandaging open lesions does not eliminate the need to glove.

### EXPOSURE PROCEDURES:

1. With routine utilization of appropriate precautions, the risk of needle stick injuries can be significantly reduced. However, in the event that a needle stick does occur, the site should be encouraged to bleed. The site should be cleaned immediately with an alcohol foam and the hands washed thoroughly as soon as possible.
2. All cases of possible disease exposure, including a needle stick, should be reported immediately to the personnel at the receiving hospital and to the appropriate supervisor with the EMS technician's organization. The incident should be thoroughly documented on the EMS Agency's or receiving hospital's applicable incident report form.
3. The infection control practitioner at each hospital will follow up all cases of exposure of EMS technicians and will advise on appropriate procedures. State law requires this notification.

## DEFINITIONS

### 1. ACUTE CORONARY SYNDROME:

The clinical presentation associated with ACS may be placed into 1 of 3 general categories.

- **Classic angina:** which refers to the traditional presentation of chest pain (dull, crushing, substernal. Etc).
- **Atypical presentation:** Chest pain which falls short of the typical features is called atypical chest pain. Examples include pain that is sharp, intermittent, in the teeth, neck, shoulder, arm or abdomen etc. Atypical chest pain mostly encompasses females, diabetics, and the elderly.
- **Anginal equivalents:** consider in higher risk patients: dyspnea, palpitations, syncope or near syncope, generalized weakness with no history of a GI bleed or recent fever, and DKA. Anginal equivalents are symptoms not usually associated with classic angina, but are common “atypical symptoms”. They are called “equivalents” because they often are the only symptoms the patient manifests during an ischemic cardiac event. An example would be a diabetic with only vomiting and no chest discomfort.

**Risk factors include:** smoking, hypertension, age, family history of CAD, obesity, stress, and sedentary life style.

**The key to forming an accurate impression of chest pain remains in the clinical history. In order to make this impression, one must look at the patient’s physical presentation, listen to their story, and be able to compile and interpret all collected information. If the patient’s story/presentation, risk factors, 12 lead and vitals signs point to ACS, then EMS personnel should consider the patient a candidate for the Chest Pain/Possible MI Protocol until proven otherwise.**

### 2. ADEQUATE PERFUSION:

- Patient alert and oriented
- Skin warm and dry
- Palpable radial pulses
- Capillary refill < 2 seconds

### 3. ADULT REFUSAL OF TRANSPORT

An adult, capable of **Informed consent**, that is competent and medically capable, may refuse treatment and/or transport. In such a case, the patient **MUST** be informed of the potential risk (including death) of such refusal and must sign a patient refusal form. If the patient refuses to sign, you should document the refusal to sign on the paperwork and have a witness sign the refusal. Witnesses in order of preference may include Police Department, Family Member, Bystander or EMS Crew.

Adults who are **NOT** capable of Informed Consent **MUST** be treated and transported. Local Law Enforcement and/or Medical Control may be contacted for assistance.

In all cases, a SPEMS run report must be completed.

### 4. ASEPTIC TECHNIQUE:

Aseptic techniques include practices performed just before, during, and/or after any procedure. It is used to reduce the risk of post-procedure infections and to minimize the exposure of the health care providers to potentially infectious microorganisms. The use of aseptic technique is for all procedures, particularly invasive procedures that may break the skin or mucous membrane. This technique includes, but not limited to:

- Antiseptic hand hygiene and proper use of PPE
- Use of appropriate antiseptics to cleanse the area of the patients body that is in jeopardy of infection/contamination
- Avoid contamination of equipment and medication
- Skin should not be touched after skin antisepsis. If this happens repeat the aseptic technique for that area
- After the insertion of any device through the patients skin the insertion site shall be covered with the appropriate dressing to prevent infection

### 5. CENTRAL NERVOUS SYSTEM SIGNS (observe for the following):

- Level of consciousness
- Ability to speak
- Reaction to painful stimuli
- Pupil size/reaction to light
- Ability to move extremities
- Seizures/abnormal posturing

6. CONTACT MEDICAL CONTROL:

Receiving physician at destination hospital or central medical control physician. Notify regarding patient's condition using the following format:

## Medical Patients:

- Identify hospital being called, ambulance unit number, name of service, and Med channel
- Age and sex of patient
- Chief complaint
- Vital signs/GCS (including pulse, blood pressure, respirations, pulse ox and level of consciousness)
- Treatment
- Transport Signal, Code and ETA

## Trauma Patients:

- Identify hospital being called, ambulance unit number, name of service, and Med channel
- Age and sex of patient
- Mechanism of injury
- Major injuries
- Trauma modifiers
- Vital signs/GCS/RTS (including pulse, blood pressure, respirations, pulse ox and level of consciousness)
- Treatment
- Transport Signal, Code and ETA

7. CONTINUE TO TREAT, MONITOR AND TRANSPORT:

Continue treatment and assessment of vital signs during transport to hospital, including initial vital signs and the vital signs at time of patient transfer.

8. DUTY STATUS/GEOGRAPHICAL AREA/GOOD SAMARITAN

These protocols shall be utilized under medical direction of the SPEMS Medical Director in the SPEMS/TSA-B area or during routine transfers from one service area to another.

These protocols may also be followed in the performance of **GOOD SAMARITAN** duties when **OFF DUTY** and not responding with any emergency service agency (i.e. EMS, Police, or Fire Dept.). However, in the event that you are **OFF DUTY** and assisting an EMS service that is not under SPEMS medical direction, their online medical direction must be contacted for approval prior to performing any advanced procedures.

9. ERRORS/DEVIATIONS

All medication errors, and other inadvertent deviations from SPEMS's protocols, require a written Incident Report. These must be reviewed by the Peer Reviewer at the service's next case review

10. HIGH CONCENTRATION OXYGEN:

**Oxygen** delivered either by simple face mask or non-rebreather mask at 10-15 liters per minute. If using bag-valve-mask, supplemental **oxygen** should be delivered at  $\geq 15$  liters per minute. A demand valve may also be used to deliver high concentration **oxygen**. A nasal cannula should generally be avoided on patients with significant illness or injury because it does not provide high concentrations of **oxygen**.

11. INADEQUATE RESPIRATIONS:

SHALLOW respirations  $< 10$ , or  $> 35$  per minute.

12. INT or INTERMITTENT NEEDLE THERAPY (Heparin lock, Saline lock, ect...)

SPEMS protocol allows for an EMT-Basic to transport and/or provide patient care to any patient with an INT whose condition does not exceed their scope of practice. However, the INT cannot be accessed by the EMT-B for any reason.

13. LEVEL I OR II TRAUMA CENTER:

Hospitals with formal designation as a Level I or Level II Trauma Center by the Texas Department of State Health Services and The American College of Surgeons.

14. MEDICATION CONCENTRATIONS/STORAGE

From time to time, the medications included in these protocols may be supplied in concentrations or amounts other than those indicated. Regardless of the particular manner in which medications are supplied, equivalent total amounts must be present, and it is the EMS technician's responsibility to be certain that correct dosages are administered to patients.

Unless specified otherwise, generic and trade name products are considered interchangeable

It is the responsibility of the individual EMS provider to make sure that all the stocked drugs are stored as per manufacturer's specification. Documentation as to how drugs are stored may be requested by DSHS

#### 15. MEDICATION STORAGE AND ACCOUNTABILITY

All EMS services which utilize SPEMS Medical Direction and/or Protocols will maintain and store all pharmaceuticals as per the manufacturer's recommendation. Medications should be arranged in an orderly and organized fashion (i.e. drug bag/box or ambulance compartment) to facilitate quick access as well as limit medication errors. Medications should be stored in an area of the ambulance which limits access to unauthorized individuals. Ambulances licensed at the ALS/MICU level that are operating at the BLS level, as allowed by rule, should have all ALS/MICU medications secured by no less than a numbered zip tie locking system to assure accountability. Narcotics, if carried, should be stored within a locked cabinet.

An EMS service that utilizes narcotics/controlled medications must follow all DEA and SPEMS reporting and tracking requirements. All medications stocked/stored by an EMS provider should be accounted for by utilizing the individual EMS provider's inventory control procedures and/or policies.

#### 16. MULTIPLE PARALLEL PROTOCOLS:

It is understandable that patients may present with multiple problems that require simultaneous treatment. An example is a trauma patient that is having respiratory distress. In the past there has been a reluctance to implement more than one protocol during a patient encounter. Crews may simultaneously employ multiple protocols when appropriate. However, they must always be cognizant of cumulative and contradicting medications. All considerations cannot be presented here, and the occurrence of this necessity should be infrequent. Questions or clarifications are referred to the service director, peer reviewer, or medical director.

#### 17. NON-ACCIDENTAL TRAUMA:

Non Accidental Trauma (NAT) or Abuse should always be considered in patients in which the patient's condition is inconsistent with the mechanism of injury or history provided. This applies to all age groups; but especially with pediatrics. In the pediatric patient this should be suspected if the patient is exhibiting head trauma symptoms (decreased LOC, seizures, posturing, unequal pupils, vomiting without fever or diarrhea, bradycardia, cardiac arrest or CPR reportedly done). The EMS provider should maintain a high level of suspicion and situational awareness in these cases. The receiving facility should be notified as soon as possible. Notification should be via radio if possible and advise you suspect trauma, and at the receiving facility upon patient delivery.

#### 18. NON-EMS LICENSED/CERTIFIED PERSONNEL

On occasion, licensed or certified healthcare providers (nurses, respiratory therapists, physician assistants, etc.) may accompany the EMS crew in the back of an ambulance if it has been determined by the crew or by the transferring/receiving facility that patient care would be enhanced. The healthcare provider must obtain prior medical direction in event that care is to be rendered.

Physicians may provide patient care as described in the protocols under "unknown physician on scene" (P-14) or "patient's physician on scene" (P-13).

**Students may engage in patient care while under the direct supervision of an approved preceptor**

#### 19. NO TRANSPORT CODES

Classification of calls in the SPEMS Region resulting in a patient not being transported should be noted on dispatch records as follows and documented in the patient care report:

1. N-1: Unfounded call / False call.
2. N-2: Duplicate call.
3. N-3: Injury noted, but patient refused transport.
4. N-4: Patient accepted treatment but refused transport.
5. N-5: EMS refused transport.
6. N-6: No injuries.
7. N-7: Transported by other means; should **only** be used if the patient left **prior** to EMS arrival or is in the custody of PD and is going to jail.
8. N-8: Dead On Scene

**ALL CALLS REQUIRE A WRITTEN REPORT. ALL N-3, N-4, AND N-5 CALLS REQUIRE THAT THE SERVICE DIRECTOR OR (DESIGNEE) REVIEW THE WRITTEN REPORT.**

#### 20. "OPTIONAL" OR "RECOMMENDED":

The word "optional" or "recommended" will occasionally be seen throughout the protocols in relation to a piece of equipment, specific treatment, or protocol. When "optional" follows a piece of equipment or specific treatment/protocol it is at the discretion of the individual service as to whether or not that equipment will be stocked or treatment performed. When "recommended" follows a piece of equipment or specific treatment/protocol it remains optional but is highly recommended by the medical director and will become mandatory with the next protocol year update.

## 21. PATIENT'S PHYSICIAN ON SCENE

1. Confirm that the physician present is, in fact, the patient's personal physician. Inform the physician that medical control policy requires him to produce verification of his identity and training.
2. Inquire as to whether the physician is willing to assume responsibility for the patient's treatment and is willing to physically accompany the patient to the hospital.
3. Before initiating any invasive treatment, establish radio contact with MEDICAL CONTROL; and, after advising the medical control physician of the usual information, advise that the patient's physician is present; identify the physician; and have the physician and MEDICAL CONTROL discuss appropriate means of treatment of the patient while you monitor the conversation.
4. In the event of any conflict between orders given by the medical control physician and orders given by the physician on the scene, EMS technicians shall permit the patient's physician to personally perform procedures or treatments which conflict with the orders of MEDICAL CONTROL. EMS technicians shall neither participate in nor administer any treatment to the patient under these circumstances, except as ordered by MEDICAL CONTROL.
5. Thoroughly document all occurrences.

## 22. REQUESTING ASSISTANCE AND/OR HIGHER LEVEL OF CARE

If a patient's condition is unstable or deteriorates during transport and the patient would reasonably benefit from the presence of additional personnel, the regional EMS Communications Center or local dispatch should be contacted to coordinate the response of the closest available ALS unit or MICU.

If an EMS Provider **OR** First Responder Organization operating under SPEMS Medical Direction has been requested for assistance **AND/OR** higher level of care by another EMS Provider that is **NOT** under SPEMS Medical Direction, then that SPEMS Provider or Organization may utilize the SPEMS protocols while transporting in the requesting "Non-SPEMS" EMS Provider's ambulance, with prior approval in place. If prior approval is not in place, then the SPEMS provider should contact the "Non-SPEMS" Medical Direction for approval. Be mindful to take any equipment or pharmaceuticals that may not be stocked on the transporting unit. If conflict arises, (i.e. lack of appropriate equipment, disagreement amongst EMS staff, etc) then the requesting "Non-SPEMS" EMS Provider's Medical Direction must be contacted.

If an EMS Provider operating under SPEMS Medical Direction requests assistance **AND/OR** higher level of care from another EMS Provider **OR** First Responder Organization that does **NOT** operate under SPEMS Medical Direction, then the requested "Non-SPEMS" Provider or Organization may utilize their protocols and Medical Direction while transporting in the SPEMS EMS Provider's ambulance. If conflict arises, (i.e. lack of appropriate equipment, disagreement amongst EMS staff, etc) then SPEMS Medical Direction must be contacted.

Air transport should be considered whenever the patient is possibly critically ill or injured and transport by air would expedite the patient's arrival at the hospital. When air transport is requested, the request should be made as soon as the EMS technicians on the scene have performed the primary patient assessment.

***The purpose of this section of protocol is to ensure that the best and most efficient patient care is provided.***

## 23. TRANSPORTATION GUIDELINES

If transporting a patient to a receiving hospital out of your coverage area, you should do the following:

1. Bring a transfer form completed by the sending hospital.
2. Know the name of the receiving physician.
3. Request assistance from the receiving area's Advanced Life Support service if the patient's condition is unstable or his/her condition deteriorates while en route. EMS providers will develop written mutual aid agreements with neighboring communities to facilitate coordination of backup responses. Copies of these agreements will be sent to the Regional EMS Communications Center through the SPEMS office.
4. Contact Receiving Hospital **as soon as possible prior to arrival**, and re-establish contact any time patient's condition changes. Monitor patient's overall condition and vital signs every 5 to 10 minutes.
5. Notify Lubbock EMS dispatch on Med Channel 9 if transporting a patient into the City of Lubbock Code 3. Include sending hospital, city of origin, destination hospital, route traveling, patient severity, transport code, and estimated time of arrival.

During interfacility transfers SPEMS personnel should operate under the orders of the transferring physician, except where State statute or regulation dictate otherwise such as a physician written DNR. An attempt should be made to contact the transferring or receiving physician to dictate treatment if a decrease in the patient's condition occurs or at the onset of new complications which need to be immediately addressed. If contact is not possible, SPEMS personnel are authorized to operate under the existing SPEMS protocols. Personnel may also contact Medical Control at anytime. Include in your verbal as well as written report any changes in patient condition, orders received or treatment provided. Interfacility transfers include but are not limited to: Hospital to Hospital, Hospital to Specialized care centers and Hospitals to extended care facilities.

#### 24. TRANSPORTATION OF MINORS

A minor is anyone under the age of 18 (with exceptions). Minors may not refuse transport. In those instances where the minor is refusing, and there is no parent or guardian present, Medical Control and/or Law Enforcement should be contacted for assistance.

Exceptions:

1. Emancipated from parents.
2. Pregnant
3. Active duty in the armed forces

#### 25. UNKNOWN PHYSICIAN ON SCENE

1. Inform the physician that medical control policy requires him to produce verification of his identity and training.
2. Inquire as to whether the physician is willing to assume responsibility for the patient's treatment and is willing to physically accompany the patient to the hospital.
3. Before initiating any invasive treatment, establish radio contact with MEDICAL CONTROL; and, after advising the medical control physician of the usual information, advise that a physician is present, identify the physician, and have the physician and MEDICAL CONTROL discuss appropriate means of treatment of the patient while you monitor the conversation.
4. In the event of any conflict between orders given by the medical control physician and orders given by the physician on the scene, the medical control physician shall prevail.
5. Thoroughly document all occurrences.

#### 26. VENTILATION:

Artificial breathing for a patient via mouth-to-mask, bag-valve-mask or demand valve, with high flow **oxygen**. An Oropharyngeal or Nasopharyngeal Airway should be used.

#### 27. VITAL SIGNS:

- Blood Pressure (BP)
- Pulse (rate, regularity, quality)
- Respirations (rate, regularity, quality)
- Skin (color, temperature, moisture)
- Pupil Status (equal/unequal size, round, reactive to light)
- Level of Consciousness (alert, responds to voice or pain, unresponsive)
- Pulse Oximeter



## **TREATMENT PROCEDURES**

### **AIRWAY MANAGEMENT:**

Patients who show signs of inability to maintain an airway without assistance, should have an oropharyngeal or nasopharyngeal airway placed.

With proper training and equipment, EMT-Basics can use a King Airway to control the airway of an apneic patient or a patient that is unconscious **and** has no gag reflex.

The EMT Basic should call for Paramedic backup for any patient requiring King Airway placement.

### **ALS BACKUP:**

Whenever a patient would reasonably benefit from ALS care (IV therapy, intubation, gastric tube placement, pleural decompression), the Regional EMS Communications Center or local dispatch should be contacted to coordinate the response of the closest available ALS unit.

The medical control physician may direct an ALS backup response whenever he believes this would be in the best interest of the patient.

EMS providers will develop written mutual aid agreements with neighboring communities to facilitate coordination of backup responses. Copies of these agreements will be sent to the Regional EMS Communications Center through the SPEMS office.

### **CHEMICAL SEDATION / RESTRAINT**

Chemical Restraint is a last resort for safely calming extremely agitated patients when the potential for harm to self or others exists. Agitation or acute behavioral disorders may manifest differently. **Always suspect an organic cause first.** Life-threatening organic conditions that may present with behavioral agitation are hypoglycemia, subdural hematoma, intercerebral hemorrhage, meningitis, hypertensive crisis, and drugs (especially atropine and cyclic antidepressants).

#### ***Basic Life Support***

1. Request Law Enforcement assistance on any patient who requires chemical restraint.
2. Assess blood glucose to rule-out hypoglycemia.
3. **Request paramedic backup for possible chemical restraint**

### **Excited Delirium Syndrome:**

Excited delirium is a medical emergency that has a high risk for increased mortality due to its causes or from the injuries or medical emergencies that may develop secondary to it. Excited delirium needs to be addressed in the prehospital setting, and may involve a combination of psychomotor agitation, anxiety, hallucinations, speech disturbances, disorientation, violent/bizarre behavior, insensitivity to pain, hyperthermia, and increased strength.

The use of physical restraints and/or tasers may increase the severity of the potential life-threatening condition. In the prehospital setting, excited delirium is most commonly seen in male subjects with a history of serious mental illness and/or acute or chronic drug abuse; particularly with stimulant drugs such as cocaine, crack cocaine, methamphetamines, amphetamines, or similar agents. Subjects using synthetic marijuana and/or bath salts may also exhibit excited delirium syndrome. Alcohol withdrawals, severe CNS illness, or head trauma may also contribute to the condition.

### **Management of Excited Delirium Syndrome:**

Just as in normal chemical sedation, treatment should occur when there is a danger to the patient or the EMS crew. Since treatment of excited delirium syndrome requires drug administration, Paramedic backup should be requested as soon as possible.

**FEVER MANAGEMENT:**

Patients with a fever at or above 100.4° F. should be given an antipyretic if transport time is greater than 15 minutes. If transport time is less than 15 minutes, the EMT may treat fever at his/her discretion.

**Adult Fever Management:**

If the patient is conscious and able to control his/her own airway, administer **Ibuprofen** 10mg/kg up to 800mg PO (given in 200mg tablets so medication dosage will be rounded to nearest 200mg increment) or **Acetaminophen** 10mg/kg up to 1,000mg PO (given in 500mg tablets so medication dosage will be rounded to nearest 500mg increment). The EMT should avoid **Ibuprofen** if the patient is pregnant or has taken **Ibuprofen** within the last 4 hours. The EMT should avoid **Acetaminophen** if the patient has a history of liver disease or has taken **Acetaminophen** within the last 4 hours. If there are no contraindications, **Ibuprofen** can be administered after 90 minutes of a dose of **Acetaminophen** and **Acetaminophen** can be administered after 90 minutes of a dose of **Ibuprofen**.

**Pediatric Fever Management:**

If the patient is conscious and able to control his/her own airway, administer Liquid Children's Motrin 10mg/kg to a max of 800mg if patient has not taken Motrin (Ibuprofen) within the last 4 hours.

**INTRANASAL MEDICATION ADMINISTRATION:**

This procedure authorizes the SPEMS EMT-Basic to administer intranasal (IN) medications using the MAD (Mucosal Atomizer Device). The rich vasculature of the nasal cavity provides a direct route into the bloodstream for medications that easily cross the mucous membranes. Due to this direct absorption into the bloodstream, rate and extent of absorption is relatively comparable to IV administration. This procedure allows for the substitution of approved medication administration via the intranasal route in place of other routes listed in specific protocols. The SPEMS EMT-Basic should refer back to the original protocol upon completion of this treatment guideline. Generally, the intravenous route is the preferred method of drug administration and IV therapy should follow as soon as appropriate therefore ALS back-up must be contacted.

**Required education will be provided at the EMS service level with appropriate documentation of education and skill competency on file.**

**Indications:**

- Adult and Pediatric Altered Level of Consciousness with respiratory compromise secondary to a known or suspected opiate overdose (patient is unable to control their own airway).

*Popular opiates include, but are not limited to:*

<i>Codeine</i>	<i>Fentanyl (Duragesic)</i>	<i>Oxycodone (Percocet, Tylox)</i>
<i>Darvon (Propoxyphene)</i>	<i>Heroin (Diacetyl Morphine)</i>	<i>Paragoric (Anhydrous Morphine)</i>
<i>Demerol (Meperidine)</i>	<i>Lortab (Hydrocodone/Acetaminophene)</i>	<i>Percodan (ASA/Oxycodone)</i>
<i>Dilaudid (Hydromorphone)</i>	<i>Morphine (MS Contin, Roxanol)</i>	<i>Stadol (Butorphanol)</i>
<i>Dolophine (Methadone)</i>	<i>Nubain (Nalbuphine)</i>	<i>Talwin (Pentazocine)</i>

**Factors that affect absorption (which are relative contraindications):**

- Epistaxis
- Facial Trauma
- Nasal Congestion, Discharge or any recognized nasal abnormality
- Destruction of the nasal mucosa from past surgeries or cocaine abuse

**Procedure:**

- Prepare equipment (MAD, 1 or 3cc syringe, medication, etc.)
- Draw medication in usual fashion allowing for syringe dead space
- Attach MAD to end of syringe
- Place the patient in supine or recumbent position if possible
- Stabilize the patient's head with one hand as needed
- Press the atomizer against the nostril
- Briskly depress the syringe plunger administering ½ of the dose in each nostril
- Administer maximal dose of 1cc per nostril

**General Comments:**

- Prior to using a nasal medication, inspect the nostril for significant amounts of blood or mucous discharge. Presence of these will limit the medication absorption. Suctioning the nasal passage prior to delivery may be necessary or an alternative delivery method should be explored.
- Always deliver ½ of the medication dose into each nostril. This doubles the available mucosal surface area (over single nostril) for drug absorption and increases rate and amount of absorption.
- Always use the most concentrated form of the drug available-diluted forms are less effective.

- Do not use over ½ to 1cc of medication per nostril (0.2-0.3cc is the ideal volume). If a higher volume is required, apply it in two separate doses allowing a few minutes for the former dose to absorb.
- For small volume doses of medication, be aware that most delivery devices have a “dead space” in the applicator tip where some of the medication will remain. Be sure to take that dead space into account when calculating the volume of medication to be administered. Usually the addition of 0.1cc of medication will account for the dead space.
- Most “failures” of IN **Narcan** are due to being in a hurry to see the patient wake up. IN **Narcan** takes 3-5 minutes to begin working. The patients often just improve breathing so do not always expect full arousal. (The goal is breathing).

#### **Intranasal Dosages:**

##### **DECREASED LOC WITH RESPIRATORY COMPROMISE (known or suspected opiate overdose):**

*Strength:* **Narcan** (Naloxone), 1mg/cc

- **Narcan** (Naloxone) Adult - 2mg, IN, may repeat once in 5 minutes if no increase in respiratory rate or LOC
- **Narcan** (Naloxone) Pediatric - 0.1mg/kg, IN, to a max of 2mg, may repeat once in 5 minutes if no increase in respiratory rate or LOC.

#### **MAST:**

MAST may be used for splinting of bilateral lower extremity fractures, OR for splinting of unstable pelvic fractures with signs and symptoms of hypovolemia.

#### **NONSPECIFIC COMPLAINT:**

If a patient's problem or chief complaint is not addressed by a specific algorithm (e.g. malaise or generalized weakness), the EMT-Basic should initiate appropriate Basic Life Support, perform a thorough patient assessment, and communicate the results of the assessment to Medical Control.

#### **OXYGEN THERAPY:**

C.O.P.D. patients may be oxygenated using a nasal cannula or a mask at flow rates needed to maintain an **oxygen** saturation of 90-92%. Do not attempt to obtain higher **oxygen** saturations because of the possibility of suppressing the hypoxic drive. Monitor level of consciousness carefully.

To avoid hyperoxia, adult patients with cardiac and/or stroke related problems should be given **oxygen** only if their O<sub>2</sub> sats are below 94% or if signs of hypoxia are present. If **oxygen** is required, **oxygen** should be administered, using a non-rebreather, simple face mask or nasal cannula to maintain O<sub>2</sub> sats between 94 and 99%. These patients should not be allowed to have a sat of 100%.

All significant trauma patients should receive **oxygen** via non-rebreather or simple face mask to maintain the highest possible **oxygen** saturation.

Except as listed above, all other patients, with an O<sub>2</sub> sat below 94%, should receive **oxygen** via non-rebreather or simple face mask. Patient's with an O<sub>2</sub> sat of 94% or above; requiring **oxygen** per protocol, may have **oxygen** applied using either a non-rebreather mask, a simple face mask or a nasal cannula.

When a bag-valve-mask is used to ventilate a patient, it should be connected to an **oxygen** reservoir and **oxygen** administered at ≥15 liters per minute.

#### **PARAMEDIC BACKUP:**

Whenever a patient would reasonably benefit from MICU care (EKG monitoring, drug therapy or defibrillation, or cricothyrotomy), the Regional EMS Communications Center or local dispatch should be contacted to coordinate the response of the closest available MICU.

The medical control physician may direct a paramedic backup response whenever he believes this would be in the best interest of the patient.

EMS providers will develop written mutual aid agreements with neighboring communities to facilitate coordination of backup responses. Copies of these agreements will be sent to the Regional EMS Communications Center through the SPEMS office.

**REMOVAL OF A FOOTBALL HELMET:**

In the event an injured football player must be transported, remove the facemask of the helmet to facilitate and secure a patent airway. If it is imperative that the helmet be removed prior to arrival at the emergency department, the shoulder pads SHOULD be removed simultaneously.

**RESQPOD (Optional):**

The use of the ResQPOD is for the adult patient in cardiac arrest. An adult patient is defined by AHA as one whom has reached puberty. EMT's who have been properly trained in the use of the ResQPOD may apply the device directly to the ventilation adjunct ie.(BVM, King Airway etc.) When used with CO2 monitoring the monitor should be placed between the ResQPOD and the ventilation device. The ResQPOD is not a ventilation device but provides its therapeutic benefit during chest compressions. Therefore it is necessary to maintain a good seal with the device during the chest compression phase of CPR. In the event that the patient resumes a pulse and/or spontaneous respirations the ResQPOD should be removed.

**SEMI-AUTOMATIC EXTERNAL DEFIBRILLATION:**

Personnel who have received training in the use of the Semiautomatic External Defibrillator may apply and operate the device in cases of cardiac arrest.

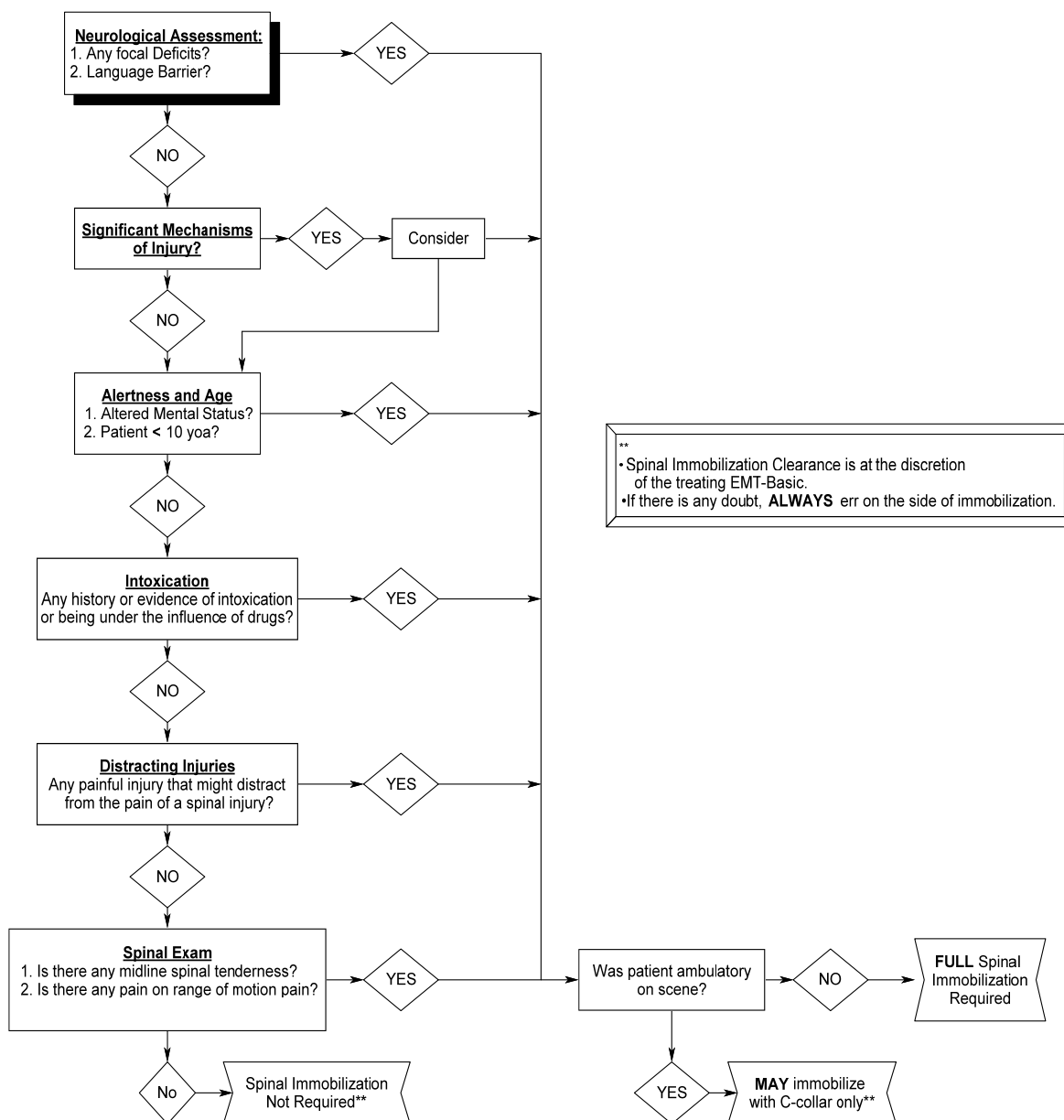
**SPINAL IMMOBILIZATION CLEARANCE**

The acronym "NSAIDS" should be used to remember the steps for spinal immobilization clearance.

- **N - Neuro Exam:** Look for any focal deficits such as tingling, reduced strength, or numbness. Verify that there is no language barrier between you and the patient.
  - **S - Significant MOI:** Use judgment; Studies have shown that MOI alone should NOT dictate the need for immobilization.
  - **A - Alertness and Age:** Assess that the patient is conscious, alert, and oriented to person, place, time, and event? Confirm the patient is > 10 years of age.
  - **I - Intoxication:** Assess for any indicators that the person is intoxicated or under the influence (Illicit or Legal Drugs, Alcohol, ect.)
  - **D - Distracting Injuries:** Look for any other injuries that might distract the patient from spinal pain.
  - **S - Spinal Exam:** Check for point tenderness along the spinous process of the entire spine (log rolling the patient while holding manual c-spine is appropriate in order to assess for point tenderness).
- Assess for painful range of motion only if the patient had no tenderness to spine (patient should be able to touch their chin to their chest, extend their neck by looking upward, and turn their head from side to side without any midline spinal pain).
  - Once an immobilization device has been placed, it **MUST ONLY BE REMOVED BY A PHYSICIAN.**

**See flowsheet on following page**

## SPINAL IMMOBILIZATION CLEARANCE\*



\*\*  
• Spinal Immobilization Clearance is at the discretion of the treating EMT-Basic.  
• If there is any doubt, **ALWAYS** err on the side of immobilization.

- \* The acronym "**NSAIDS**" should be used to remember the steps for spinal immobilization clearance.
- **N - Neuro Exam:** Look for any focal deficits such as tingling, reduced strength, or numbness. Verify that there is no language barrier between you and the patient.
  - **S - Significant MOI:** Use judgement; Studies have shown that MOI alone should **NOT** dictate the need for immobilization.
  - **A - Alertness and Age:** Assess that the patient is conscious, alert, and oriented to person, place, time, and event? Confirm the patient meets the age requirements noted above.
  - **I - Intoxication:** Assess for any indicators that the person is intoxicated or under the influence (Illicit or Legal Drugs, Alcohol, ect.)
  - **D - Distracting Injuries:** Look for any other injuries that might distract the patient from spinal pain.
  - **S - Spinal Exam:** Check for point tenderness along the spinous process of the entire spine (log rolling the patient while holding manual c-spine is appropriate in order to assess for point tenderness).
    - Assess for painful range of motion only if the patient had no tenderness to spine (patient should be able to touch their chin to their chest, extend their neck by looking upward, and turn their head from side to side without any midline spinal pain).
    - Once an immobilization device has been placed, it **MUST ONLY BE REMOVED BY A PHYSICIAN**.

**TASER PROBE REMOVAL:**

If an individual's EMS department policy grants EMS staff permission to remove taser probes, the EMS individual **MAY** make a single attempt to remove the probes. If the probes appear to be embedded in the bone, in a sensitive area, or it appears that the removal will be difficult, leave in place and treat as an impelled object. To lessen the risk of a needle stick injury some type of gripping device (hemostats or pliers) should be used to facilitate the removal. The site should then be cleaned and bandaged as appropriate.

**TRANSPORTATION:**

Transportation to the hospital may begin at any time the EMS technician judges it to be appropriate, even though the words "Continue to Treat, Monitor and Transport" do not appear until the end of each algorithm.

With the exception of entrapment situations where extrication is required, time on the scene with unstable trauma patients should not exceed 10 minutes. If time on scene exceeds 10 minutes, the narrative should include justification. Emphasis should be placed on transporting these patients so they receive definitive hospital care within one hour of the time they were injured.

Since Basic Life Support alone is unlikely to result in the successful resuscitation of cardiac arrest unless followed promptly by Advanced Life Support, patients in cardiac arrest should be transported as soon as possible. The Regional EMS Communications Center or local dispatch should be contacted to coordinate a response by the closest available paramedic unit.

All patients transported by stretcher must be transported in a DSHS authorized vehicle.

Air transport should be considered whenever its use would expedite a critical patient's arrival at the hospital. The Medical Control physician may order transport of a patient to begin at any time during a treatment procedure.

**TREATMENT FOR SHOCK:**

- Assure Airway, Breathing, Circulation, and control of Bleeding (ABCs)
- Insert oropharyngeal/nasopharyngeal airway if patient is unconscious and consider the use of a King Airway
- Administer high flow **oxygen**
- Maintain patient's body temperature
- Elevate lower extremities
- Give nothing by mouth

**TREATMENT FOR SNAKEBITES:**

- Cool, Calm environment
- Supportive Measures
- Extremity at heart level
- Zero degree elevation
- No ice or constricting bands

## **UNCONTROLLED HEMORRHAGE**

At times, direct pressure may fail to control bleeding and it may be necessary to utilize other means to assist in bleeding control.

- **QUICKCLOT**

- Must be the heat free formulas
  - Combat Gauze, is a 3in X 4yrd roll of heat free hemostatic gauze
  - ACS+, is a heat free hemostatic sponge
1. Blot excess blood from wound with gauze pad
  2. Apply Hemostatic agent as directed on package
  3. Apply FIRM direct pressure to wound for 5 minutes. (if bleeding persists, apply direct pressure for an additional 5 minutes)
  4. Apply pressure dressing
  5. Deliver empty Hemostatic agent packaging to accepting physician

Instructions for the use of QuickClot are printed on its package.

- **COMMERCIAL TOURNIQUET DEVICE**

Tourniquet application may be indicated when life threatening extremity hemorrhage can not be controlled by any other means.

It is required that a commercial tourniquet is used per manufactures instructions, as improvised tourniquets may not be as effective and/or may cause additional harm. The use of QuickClot in conjunction with a tourniquet application is recommended.

- The tourniquet should never be covered by clothing or bandages
- Record the date and time the tourniquet was applied
- If transport time is extended (> 30 minutes) and absence of amputation or continued hypotension/shock the tourniquet may be LOOSENED to assess for bleeding. DO NOT remove the tourniquet. If bleeding continues re-tighten the tourniquet to loss of distal pulses, if bleeding remains controlled leave the tourniquet in place but assure it is loosened to prevent venous occlusion.

## PRE-HOSPITAL MEDICATIONS

### INHALED MEDICATIONS

#### **Oxygen**

**Duo-Neb:** Consists of 0.5mg Ipratropium Bromide and 3mg of Albuterol Sulfate in 3ml (Page 6, 9, 12)

**Levalbuterol (Xopenex) (optional)** 1.25 mg/3ml (Page 6, 12)

### ORAL MEDICATIONS

**Acetaminophen**, 500mg tablets (P-16)

**Activated Charcoal**, 50g (P-22)

**Aspirin**, 325mg tablet (Page 8, 9, 10)

**Ibuprofen** 200mg tablets (P-16)

**Oral Glucose** 15g tube (Page 14)

**Liquid Children's Motrin** 100mg/5ml (P-16) (Page 21)

### SUBLINGUAL MEDICATIONS

**Nitroglycerin**, 0.4 mg tablet or spray (Page 8, 9, 10)

### INTRAMUSCULAR MEDICATIONS

**Epinephrine Auto-Injector** (Adult), 0.3mg/unit (Page 12)

**Epinephrine Auto-Injector** (Pediatric), 0.15mg/unit (Page 12)

**Epinephrine** (1:1,000) 1mg/1cc (Appropriate training and testing must be documented prior to administration) (Page 12)

**Glucagon** 1mg/unit (Page 14) (Optional) (Appropriate training and testing must be documented prior to administration)

Services under SPEMS medical direction may carry **Epinephrine Auto-Injectors** to accommodate both adult and pediatric patients **AND/OR Epinephrine** (1:1,000) 1mg/1cc. However, **Epinephrine** (1:1,000) can only be carried if all active ECA's, EMT's and Intermediates are appropriately trained on IM injections (and the standing Allergic Reaction Protocol). This training must be documented including location, date, and time. Documentation must be readily accessible upon inspection

### INTRANASAL MEDICATIONS

**Naloxone** (Narcan), 2mg/2cc (Page 9, 14) (P-16, P-17)

### DRUGS NOT SPECIFICALLY INDICATED IN PROTOCOLS:

Although not indicated for routine pre-hospital use, the following drugs are included in the authorized medication list for use at the discretion of **On-Line Medical Control**:

**Activated Charcoal:** Dose (1g/kg up to 50g) Activated Charcoal may be indicated for ingestion of medications or other substances. Activated Charcoal should NOT be used in cases of acid or alkali ingestion, if the patient is unable to swallow or if the patient has a decreased level of consciousness.



## **DECISION-MAKING IN CARDIOPULMONARY RESUSCITATION**

The current standard of care requires that resuscitation be implemented when two conditions are fulfilled:

1. There is the possibility that the brain is viable.
2. There is no medically or legally legitimate reason to withhold resuscitation.

RESUSCITATION EFFORTS SHOULD BE WITHHELD ONLY IF A PATIENT IS APNEIC AND PULSELESS AND ONE OF THE FOLLOWING SITUATIONS EXISTS:

2. The patient is decapitated.
3. Rigor mortis is present.
4. Dependent lividity is present.
5. Evidence of tissue decomposition is present.
6. Massive trauma to the head, neck or thorax, clearly incompatible with life, is present.
7. In a multiple casualty situation there are inadequate numbers of trained personnel to initiate resuscitation while providing life-saving care to other patients.
8. A written Texas Department of State Health Services Out of Hospital DO NOT RESUSCITATE (OOH DNR) is available for immediate inspection by the EMS technicians. (Refer to the Do Not Resuscitate Section)
9. The patient is wearing the state-approved DNR bracelet and/or necklace bearing the official Out-of hospital DNR logo. (Refer to the Do Not Resuscitate Section)
10. Out-of-Hospital DNR Order forms executed in another state or devices authorized by another state as describe in the Do Not Resuscitate Section. (Refer to the Do Not Resuscitate Section)
11. The patient's attending physician is at the scene of the emergency and orders the EMS personnel to withhold resuscitation efforts.
12. If no written TDSH OOH DNR order is available, the decision to withhold resuscitation efforts may be made by the Emergency Department physician if requested by one persons of the following list if available, in the following priority:
  - a) The patient's spouse;
  - b) A majority of the patient's reasonably available adult children;
  - c) The patient's parents; or
  - d) The patient's nearest living relative.
13. The Emergency Department Physician at the receiving hospital orders EMS personnel, via radio, not to initiate or to terminate resuscitation efforts.

In cases involving a request by family members to withhold resuscitation efforts, you should also include documentation of the request, and names and relationships of the persons making the request. **ALL** EMS personnel present should sign documentation.

NOTE: The patient's private physician, upon learning of EMS involvement in the resuscitation efforts of one of his/her patient's, should contact the receiving Emergency Department's physician and relay any orders to withhold resuscitation efforts to the Emergency Department physician, since EMS cannot accept these "Do Not Resuscitate" orders directly from the private physician via telephone.

If, at anytime, EMS personnel question the legitimacy of the request to withhold resuscitation efforts, or if there are any indications of unnatural or suspicious circumstances, resuscitation efforts should be initiated, but limited to BLS, until such time as Medical Control is contacted and the Emergency Department physician directs otherwise.

### **IF ANY DOUBT WHATSOEVER EXISTS, RESUSCITATE!**

In the pre-hospital setting, EMS Technicians shall not delegate the decision to initiate or withhold resuscitation to other individuals under any circumstances.

Once initiated, BLS shall continue until one of the following occurs:

1. Effective spontaneous circulation and ventilation have been restored.
2. A physician at the receiving medical facility pronounces the patient dead.
3. On-line Medical Control orders termination of resuscitation efforts.
4. Attending physician arrives on scene and orders termination.
5. A legitimate TDSHS Out of Hospital DNR is presented to ambulance personnel. (Refer to the Do Not Resuscitate Section)
6. A legitimate Out-of-Hospital DNR Order forms executed in another state is presented to ambulance personnel. (Refer to the Do Not Resuscitate Section)

**EXCEPT AS DESCRIBED ABOVE, UNDER NO OTHER CIRCUMSTANCES WILL THE DECISION TO TERMINATE RESUSCITATION BE MADE BY A NON-PHYSICIAN!**

EMS personnel should remember that some patients might appear to be dead and not responsive to resuscitation efforts while actually being potential candidates for successful resuscitation. Therefore, if any doubt exists concerning the patient's potential resuscitation by any of the EMS personnel present, resuscitation efforts should be initiated immediately. The following types of patients should receive special consideration for resuscitation since cases have been documented in which these, and other patients, have been successfully resuscitated following the apparent "death" of the patient:

1. Hypothermia
2. Hypoglycemia
3. Acute drug overdoses
4. Poisonings
5. Pediatric patients
6. Drowning
7. Unwitnessed (by trained medical personnel) cardiac and/or respiratory arrest

## **DO NOT RESUSCITATE ORDERS**

When dealing with Do Not Resuscitate Orders, the following guidelines shall be followed:

### **ACCEPT ANY ONE OF THE FOLLOWING AS PROOF OF A VALID OOH DNR ORDER:**

#### Texas Out-of-Hospital Do-Not-Resuscitate Order Form (OOH DNR)

Note: There is now a new TDSHS form for DNRs. Either the new or the old form is acceptable. A copy of both forms is on subsequent pages.

The Texas OOH DNR Order form is a single page form with the Texas DNR logo printed at the top in red or black. The original or a photocopy is acceptable. A copy of these forms is on subsequent pages. The form is considered valid if:

1. One of the six sections have been filled out and signed appropriately. **Note:** Electronic signatures are acceptable. (Only one completed section is required)
  - a. Section A: Declaration of the adult person
  - b. Section B: Declaration by legal guardian, agent or proxy on behalf of the adult person is incompetent or otherwise incapable of communication
  - c. Section C: Declaration by a qualified relative of the adult person who is incompetent or otherwise incapable of communication
  - d. Section D: Declaration by physician based on directive to physicians by a person now incompetent or otherwise incapable of communication
  - e. Section E: Declaration on behalf of the minor person
  - f. Section F: Directive by two physicians on behalf of the adult, who is incompetent or unable to communicate and without guardian, agent, proxy or relative. (**Note:** if this section is utilized, no signature of witnesses or notary are required)
2. All relevant portions have been completed.
3. Signatures of two witnesses or notary are present; except when section F is utilized (No witness or notary signature is required for Section F). **Note:** Electronic signatures are acceptable
4. There appears to be no reason to question its authenticity.

#### Texas OOH DNR Order Bracelet

Two types of OOH DNR Order bracelets are valid:

1. A plastic, hospital-type bracelet that is white in color and has the DNR logo printed in red, as is on the front of the OOH DNR Order form. No other identifying information is printed on this bracelet.
2. A stainless steel bracelet similar to the "Medic Alert" bracelets, containing the same DNR logo as on the front of the OOH DNR Order form, or the words "Texas Do Not Resuscitate – OOH".

When either bracelet is found around the patient's wrist, honor it as if it were a valid OOH DNR Order Form. Do not honor a bracelet that is not attached to the patient. Do not remove the bracelet from the patient, even when the patient is deceased.

#### Texas OOH DNR Order Necklace

The OOH DNR Order necklace is made of a stainless steel chain, 16 - 18 inches in length with a one-inch diameter disk attached. The disk has the same DNR logo as is on the front of the DNR Order form. When found around the patient's neck, honor this necklace as if it were a valid paper OOH DNR Order form. Do not honor a necklace that is not attached to the patient. Do not remove the necklace from the patient, even when the patient is deceased.

## **Out-of-State DNR Orders**

Personnel may accept Out-of-Hospital DNR Order forms executed in another state or devices authorized by another state, if:

1. The order appears to be on an official, state-mandated form.
2. The order appears complete (all relevant portions of the form filled in) and valid.
3. There appears to be no reason to question the authenticity of the DNR Order form or device.

Should there be a question regarding an out-of-state DNR Order, initiate resuscitation and contact an on-line medical control physician.

### **DOCUMENTS THAT MAY NOT BE ACCEPTED:**

#### **Do Not Accept:**

1. Do Not Resuscitate Orders that do not reasonably appear to be on an official, state-mandated form.
2. Advanced Directives, Directives to Physicians, Living Wills, A Physician's DNR Order in any form not noted above (such as one written by a physician, physician's assistant, or a nurse practitioner).

### **Texas OOH DNR Orders and Out-of-State DNR Orders Should Not be Honored when:**

1. A competent patient, including a competent minor, communicates to EMS personnel a desire to revoke an OOH DNR Order.
2. A person having a Durable Power of Attorney for Health Care for the patient or the attending physician, legal guardian, parent (if a minor), or qualified relative, as defined in the TDSHS OOH DNR form, communicates to EMS personnel a desire to revoke an OOH DNR Order.
3. The patient is pregnant.
4. The patient cannot be conclusively identified as the patient named on the OOH DNR Order form.
5. There is an airway obstruction.
6. Unnatural or suspicious circumstances are present; including suicide attempt.

If doubt exists as to whether an OOH DNR Order should be honored, initiate resuscitation until:

1. A valid OOH DNR Order is found. NOTE: If a valid OOH DNR is presented, after resuscitation has been initiated, resuscitation efforts may be discontinued so long as the validity is not in question or one of the 5 preceding conditions are not found.
2. A Medical Control physician orders that resuscitation be stopped, or
3. Patient care is transferred to a higher level.

### **COMPLIANCE WITH OOH DNR ORDER:**

NOTE: OOH DNR applies only *AFTER* the cessation of spontaneous respirations or circulation or in the judgment of the pre-hospital provider, the moment of death is at hand.

1. If the patient is found in or develops cardiac and/or respiratory arrest, honor the OOH DNR Order by withholding CPR, placement of advanced airway devices (including ET tube and King Airway), artificial ventilation, placement of the AED, manual defibrillation, and transcutaneous cardiac pacing.
2. If an OOH DNR Order is found or presented after the patient assessment and/or treatment has begun, stop the resuscitative treatment immediately – even if a positive response has occurred

3. If an OOH DNR Order appears to be valid and the patient is not in cardiac or respiratory arrest, provide care directed toward providing comfort, such as opening the patient's airway, providing oxygen, IV fluids or medications, or any other treatment needed except for advanced airway placement, artificial ventilation, defibrillation, and cardiac pacing. NOTE: Assisting ventilations for a breathing patient with a BVM device is NOT a violation of an OOH DNR and should be performed if needed.
4. The original OOH DNR Order form or a photocopy may be honored.
5. If the patient is transported, the OOH DNR Order form must accompany the patient; the bracelet or necklace must be on the patient.
6. The original or a photocopy of the form should be kept and filed with the pre-hospital patient care report.

### **DOCUMENTATION:**

When a patient in cardiac or respiratory arrest is encountered and an OOH DNR Order form is presented, the following must be documented on the pre-hospital patient care report:

1. An assessment of the patient's condition.
2. Whether or not the OOH DNR Form was honored. If the form was not honored, a full explanation of the reasons and circumstances must be documented
3. The type OOH DNR Order (form, bracelet or necklace) used to confirm the DNR status.
4. Any problems regarding implementing the DNR Order, including on scene revocation.
5. The name of the patient's attending physician from the OOH DNR form.
6. The original or a photocopy of the form should be kept and filed with the pre-hospital patient care report.

### **SUMMARY**

- ONLY the TDSHS OOH DNR or other state (other than Texas) issued DNR may be accepted
- OOH DNR applies to out-of-hospital settings including ERs, Nursing Homes, Physician's offices, clinics, dialysis centers, private residences, etc.
- OOH DNR applies only AFTER the cessation of spontaneous respirations or circulation

EXCEPT: Airway obstruction

Suspicious Circumstances

Suicide, homicide, or other unnatural causes of death

Pregnant patients

Patient or guardian state desire not to follow DNR

- Interventions to be withheld are:
  - CPR
  - Advanced Airways (Intubation and King Airway)
  - Artificial ventilation (does not pertain to assisting ventilations on a breathing patient)
  - Defibrillation (includes AED)
  - Transcutaneous cardiac pacing
- If uncertain, err on side of resuscitation until status can be clarified
- The OOH DNR device (form, bracelet, or necklace) should be left attached to and transported with the patient
- Out-of-state DNR may be honored if no reason to question the authenticity of the order or device exists

**Figure: 25 TAC §157.25 (h)(2)** **TEXAS DEPARTMENT OF STATE HEALTH SERVICES** **Page 1 of 2**

**STOP DO NOT RESUSCITATE**

**STANDARD OUT-OF-HOSPITAL DO-NOT-RESUSCITATE ORDER**

This document becomes effective immediately on the date of execution. It remains in effect until the patient is pronounced dead by authorized medical or legal authority or the document is revoked. Comfort measures will be given as needed.

**All persons who sign the form must sign again under number 3.**

1. \_\_\_\_\_ **Date of Birth:** \_\_\_\_\_ **Male/Female (Circle One)**

Patient's full legal name — printed or typed

2. COMPLETE ONE OF THE FOUR BOXES: A, B, C, or D. If using Box A, B, or C, Witnesses and Physician's Statement must be completed.

**A. Patient's Statement:** I, the undersigned, am an adult capable of making an informed decision regarding the withholding or withdrawing of CPR, including the treatments listed below, and I direct that none of the following resuscitation measures be initiated or continued: **Cardiopulmonary Resuscitation (CPR), Transcutaneous Cardiac Pacing, Defibrillation, Advanced Airway Management, Artificial Ventilation.**

Signature \_\_\_\_\_ Date \_\_\_\_\_ Printed or Typed Name \_\_\_\_\_

**B. Only use this box if the order is being completed by a person acting on behalf of an adult patient who is incompetent or otherwise unable to make his or her wishes known.**

I am the patient's: ☐ legal guardian; ☐ agent under Medical Power of Attorney; ☐ or Qualified Relative (see back); AND:

☐ I attest to issuance of an Out-of-Hospital DNR by the patient by nonwritten means of communication; OR

☐ I am acting under the guidance of a prior Directive to Physicians; OR

☐ I am acting upon the known values and desires of the patient; OR

☐ I am acting in the patient's best interest based upon the guidance given by the patient's physician.

**I direct that none of the following resuscitation measures be initiated or continued on behalf of the patient: Cardiopulmonary Resuscitation (CPR), Transcutaneous Cardiac Pacing, Defibrillation, Advanced Airway Management, Artificial Ventilation.**

Signature \_\_\_\_\_ Date \_\_\_\_\_ Printed or Typed Name \_\_\_\_\_

**C. Only use this box if the order is being completed by a person acting on behalf of a minor patient who has been diagnosed with a terminal or irreversible condition.**

I am the minor patient's: ☐ Parent; ☐ legal guardian; or ☐ managing conservator.

**I direct that none of the following resuscitation measures be initiated or continued on behalf of the patient: Cardiopulmonary Resuscitation (CPR), Transcutaneous Cardiac Pacing, Defibrillation, Advanced Airway Management, Artificial Ventilation.**

Signature \_\_\_\_\_ Date \_\_\_\_\_ Printed or Typed Name \_\_\_\_\_

**WITNESSES:** (see qualifications on reverse) We have witnessed all of the above signatures.

Witness 1 Signature \_\_\_\_\_ Date \_\_\_\_\_ Witness Printed or Typed Name \_\_\_\_\_

Witness 2 Signature \_\_\_\_\_ Date \_\_\_\_\_ Witness Printed or Typed Name \_\_\_\_\_

**PHYSICIAN'S STATEMENT:** I, the undersigned, am the attending physician of the patient named above. I have noted the existence of this order in the patient's medical records, and I direct out-of-hospital health care professionals to comply with this order as presented.

\_\_\_\_\_  
Date Physician's signature Printed name License number

**D. Only use this box if the order is being completed by two physicians acting on behalf of an adult who is incompetent or otherwise unable to make his or her wishes known, and who is without a legal guardian, agent, or qualified relative.**

☐ I attest to issuance of an Out-of-Hospital DNR by the patient by nonwritten communication; OR:

☐ The patient's specific wishes are unknown, but resuscitation measures are, in reasonable medical judgement, considered ineffective in these circumstances or are otherwise not in the best interest of the patient.

**I direct that none of the following resuscitation measures be initiated or continued on behalf of the patient: Cardiopulmonary Resuscitation (CPR), Transcutaneous Cardiac Pacing, Defibrillation, Advanced Airway Management, Artificial Ventilation.**

Signature \_\_\_\_\_ Treating Physician \_\_\_\_\_ Date \_\_\_\_\_ Printed or Typed Name \_\_\_\_\_

Signature Second Physician who is not involved in treating the patient \_\_\_\_\_ Date \_\_\_\_\_ Printed or Typed Name \_\_\_\_\_

3. ALL PERSONS WHO SIGNED MUST SIGN HERE (Pursuant to H&SC 166.083(b)(13). This document has been properly completed.

Signature of Patient, Agent or Relative (A, B, or C) \_\_\_\_\_ Signature of Second Physician (D) \_\_\_\_\_ Signature of Attending Physician \_\_\_\_\_

Signature of Witness \_\_\_\_\_ Signature of Witness \_\_\_\_\_ Date \_\_\_\_\_

**SHOULD TRANSPORT OCCUR, THIS DOCUMENT OR A COPY MUST ACCOMPANY THE PATIENT.**

**The Older Version of the TDSHS Out-of-Hospital (OOH) DNR Form: Front Side**

Figure: 25 TAC §157.25 (h)(2)

**OUT-OF-HOSPITAL DNR INSTRUCTIONS**

Page 2 of 2

**PURPOSE:**

This form was designed to comply with the requirements as set forth in Chapter 166 of the Health and Safety Code (H&SC) relating to the issuance of Out-of-Hospital Do-Not-Resuscitate (DNR) orders for the purpose of instructing Emergency Medical Personnel and other health care professionals to forgo resuscitation attempts and to permit the patient to have a natural death with peace and dignity. This order does NOT affect the provision of other emergency care including comfort care.

**APPLICABILITY:**

This form applies to all health care professionals operating in any out-of-hospital setting to include hospital outpatient or emergency departments and physician's offices.

**IMPLEMENTATION:**

A competent adult may execute or issue an Out-of-Hospital DNR Order. The patient's attending physician will document the existence of the directive in the patient's permanent medical record.

If an adult patient is capable of providing informed consent for the order, he/she will sign and date the out-of-hospital DNR order on the front of this sheet in Box A. In the event that an adult patient is unable to provide informed consent, his/her Legal Guardian, agent under Medical Power of Attorney, or Qualified Relative may execute the order by signing and dating the form in Box B. If an adult patient is unable to provide informed consent and none of the persons listed in Box B are available, the treating physician may execute the order using Box D with the consent of a second physician who is not treating the patient and/or is a member of the health care facility ethics committee or other medical committee.

The following persons may execute an out-of-hospital DNR order on behalf of a minor: the minor's parents, the minor's legal guardian or the minor's managing conservator. A person executing a DNR order on behalf of a minor may execute the order by signing and dating the form in Box C. **An out-of-hospital DNR order may not be executed unless the minor has been diagnosed by a physician as suffering from a terminal or irreversible condition.**

The form must be signed and dated by two witnesses except when executed by two physicians only (Box D).

The original standard Texas Out-of-Hospital DNR form must be completed and properly executed. Duplicates may be made by the patient, health care provider organization or attending physician as necessary. **Copies of this completed document may be used for any purpose that the original may be used and shall be honored by responding health care professionals.**

The presence of a Texas DNR identification device on a person is sufficient evidence that the individual has a valid Out-of-Hospital DNR Order. Therefore, either the original standard form, a copy of the completed standard form, or the device is sufficient evidence of the existence of the order.

For information on ordering identification devices or additional forms, contact the Texas Department of State Health Services at (512) 834-6700.

**REVOCATION:**

The Out-of-Hospital Do-Not-Resuscitate Order may be revoked at ANY time by the patient OR the patient's Legal Guardian/Agent/Managing Conservator/Qualified Relative, Parent (if a minor), or physician who executed the order. The revocation may involve the communication of wishes to responding health care professionals, destruction of the form, or removal of all or any Do-Not-Resuscitate identification devices the patient may possess.

**AUTOMATIC REVOCATION:** This Out-of-Hospital DNR order is automatically revoked if the patient is known to be pregnant or in the case of unnatural or suspicious circumstances.

**DEFINITIONS:**

**Attending Physician:** The physician who is selected by or assigned to a patient who has primary responsibility for a person's treatment and care and is licensed by the Texas State Board of Medical Examiners or who is properly credentialed and holds a commission in the uniformed services of the United States and who is serving on active duty in this state. (H&SC 166.002 (3) & (12))

**Qualified Relatives:** Those persons authorized to execute or issue an out-of-hospital DNR order on behalf of a person who is comatose, incompetent, or otherwise mentally or physically incapable of communication under Section 166.088 H&SC Section 166.088 refers to 166.039; "One person, if available, from one of the following categories, in the following priority....: (1) The patient's spouse; (2) the patient's reasonably available adult children; (3) the patient's parents; or (4) the patient's nearest living relative."

**Health Care Professional:** Means physicians, nurses, physician assistants and emergency medical services personnel, and, unless the context requires otherwise, includes hospital emergency department personnel. (H&SC 166.081 (5))

**Witnesses:** Two competent adult witnesses must sign the form acknowledging the signature of the patient or the person(s) acting on the patient's behalf (except when signed by two physicians in Section C). Witness One must meet the qualifications listed below. Witness Two may be any competent adult. Witness One (the "qualified" witness) may not be: (1) person designated to make a treatment decision for the patient; (2) related to the patient by blood or marriage; (3) entitled to any part of the estate; (4) be a person who has a claim against the estate of the patient; (5) the attending physician or an employee of the attending physician; (6) an employee of a health care facility in which the patient is being cared for, if he or she is involved in providing direct patient care to the patient; or (7) an officer, director, partner, or business office employee of a health care facility in which the patient is being cared for or any parent organization of the health care facility.

*Please report any problems with this form to the Texas Department of State Health Services at (512) 834-6700.*

Revised July 19, 2005  
Texas Department of State Health Services

**The Older Version of the TDSHS Out-of-Hospital (OOH) DNR Form: Back Side**



Figure: 25 TAC §157.25 (h)(2)

**OUT-OF-HOSPITAL DO-NOT-RESUSCITATE (OOH-DNR) ORDER****TEXAS DEPARTMENT OF STATE HEALTH SERVICES**

This document becomes effective immediately on the date of execution for health care professionals acting in out-of-hospital settings. It remains in effect until the person is pronounced dead by authorized medical or legal authority or the document is revoked. Comfort care will be given as needed.

Print Form

Person's full legal name \_\_\_\_\_

Date of birth \_\_\_\_\_

☐ Male  
☐ Female

**A. Declaration of the adult person:** I am competent and at least 18 years of age. I direct that none of the following resuscitation measures be initiated or continued for me: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Person's signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

**B. Declaration by legal guardian, agent or proxy on behalf of the adult person who is incompetent or otherwise incapable of communication:**

I am the: ☐ legal guardian; ☐ agent in a Medical Power of Attorney; OR ☐ proxy in a directive to physicians of the above-noted person who is incompetent or otherwise mentally or physically incapable of communication.

Based upon the known desires of the person, or a determination of the best interest of the person, I direct that none of the following resuscitation measures be initiated or continued for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

**C. Declaration by a qualified relative of the adult person who is incompetent or otherwise incapable of communication:** I am the above-noted person's:

☐ spouse, ☐ adult child, ☐ parent, OR ☐ nearest living relative, and I am qualified to make this treatment decision under Health and Safety Code §166.088.

To my knowledge the adult person is incompetent or otherwise mentally or physically incapable of communication and is without a legal guardian, agent or proxy. Based upon the known desires of the person or a determination of the best interests of the person, I direct that none of the following resuscitation measures be initiated or continued for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

**D. Declaration by physician based on directive to physicians by a person now incompetent or nonwritten communication to the physician by a competent person:** I am the above-noted person's attending physician and have:

☐ seen evidence of his/her previously issued directive to physicians by the adult, now incompetent, OR ☐ observed his/her issuance before two witnesses of an OOH-DNR in a nonwritten manner.

I direct that none of the following resuscitation measures be initiated or continued for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Attending physician's  
signature \_\_\_\_\_

Date \_\_\_\_\_

Printed  
name \_\_\_\_\_Lic  
# \_\_\_\_\_

**E. Declaration on behalf of the minor person:** I am the minor's: ☐ parent; ☐ legal guardian; OR ☐ managing conservator.

A physician has diagnosed the minor as suffering from a terminal or irreversible condition. I direct that none of the following resuscitation measures be initiated or continued for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

**TWO WITNESSES:** (See qualifications on backside.) We have witnessed the above-noted competent adult person or authorized declarant making his/her signature above and, if applicable, the above-noted adult person making an OOH-DNR by nonwritten communication to the attending physician.

Witness 1 signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

Witness 2 signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

**Notary in the State of Texas and County of \_\_\_\_\_.** The above noted person personally appeared before me and signed the above noted declaration on this date: \_\_\_\_\_.

Signature &amp; seal: \_\_\_\_\_ Notary's printed name: \_\_\_\_\_ Notary Seal

[ Note: Notary cannot acknowledge the witnessing of the person making an OOH-DNR order in a nonwritten manner ]

**PHYSICIAN'S STATEMENT:** I am the attending physician of the above-noted person and have noted the existence of this order in the person's medical records. I direct health care professionals acting in out-of-hospital settings, including a hospital emergency department, not to initiate or continue for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Physician's signature \_\_\_\_\_

Date \_\_\_\_\_

Printed name \_\_\_\_\_

License # \_\_\_\_\_

**F. Directive by two physicians on behalf of the adult, who is incompetent or unable to communicate and without guardian, agent, proxy or relative:** The person's specific wishes are unknown, but resuscitation measures are, in reasonable medical judgment, considered ineffective or are otherwise not in the best interests of the person. I direct health care professionals acting in out-of-hospital settings, including a hospital emergency department, not to initiate or continue for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.

Attending physician's  
signature \_\_\_\_\_

Date \_\_\_\_\_

Printed  
name \_\_\_\_\_

Lic# \_\_\_\_\_

Signature of second physician \_\_\_\_\_

Date \_\_\_\_\_

Printed  
name \_\_\_\_\_

Lic# \_\_\_\_\_

Physician's electronic or digital signature must meet criteria listed in Health and Safety Code §166.082(c).

**All persons who have signed above must sign below, acknowledging that this document has been properly completed.**

Person's signature \_\_\_\_\_

Guardian/Agent/Proxy/Relative signature \_\_\_\_\_

Attending physician's  
signature \_\_\_\_\_

Second physician's signature \_\_\_\_\_

Witness 1  
signature \_\_\_\_\_Witness 2  
signature \_\_\_\_\_Notary's  
signature \_\_\_\_\_

*This document or a copy thereof must accompany the person during his/her medical transport.*

**The Newer Version of the TDSHS Out-of-Hospital (OOH) DNR Form: Front Side**



## **INSTRUCTIONS FOR ISSUING AN OOH-DNR ORDER**

**PURPOSE:** The Out-of-Hospital Do-Not-Resuscitate (OOH-DNR) Order on reverse side complies with Health and Safety Code (HSC), Chapter 166 for use by qualified persons or their authorized representatives to direct health care professionals to forgo resuscitation attempts and to permit the person to have a natural death with peace and dignity. This Order does NOT affect the provision of other emergency care, including comfort care.

**APPLICABILITY:** This OOH-DNR Order applies to health care professionals in out-of-hospital settings, including physicians' offices, hospital clinics and emergency departments.

**IMPLEMENTATION:** A competent adult person, at least 18 years of age, or the person's authorized representative or qualified relative may execute or issue an OOH-DNR Order. The person's attending physician will document existence of the Order in the person's permanent medical record. The OOH-DNR Order may be executed as follows:

**Section A -** If an adult person is competent and at least 18 years of age, he/she will sign and date the Order in Section A.

**Section B -** If an adult person is incompetent or otherwise mentally or physically incapable of communication and has either a legal guardian, agent in a medical power of attorney, or proxy in a directive to physicians, the guardian, agent, or proxy may execute the OOH-DNR Order by signing and dating it in Section B.

**Section C -** If the adult person is incompetent or otherwise mentally or physically incapable of communication and does not have a guardian, agent, or proxy, then a qualified relative may execute the OOH-DNR Order by signing and dating it in Section C.

**Section D -** If the person is incompetent and his/her attending physician has seen evidence of the person's previously issued proper directive to physicians or observed the person competently issue an OOH-DNR Order in a nonwritten manner, the physician may execute the Order on behalf of the person by signing and dating it in Section D.

**Section E -** If the person is a minor (less than 18 years of age), who has been diagnosed by a physician as suffering from a terminal or irreversible condition, then the minor's parents, legal guardian, or managing conservator may execute the OOH-DNR Order by signing and dating it in Section E.

**Section F -** If an adult person is incompetent or otherwise mentally or physically incapable of communication and does not have a guardian, agent, proxy, or available qualified relative to act on his/her behalf, then the attending physician may execute the OOH-DNR Order by signing and dating it in Section F with concurrence of a second physician (signing it in Section F) who is not involved in the treatment of the person or who is not a representative of the ethics or medical committee of the health care facility in which the person is a patient.

**In addition,** the OOH-DNR Order must be signed and dated by two competent adult witnesses, who have witnessed either the competent adult person making his/her signature in section A, or authorized declarant making his/her signature in either sections B, C, or E, and if applicable, have witnessed a competent adult person making an OOH-DNR Order by nonwritten communication to the attending physician, who must sign in Section D and also the physician's statement section. Optionally, a competent adult person or authorized declarant may sign the OOH-DNR Order in the presence of a notary public. However, a notary cannot acknowledge witnessing the issuance of an OOH-DNR in a nonwritten manner, which must be observed and only can be acknowledged by two qualified witnesses. Witness or notary signatures are not required when two physicians execute the OOH-DNR Order in section F. The original or a copy of a fully and properly completed OOH-DNR Order or the presence of an OOH-DNR device on a person is sufficient evidence of the existence of the original OOH-DNR Order and either one shall be honored by responding health care professionals.

**REVOCAION:** An OOH-DNR Order may be revoked at ANY time by the person, person's authorized representative, or physician who executed the order. Revocation can be by verbal communication to responding health care professionals, destruction of the OOH-DNR Order, or removal of all OOH-DNR identification devices from the person.

**AUTOMATIC REVOCAION:** An OOH-DNR Order is automatically revoked for a person known to be pregnant or in the case of unnatural or suspicious circumstances.

### **DEFINITIONS**

**Attending Physician:** A physician, selected by or assigned to a person, with primary responsibility for the person's treatment and care and is licensed by the Texas Medical Board, or is properly credentialed and holds a commission in the uniformed services of the United States and is serving on active duty in this state. [HSC §166.002(12)].

**Health Care Professional:** Means physicians, nurses, physician assistants and emergency medical services personnel, and, unless the context requires otherwise, includes hospital emergency department personnel. [HSC §166.081(5)]

**Qualified Relative:** A person meeting requirements of HSC §166.088. It states that an adult relative may execute an OOH-DNR Order on behalf of an adult person who has not executed or issued an OOH-DNR Order and is incompetent or otherwise mentally or physically incapable of communication and is without a legal guardian, agent in a medical power of attorney, or proxy in a directive to physicians, and the relative is available from one of the categories in the following priority: 1) person's spouse; 2) person's reasonably available adult children; 3) the person's parents; or, 4) the person's nearest living relative. Such qualified relative may execute an OOH-DNR Order on such described person's behalf.

**Qualified Witnesses:** Both witnesses must be competent adults, who have witnessed the competent adult person making his/her signature in section A, or person's authorized representatives making his/her signature in either Sections B, C, or E on the OOH-DNR Order, or if applicable, have witnessed the competent adult person making an OOH-DNR by nonwritten communication to the attending physician, who signs in Section D. Optionally, a competent adult person, guardian, agent, proxy, or qualified relative may sign the OOH-DNR Order in the presence of a notary instead of two qualified witnesses. Witness or notary signatures are not required when two physicians execute the order by signing Section F. One of the witnesses must meet the qualifications in HSC §166.003(2), which requires that at least one of the witnesses not: (1) be designated by the person to make a treatment decision; (2) be related to the person by blood or marriage; (3) be entitled to any part of the person's estate after the person's death either under a will or by law; (4) have a claim at the time of the issuance of the OOH-DNR against any part of the person's estate after the person's death; or, (5) be the attending physician; (6) be an employee of the attending physician or (7) an employee of a health care facility in which the person is a patient if the employee is providing direct patient care to the patient or is an officer, director, partner, or business office employee of the health care facility or any parent organization of the health care facility.

**Report problems with this form to the Texas Department of State Health Services (TDSHS) or order OOH-DNR Order/forms or identification devices at (512) 834-6700.**

*Declarant's, Witness', Notary's, or Physician's electronic or digital signature must meet criteria outlined in HSC §166.011*

Publications No. EF01-11421 - Revised July 1, 2009 by the Texas Department of State Health Services

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**The Newer Version of the TDSHS Out-of-Hospital (OOH) DNR Form: Back Side**

## **CARDIAC TRIAGE/TRANSPORT DECISION SCHEME**

Patients who meet triage criteria for activation of the Regional Cardiac Plan should be transported to the **CLOSEST PCI CAPABLE FACILITY** or the **CLOSEST APPROPRIATE ACUTE CARE FACILITY** according to the plan guidelines with special consideration under the following circumstances:

1. If an adequate airway cannot be established and/or maintained or if the patient goes into cardiac arrest, has malignant cardiac dysrhythmias, or is acutely unstable, the patient should be transported to the **NEAREST ACUTE CARE FACILITY**.
2. Medical Control may order bypass in any situation as appropriate, such as when a facility is unable to meet hospital resource criteria, or when a patient is in need of specialty care.
3. If expected transport time is excessive (>25 minutes) activation of air transport should be considered.
4. If there is a question on whether or not to bypass a facility, on-line medical control should be contacted for the final decision.

Patients who are suspected of ACS or ECG confirmed STEMI patients should be transported to “PCI” Percutaneous Coronary Intervention Capable Facilities (Angioplasty, stent placement, or other intervention performed in the cath. lab) or the Closest Appropriate Acute Care Facility.

An Acute Care Facility may be considered appropriate if all of the following standards of care can be provided.

- A 12-lead ECG can be performed and interpreted within 10 minutes.
- PCI may be performed within 90 minutes or a thrombolytic can be administered within 30 minutes.

PCI is the preferred method of reperfusion if possible.

This plan is based on accepted best practice guidelines, but does allow for patient and physician preference.

A copy of the Regional Cardiac Plan as well as a current list of EMS Providers, Facility Capabilities and Designated Centers may be accessed at [www.spems.org](http://www.spems.org)

## **STROKE TRIAGE/TRANSPORT DECISION SCHEME**

Patients who meet triage criteria for activation of the Regional Stroke Plan should be transported to the **CLOSEST HIGHEST DESIGNATED STROKE FACILITY** or the **CLOSEST APPROPRIATE ACUTE CARE FACILITY** according to the plan guidelines with special consideration under the following circumstances:

1. If an adequate airway cannot be established and/or maintained or if the patient goes into cardiac arrest, has malignant cardiac dysrhythmias, or is acutely unstable, the patient should be transported to the **NEAREST ACUTE CARE FACILITY**.
2. Medical Control may order bypass in any situation as appropriate, such as when a facility is unable to meet hospital resource criteria, or when a patient is in need of specialty care.
3. If expected transport time is excessive (>25 minutes) activation of air transport should be considered
4. If there is a question on whether or not to bypass a facility, on-line medical control should be contacted for the final decision.

### TRANSPORTATION SHOULD BE BASED ON THE TIME OF ONSET OF SYMPTOMS

Patients with an onset of **STROKE SYMPTOMS < 3 HOURS** should be taken to the highest designated stroke facility for treatment and evaluation for interventional care.

A non-designated facility may be appropriate if all the following standards of care can be provided:

- ◆ Interpreted computed tomography (CT) imaging scan is available within 45 minutes of patient arrival
- ◆ Thrombolytics can be administered within 60 minutes of patient arrival
- ◆ Physician is available within 10 minutes of patient arrival

Patients with an onset of stroke **SYMPTOMS OCCURRING >3 HOURS** should be transported to the nearest acute care facility for initial diagnosis and treatment. Similarly, a non-designated facility may be appropriate if the above standards of care can be provided.

This plan is based on accepted best practice guidelines, but does allow for patient and physician preference.

A copy of the Regional Cardiac Plan as well as a current list of EMS Providers, Facility Capabilities and Designated Centers may be accessed at [www.spems.org](http://www.spems.org)

## **PEDIATRIC TRAUMA TRIAGE/TRANSPORT DECISION SCHEME**

### **Physiologic Criteria:**

1. Depressed or deteriorating neurologic status (GCS  $\leq 14$ ) with focus on changes in the motor function
2. Respiratory distress or failure
3. Children requiring endotracheal intubation and/or ventilatory support
4. Shock, uncompensated or compensated
5. Injuries requiring any blood transfusion
6. Children requiring any one of the following:
  - a. Invasive monitoring (arterial and/or central venous pressure)
  - b. Intracranial pressure monitoring
  - c. Vasoactive medications

### **Anatomic Criteria:**

1. Fractures and deep penetrating wounds to an extremity complicated by neurovascular or compartment injury
2. Fracture of two or more major long bones (such as femur, humerus)
3. Fracture of the axial skeleton
4. Spinal cord or column injuries
5. Traumatic amputation of an extremity with potential for replantation
6. Head injury when accompanied by any of the following:
  - a. Cerebrospinal fluid leaks
  - b. Open head injuries (excluding simple scalp injuries)
  - c. Depressed skull fractures
  - d. Sustained decreased level of consciousness (GCS  $\leq 14$ )
  - e. Intracranial hemorrhage
7. Significant penetrating wounds to the head, neck, thorax, abdomen or pelvis including the groin
8. Pelvic fracture
9. Significant blunt injury to the chest, abdomen or neck (e.g. hanging or clothesline MOI's)

### **Other Criteria:**

1. Suspicion for Child Maltreatment as evidenced by:
  - a. Injuries sustained with no reported explanation
  - b. Injuries sustained that do not match the developmental capability of the patient
  - c. History of apparent life threatening event
  - d. Upper extremity fractures in a non-ambulatory child

### **TRIAGE/TRANSPORT GUIDE:**

- Critically injured pediatric patients meeting the above criteria should be taken to the closest verified Pediatric Trauma Center and if unavailable the closest appropriate Adult Trauma Center with Pediatric capabilities
- If immediate interventions are required, transport to the closest appropriate acute care facility

The full BRAC Regional Pediatric Plan can be viewed at [www.spems.org](http://www.spems.org)

## PEDIATRIC BURN TRIAGE/TRANSPORT DECISION SCHEME

### American Burn Association Triage/Transfer Criteria:

A burn center may treat adults, children, or both. Burn injuries that should be referred to a burn center include the following:

1. Partial-thickness burns of greater than 10 percent of the total body surface area.
2. Burns that involve the face, hands, feet, genitalia, perineum, or major joints.
3. Third-degree burns in any age group.
4. Electrical burns, including lightning injury.
5. Chemical burns.
6. Inhalation injury.
7. Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality.
8. Physician judgment will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols.
9. Burn injury in patients who will require special social, emotional, or rehabilitative intervention.

### **TRIAGE/TRANSPORT GUIDE:**

#### **Burns in Children:**

**Children with burns should be transferred to a burn center verified to treat children. In the absence of a regional pediatric burn center, an adult burn center may serve as a second option for the management of pediatric burns.**

#### **Burns and Trauma in Children:**

**Burns and concomitant trauma (such as fractures) when the burn injury poses the greatest risk of morbidity or mortality.**

**If the trauma poses the greater immediate risk, the patient's condition may be stabilized initially in a Pediatric Trauma Center before transfer to a burn center.**

#### **Other Criteria for Transport:**

1. Children requiring pediatric intensive care other than for close observation.
2. Any child who may benefit from consultation with, or transport to, a Pediatric Trauma Center or a Pediatric Intensive Care Unit.
3. Children with injuries suspicious of child maltreatment e.g. inflicted burn injury

Reference: *Resources for the Optimal Care of the Injured Patient: 2014*

The full BRAC Regional Pediatric Plan can be viewed at [www.spems.org](http://www.spems.org)

## PEDIATRIC NON-TRAUMA TRIAGE/TRANSPORT DECISION SCHEME

### **Physiologic Criteria**

1. Depressed or deteriorating neurologic status (GCS≤14).
2. Severe respiratory distress and/or respiratory failure
3. Children requiring endotracheal intubation and/or ventilatory support.
4. Serious cardiac rhythm disturbances,
5. Status post cardiopulmonary arrest.
6. Heart failure.
7. Shock responding inadequately to fluid resuscitation.
8. Children requiring any one of the following:
  - a. Arterial pressure monitoring.
  - b. Central venous pressure or pulmonary artery monitoring.
  - c. Intracranial pressure monitoring.
  - d. Vasoactive medications.
  - e. Treatment for severe hypothermia or hyperthermia
  - f. Treatment for hepatic failure.
  - g. Treatment for renal failure, acute or chronic requiring immediate dialysis.

### **Other Criteria**

1. Near drowning with any history of loss of consciousness, unstable vital signs or respiratory problems.
2. Status epilepticus.
3. Potentially dangerous envenomation. Use of a snakebite protocol is encouraged
4. Potentially life threatening ingestion of, or exposure to, a toxic substance.
5. Severe electrolyte imbalances.
6. Severe metabolic disturbances.
7. Severe dehydration.
8. Potentially life-threatening infections, including sepsis.
9. Children requiring intensive care other than for close observation.
10. Any child who may benefit from consultation with, or transfer to, a Pediatric Intensive Care Unit
11. Suspicion for child maltreatment. e.g. found “down” for no apparent reason
12. Any condition that exceeds the capability of the facility

### **TRIAGE/TRANSPORT GUIDE:**

- Critically ill pediatric patients meeting the above criteria should be taken to the closest Children’s Hospital or hospital with Pediatric Critical Care capabilities
- If immediate interventions are required, transport to the closest appropriate acute care facility

The full BRAC Regional Pediatric Plan can be viewed at [www.spems.org](http://www.spems.org)

## **TRAUMA TRIAGE CRITERIA FOR EMS FACILITY BYPASS AND TRANSFER**

Patients who meet triage criteria for activation of the regional trauma system plan will be transported **DIRECTLY TO AN APPROPRIATE TRAUMA FACILITY**, rather than to the nearest hospital, **EXCEPT** under the following circumstances:

1. If an adequate airway cannot be established and/or maintained, or in cases of traumatic cardiac arrest, the patient should be taken to the **NEAREST ACUTE CARE FACILITY** for stabilization.
2. A Level III (Basic) facility may be appropriate for immediate evaluation and stabilization if the expected transport time to a Level I or Level II facility is excessive (>25 minutes).
3. Medical Control may order bypass in any of the above situations as appropriate, such as when a facility is unable to meet hospital resource criteria, or when the patient is in need of specialty care.
4. If expected transport time is excessive (>25 minutes), or if expected extrication time is lengthy (>15 minutes), activation of air transport resources should be considered.
5. If there is a question on whether or not to bypass a facility, on-line medical control should be consulted for the final decision.

### **CRITICAL PATIENTS**

Should be evaluated at a Level I or Level II Trauma Center. Patients who are physiologically and hemodynamically unstable whose injuries may include:

- Chest:
  - Major chest wall injury
  - Penetrating thoracic wound
- Pelvis:
  - Pelvic ring disruption with shock requiring >5 units transfusion
- Abdomen:
  - Blunt trauma with hypotension
  - Penetrating abdominal wound
- Multiple system trauma:
  - Chest injury with head injury
  - Abdominal or pelvic injury with head injury
- Specialized problems:
  - 2° or 3° burns >10% TBSA or involving airway
  - Barotrauma
  - Uncontrolled hemorrhage
  - 2<sup>nd</sup>/3<sup>rd</sup> trimester pregnancy

### **URGENT PATIENTS**

Should be evaluated at a Level I or Level II Trauma Center. Patients who are physiologically and hemodynamically unstable whose injuries may include:

- Central nervous system:
  - Prolonged loss of consciousness, posturing, paralysis or lateralizing sign
  - Spinal injuries with or without deficit
  - Glasgow Coma Score (GCS) <10
  - Open, penetrating or depressed skull fracture
  - CSF leak
  - GCS deterioration ≥2
- Thoracic:
  - Suspected cardiac/great vessel injury
  - Possible requirement for prolonged mechanical ventilation
  - Respiratory distress with rate >35 or <10
- Abdomen:
  - Blunt trauma without hypotension
- Multiple system trauma:
  - Severe facial injury with head injury
- Specialized problems:
  - Carbon monoxide poisoning
  - Severe maxillofacial or neck injuries
  - Revised Trauma Score (RTS) ≤11
  - Open fractures
- Secondary deterioration (Late Sequelae):
  - Patients requiring mechanical ventilation
  - Sepsis
  - Organ system(s) failure
  - Osteomyelitis

**Continued on Next Page**

## **TRAUMA TRIAGE CRITERIA FOR EMS FACILITY BYPASS AND TRANSFER**

### **(Continued)**

#### **CATEGORY III PATIENTS**

May be evaluated at a Level III Trauma Center.

Patients who are physiologically and hemodynamically stable whose injuries may include:

- Central nervous system:
  - Transient loss of consciousness
- Chest:
  - Injuries not producing respiratory distress
  - Rib fractures without flail segments
- Abdomen:
  - Blunt trauma without hypotension
- Specialized problems:
  - Closed fractures
  - Soft tissue injuries with controlled hemorrhage
  - 2<sup>nd</sup>/3<sup>rd</sup> trimester pregnancy

#### **CATEGORY IV PATIENTS**

May be evaluated at an appropriate trauma facility.

Patients who are continually normotensive and/or hemodynamically stable, but whose injuries may include:

- Specialized problems:
  - Closed fractures without neurological deficit
  - Moderate soft tissue injuries



## **GLASGOW COMA SCORE & REVISED TRAUMA SCORE**

To calculate the Revised Trauma Score:

1. Calculate the Glasgow Coma Score
2. Determine score components based on Glasgow Coma Score, Respiratory Rate, and Systolic Blood Pressure.
3. Add score components to determine REVISED TRAUMA SCORE.

### **GLASGOW COMA SCORE – Adult & Child**

#### MOTOR RESPONSE

- 1-No Response
- 2-Abnormal Extension
- 3-Abnormal Flexion
- 4-Withdrawal
- 5-Localizes Pain
- 6-Obeys Command

#### VERBAL RESPONSE

- 1-No Response
- 2-Incomprehensible Sounds
- 3-Inappropriate Words
- 4-Confused/Disoriented
- 5-Oriented

#### EYE RESPONSE

- 1-No Response
- 2-To Pain
- 3-To Verbal Command
- 4-Spontaneous

### **GLASGOW COMA SCORE – Child & Infant**

#### MOTOR RESPONSE

- 1-No Response
- 2-Abnormal Extension
- 3-Abnormal Flexion
- 4-Withdraws to Pain
- 5-Localizes Pain
- 6-Spontaneous

#### VERBAL RESPONSE

- 1-No Response
- 2-Moans, Grunts
- 3-Cries to Pain
- 4-Irritable Cries
- 5-Coos, Babbles

#### EYE RESPONSE

- 1-No Response
- 2-To Pain
- 3-To Speech
- 4-Spontaneous

### **REVISED TRAUMA SCORE – Adult & Child**

#### GLASGOW COMA SCORE

- 0=3
- 1=4-5
- 2=6-8
- 3=9-12
- 4=13-15

#### RESPIRATORY RATE

- 0=0
- 1=1-5
- 2=6-9
- 3=>29
- 4=10-29

#### SYSTOLIC BLOOD PRESSURE

- 0=0
- 1=1-49
- 2=50-75
- 3=76-89
- 4=>89

Score: 0-12 (decreasing with increasing injury severity) Patients with Revised Trauma Score of 11 or less require care at a Level I or Level II Trauma Center.

### **REVISED TRAUMA SCORE – Child & Infant**

Score	Weight	Airway	BP*	Level of Consciousness	Open Wound	Fractures
+2	>20kg (44lbs)	Normal	>90mmHg	Awake	None	None
+1	10-20kg (22-44lbs)	Maintainable with O <sub>2</sub>	50-90mmHg	Obtunded or any LOC	Minor	Closed Fracture
-1	<10kg (22lbs)	Intubated	<50mmHg	Comatose	Major or Penetrating	Open or Multiple

\*In the absence of a Blood Pressure reading, the BP may be estimated by the point at which a pulse is palpable as follows: +2 – Brachial, +1 – Groin, -1 – No Pulse Palpable

Score: 0-12 (decreasing with increasing injury severity) Patients with Revised Trauma Score of 11 or less require care at a Level I or Level II Trauma Center.

## **GUIDELINES FOR TRAUMA TEAM ACTIVATION**

### **Adult Patients (≥16 years of age)**

#### **Level I**

1. Unstable vital signs:
  - Confirmed Systolic BP <90mmHg at any time
  - Sustained Pulse <50 or >120
2. Respiratory compromise/obstruction and or intubation (pre-hospital)
  - Respiratory rate <10 or >35 per minute
  - Unsecured airway
  - Clinical symptoms of hypoxia
3. Glasgow Coma Scale ≤ 8, with mechanism related to trauma
4. Gun shot wound to abdomen, neck, or chest
5. RTS ≤10 on arrival
6. Severe multi-system trauma
7. Traumatic amputation of limb (with clinical instability or associated injuries)
8. Transfer patients requiring fluid, pressors, or blood to maintain vital signs
9. Burn injuries
  - 50% TBSA 2° & 3° burns (all ages)
  - High voltage electrical burns with cardiac arrhythmias or significant tissue damage,
  - Inhalation injuries with respiratory distress
10. EC physician discretion

#### **Level II**

1. Intubated patients transferred from another facility
2. Flail Chest
3. Trauma resulting in an open long bone fracture
4. Pelvic fracture
5. Penetrating injury to extremities and stab wounds to the trunk
6. MVC:
  - Un-restrained rollover
  - Ejection from the vehicle
7. MCC:
  - No Helmet
  - MCC traveling > 20 mph
8. Pedestrians struck by a vehicle moving >20mph
9. Glasgow Coma Scale >8 but <13, with mechanism related to trauma
10. Falls >20 feet
11. Burns:
  - > 10% TBSA 2° or 3° burn <10 or > 50 years of age
  - > 20% but < 50% TBSA 2° (all ages)
  - > 20% TBSA 3° (all ages)
  - All other electrical burns
  - All chemical burns
12. Symptomatic Carbon monoxide (CO) poisoning
13. EC physician discretion

#### **Level III**

1. Traumatically injured patients not otherwise defined
2. Clinically stable patients with injuries identified after EC work-up
3. Injured patients requiring subspecialty consult
4. Burns not otherwise defined

## **GUIDELINES FOR TRAUMA TEAM ACTIVATION (continued)**

### **Pediatric Patients (< 16 years of age)**

#### **Level I**

1. Unstable vital signs:

Age	Systolic BP	Pulse Rate	Respiratory Rate
Birth – 1 year	Capillary Refill >4 seconds	<80 or >180	>60
1 – 5 years	<70mmHg	<60 or >160	>50
6 – 14 years	<80mmHg	<50 or >140	>50

2. Respiratory compromise/obstruction and or intubation (pre-hospital)
  - Unsecured airway
  - Clinical symptoms of hypoxia
3. Glasgow Coma Scale  $\leq$  8, with mechanism related to trauma
4. Any Gun shot wound
5. Any penetrating trauma to the torso (chest or abdomen)
6. RTS  $\leq$  10 on arrival
7. Severe multi-system trauma
8. Traumatic amputation of limb (with clinical instability or associated injuries)
9. Transfer patients requiring fluid, pressors, or blood to maintain vital signs
10. Burn injuries
  - 50% TBSA 2° & 3° burns (all ages)
  - High voltage electrical burns with cardiac arrhythmias or significant tissue damage,
  - Inhalation injuries with respiratory distress
11. EC physician discretion

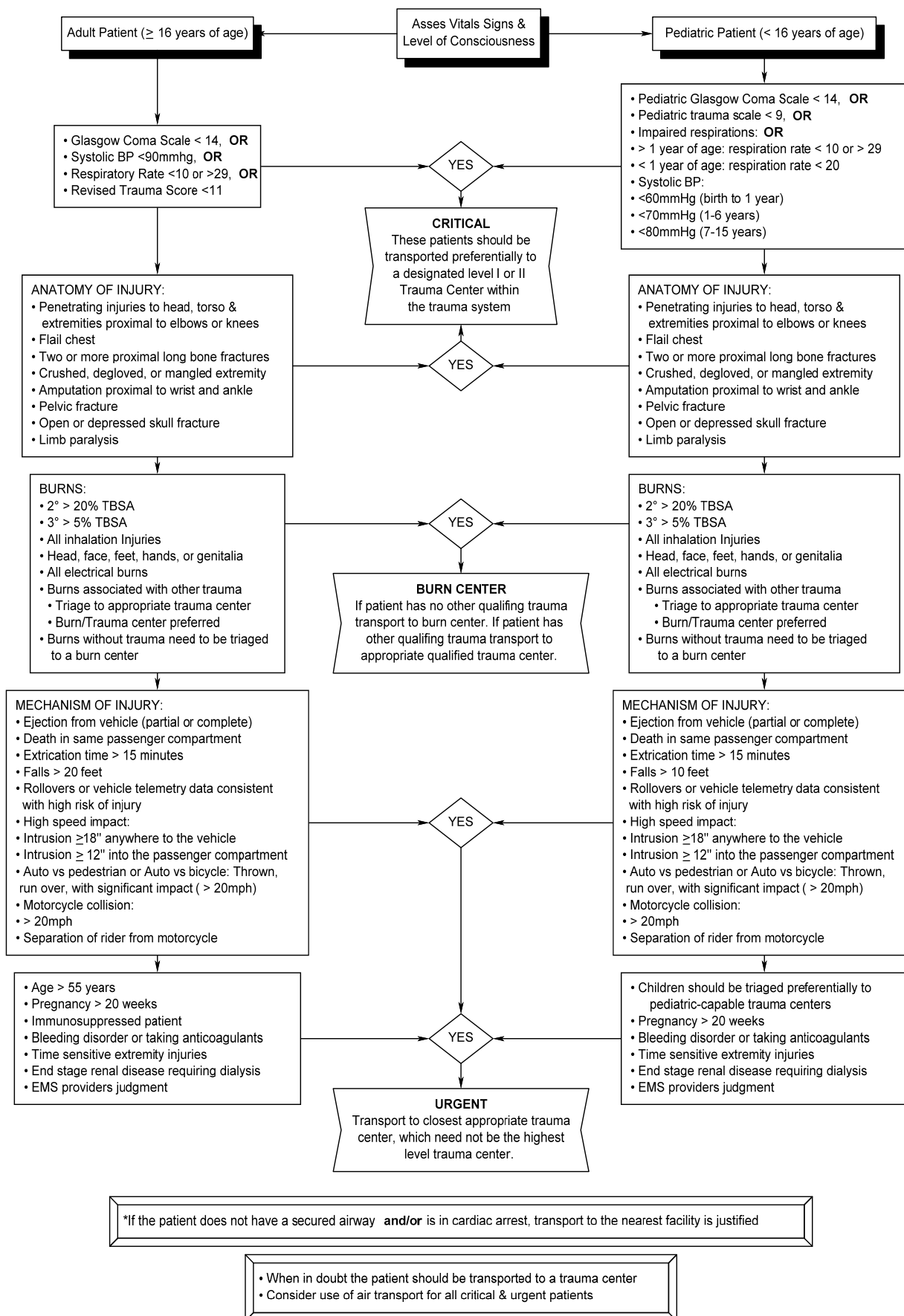
#### **Level II**

1. Intubated patients transferred from another facility
2. Flail Chest
3. Trauma resulting in an open long bone fracture
4. Pelvic fracture
5. Penetrating injury to extremities
6. MVC:
  - Un-restrained rollover
  - Ejection from the vehicle
7. MCC:
  - No Helmet
  - MCC traveling > 20 mph
8. Child struck or run over by a motor vehicle or trailer
9. Near drowning
10. Glasgow Coma Scale >8 but <13, with mechanism related to trauma
11. Falls >20 feet
12. Burns:
  - > 10% TBSA 2° or 3° burn <10 or > 50 years of age
  - > 20% but < 50% TBSA 2° (all ages)
  - >20% TBSA 3° (all ages)
  - All other electrical burns
  - All chemical burns
13. Symptomatic Carbon monoxide (CO) poisoning
14. EC physician discretion

#### **Level III**

1. Traumatically injured patients not otherwise defined
2. Clinically stable patients with injuries identified after EC work-up
3. Injured patients requiring subspecialty consult
4. Burns not otherwise defined

# **TRIAGE/TRANSFER DECISION SCHEME PRE-HOSPITAL \***



## **CRITERIA FOR THE CONSIDERATION OF AIR MEDICAL TRANSPORT FOR TRAUMA PATIENTS**

- Lengthy extrication of the patient at the scene and the severity of the patient's injuries require delivery of a critical care team to the scene.
- One or more of the following mechanisms of injury with a motor vehicle collision present:
  - There had been structural intrusion into the patient's space in the vehicle;
  - The patient was ejected from the vehicle;
  - Another person in the same vehicle died;
  - The patient was a pedestrian struck by a vehicle traveling more than 20mph;
  - The patient was not wearing a safety belt in a car which was overturned;
  - The patient was thrown from a motorcycle traveling more than 20mph.
- The front bumper of the vehicle was displaced to the rear by more than 30 inches, or the front axle was displaced to the rear.
- The patient fell from a height of greater than 20 feet.
- The patient experienced a penetrating injury between the mid-thigh and the head.
- The patient experienced an amputation, or near amputation, and required timely evaluation for possible reimplantation.
- The patient experienced a scalping or degloving injury.
- The patient experienced a severe hemorrhage. Included are those patients with a systolic blood pressure of less than 90mmHg after initial volume resuscitation and those requiring ongoing blood transfusions to maintain a stable blood pressure.
- The patient experienced 2°/3° degree burns of the skin greater than 15 percent of the body surface, or major burns of the face, hands, feet, or perineum, or associated with an airway or inhalation injury.
- The patient experienced, or had great potential to experience, injury to the spinal cord, spinal column, or neurological deficit.
- The patient suffered injuries to the face or neck which might result in an unstable or potentially unstable airway and might require invasive procedures (such as endotracheal or nasotracheal intubation, tracheostomy cricothyrotomy) to stabilize the airway.
- The patient had a score from an objective ranking system for trauma (such as the Trauma Score, Revised Trauma Score, CRAMS, Glasgow Coma Scale, etc.) at the scene or at the referring hospital's emergency department which indicated a severe injury.
- The patient is a child less than five years of age with multiple traumatic injuries.
- The patient is greater than 55 years of age and has multiple traumatic injuries, whether with or without preexisting illness, such as diabetes mellitus, coronary artery disease, chronic obstructive lung disease, or chronic renal failure.
- The patient is an adult with respiratory rate of less than 10 or greater than 35 breaths per minute, or a heart rate of less than 60 or greater than 120 beats per minute.

Source: *FLIGHT NURSING: PRACTICE AND PRINCIPLES*, 1991

## **SOUTH PLAINS EMS EQUIPMENT LIST**

### **BLS UNITS**

- 1- SAED with 2 sets of defibrillator pads/paddles to accommodate adult patients and 2 sets of defibrillator pads/paddles to accommodate pediatric patients. However, if the BLS unit already stocks a monitor/defibrillator/SAED another SAED is not required. (If the SAED stocked does not support pediatric defibrillation a variance must be filled out through the SPEMS office and then pediatric defibrillation pads are not mandatory. The Variance must be signed by the Medical Director and a copy placed in each set of protocols). A charged spare battery must accompany the unit as well as the one powering the unit. However, an alternative power source may take the place of the spare battery. (SAED with sealed 5 year batteries need not to have a spare)
- 1- Portable suction (no foot pump or bulb type) with charged spare battery if the unit is battery powered. However, an alternative power source may take the place of the spare battery.
- 1- Vehicle mounted suction
- 3ea-suction tubing, rigid suction tips, and suction canisters
- 1ea- Bag valve mask (adult and child sizes)
- 1- ResQPOD (Optional)
- 1ea- Nasal airway (20fr through 36fr)
- 1ea- Oral airway (#2 through #6)
- 3ea- Adult nonrebreather masks, pediatric nonrebreather masks, adult handheld nebulizers or nebulizer masks, adult nasal cannulas, and oxygen tubings. **Note:** if nonrebreather masks or nebulizers contain removable oxygen tubing, then the requirement for oxygen tubing is met
- 2- Portable oxygen cylinders
- 1- Portable oxygen regulator
- 1- Piped-in oxygen with regulator (M or H cylinders)
- 1- Pulse Oximeter device with charged spare batteries
- 2ea- C-collars (to accommodate adult, child, and infant)
- 1- Extremity splint for all extremities
- 1ea- Traction splint (adult & child size)
- 2- Full spinal immobilization devices with straps
- 1- Short board or KED-type extrication device (does not have to be a KED brand)
- 1ea- Blood pressure cuffs (adult, child, & infant size)
- 1- Stethoscope
- 1- Glucometer
- 2- Appropriate glucometer test strips
- 2- Lancet/needle
- 3ea-1cc syringes, 3cc syringes, and 10cc syringes
- 1- Nasal-Mucosal Atomization Device (MAD)
- 3- Hypodermic needles (if IM Epinephrine is stocked) (sizes to be determined by EMS provider's needs)
- 2- Multi trauma dressings
- 1- QuickClot (must be the heat free formula)
- 1- Commercial Tourniquet Device
- 24- Sterile gauze pads
- 5- Soft roller adhering bandage

- 2- Rolls of adhesive tape
- 2- Triangular bandages
- 2- Sterile burn sheets
- 3- Vaseline gauze
- 10- Alcohol preps
- 1- Bandage shears
- 1- Pen light
- 1- Multilevel stretcher with all patient securing straps as recommended by the stretcher's manufacturer and at least 2 sets of clean sheets and blankets
- 1- Copy of current, signed SPEMS treatment protocols for the Basic EMT
- 1- Mast pants (Optional)
- 1ea- King LT-D or LTS-D airway sizes 2 & 2.5
- 1ea- King LTS-D airway sizes 3, 4, & 5
- 1- Puncture resistant sharps container
- 1- Emergency Response Guidebook, most current edition
- 1set- Emergency warning devices (at least 3 emergency triangles)
- 10- Protective, non-porous gloves
- 2- Medical eye protection
- 5- N-95 or greater protective Masks
- 2- Medical protective gowns or equivalent
- 2- Personal cleansing supplies
- 5- Biohazard bags
- 1- Fire extinguisher
- 1- Working flashlight
- 1- No smoking signs in the cab and patient compartment

### **BLS NEONATAL EQUIPMENT**

- 1- Sealed OB kit with non-porous infant insulator, umbilical cord clamps and bulb aspirator
- 1- Broselow Pediatric Emergency Tape or equivalent
- 1- Infant Bag valve mask (BVM)
- 1- #1 Oral airway

**Note:** much of the other equipment, supplies, and drugs listed in other sections of the Equipment List are also designed to be utilized for neonatal care and this section does not exclude the use of any equipment, supplies, or drugs for neonatal patients as allowed by these treatment Protocols.

### **BLS MEDICATIONS**

- 1- Activated Charcoal, 50g
- 20- Acetaminophen, 500mg tablets
- 10- Aspirin, 325mg tablets
- 5- Duo-Neb: 0.5mg Ipratropium Bromide and 3mg of Albuterol Sulfate in 3ml
- 1- Epinephrine Auto-Injector (Adult) 0.3mg/unit
- 1- Epinephrine Auto-Injector (Pediatric) 0.15mg/unit
- 2- Epinephrine (1:1,000) 1mg/1cc (if stocked at the BLS level, appropriate training required)
- 20- Ibuprofen, 200mg tablets
- 1- Glucagon 1mg/unit (optional)

- 2- Levalbuterol (Xopenex) 1.25mg/3ml (optional)
- 1- Liquid Children's Motrin 100mg/5ml
- 2- Naloxone (Narcan) 2mg/2cc
- 1- bottle- Nitroglycerin 0.4mg tablet or spray
- 1- Oral Glucose 15g Tube
- Oxygen

Services under SPEMS medical direction may carry Epinephrine Auto-Injectors to accommodate both adult and pediatric patients **AND/OR** Epinephrine (1:1,000) 1mg/1cc. However, Epinephrine (1:1,000) can only be carried if all active ECA's, EMT's and Intermediates are appropriately trained on IM injections (and the standing Allergic Reaction Protocol). This training must be documented including location, date, and time. Documentation must be readily accessible upon inspection.

- If you have medical direction for any medications or invasive equipment not listed here, you must attach written authorization for the use of such. This document must be signed by the SPEMS Medical Director. However, non-invasive equipment (example: Vacu-Mattress, thermometer, etc does not require written authorization by medical direction or additions to the equipment list.
- All of the services under my medical direction must carry the minimum amount of equipment and medications listed above, and may carry more according to their run demand and patient care needs.



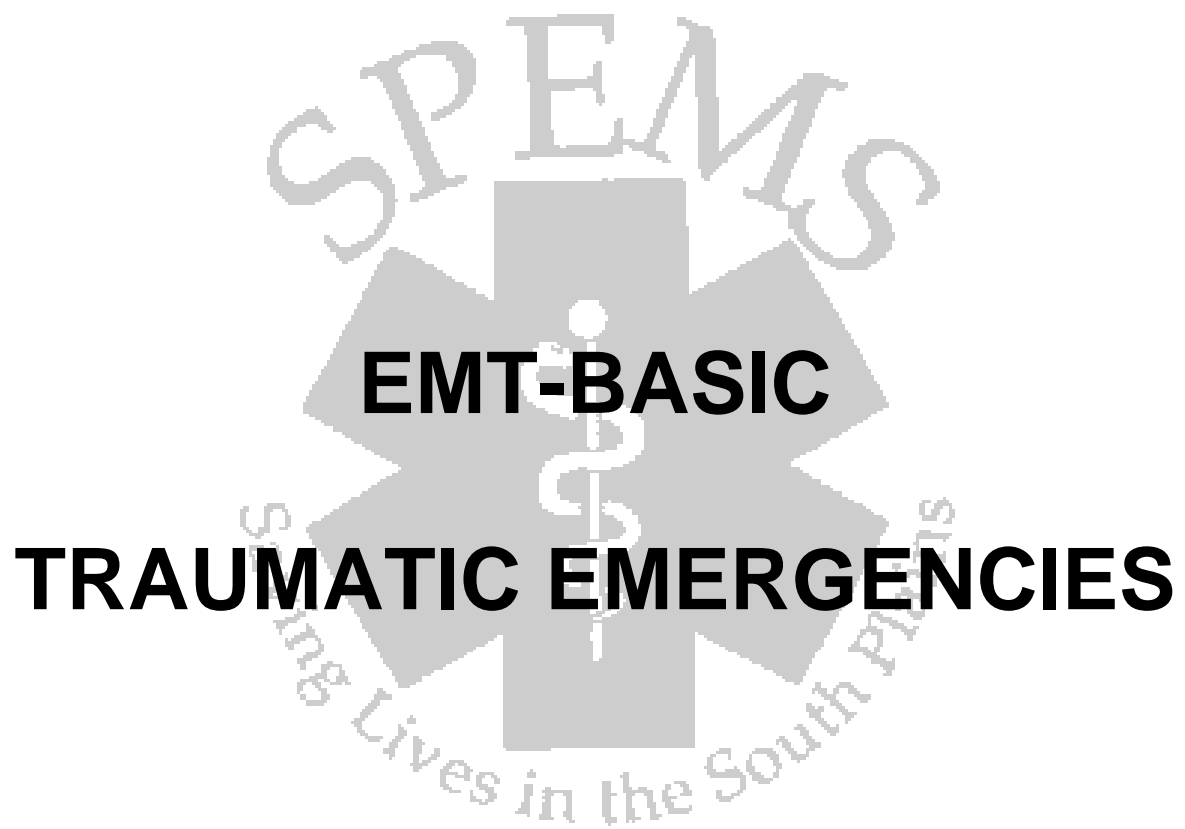
SPEMS Medical Director

Date 03/01/2018

Service Director

Date 03/01/2018

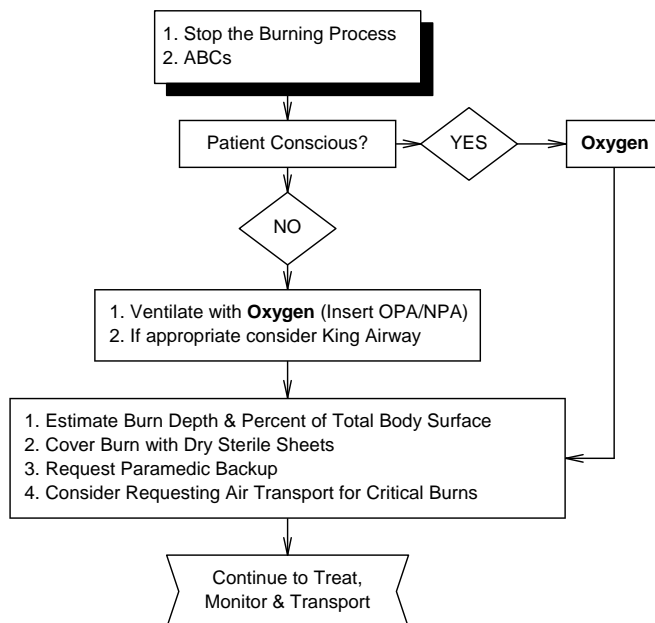
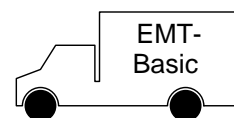




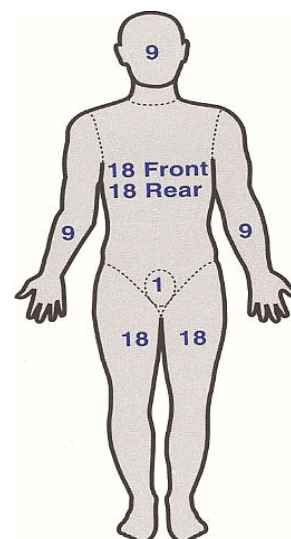
**EMT-BASIC**

**TRAUMATIC EMERGENCIES**

# BURNS (Moderate to Critical)



**The Rule of 9's**  
(count only 2° & 3° burns)

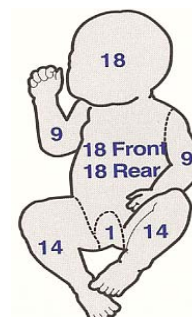


**CRITICAL BURNS**

1. All inhalation injuries
2. 2° > 20% TBSA
3. 3° > 5% TBSA
4. Head, face, feet, hands, or genitalia
5. All electrical injuries
6. Burns associated with other trauma

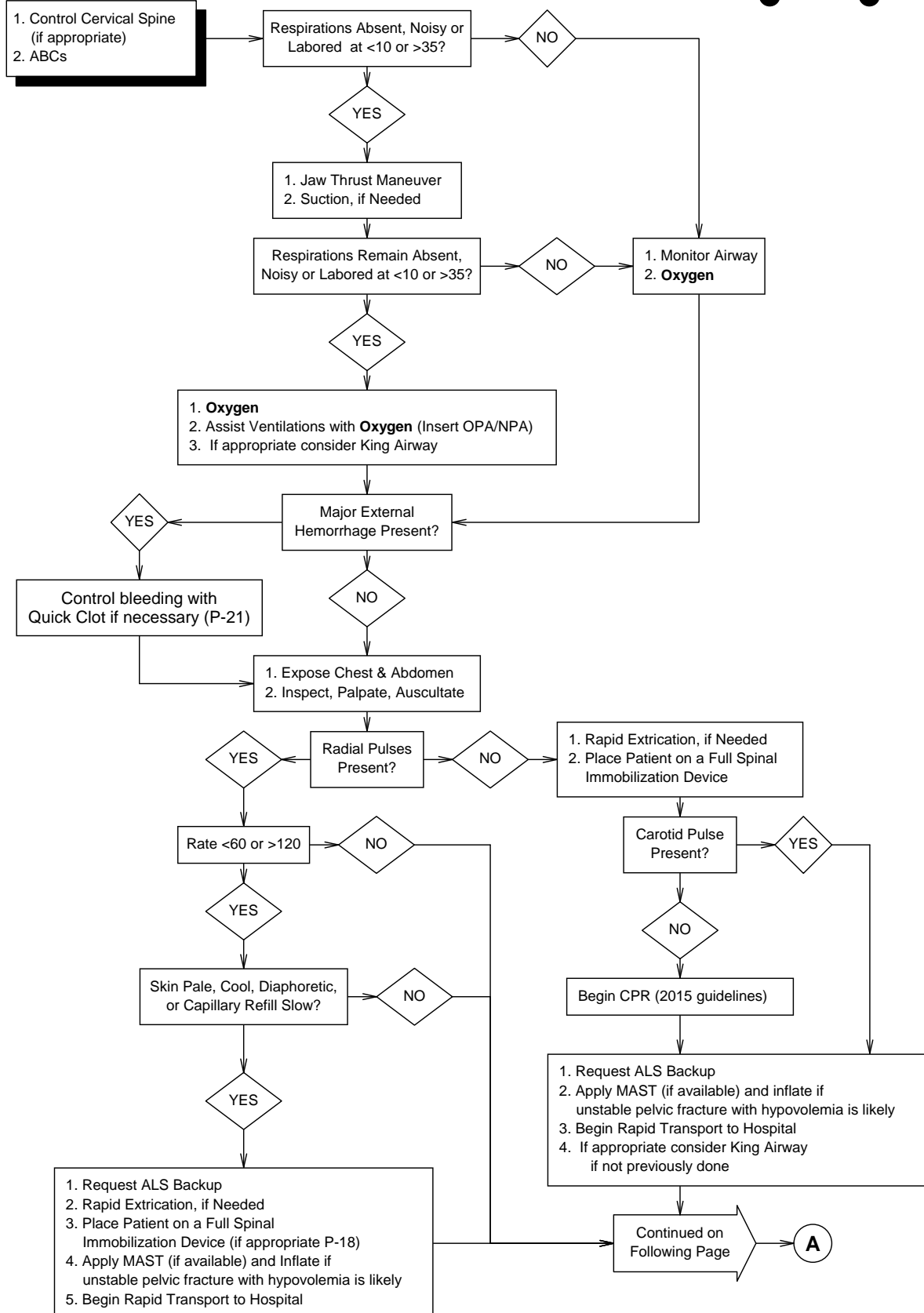
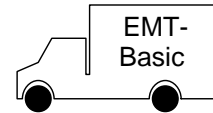
**MODERATE BURNS**

1. All burns not meeting other critical criteria
2. Minor burns in any patient with significant underlying medical conditions

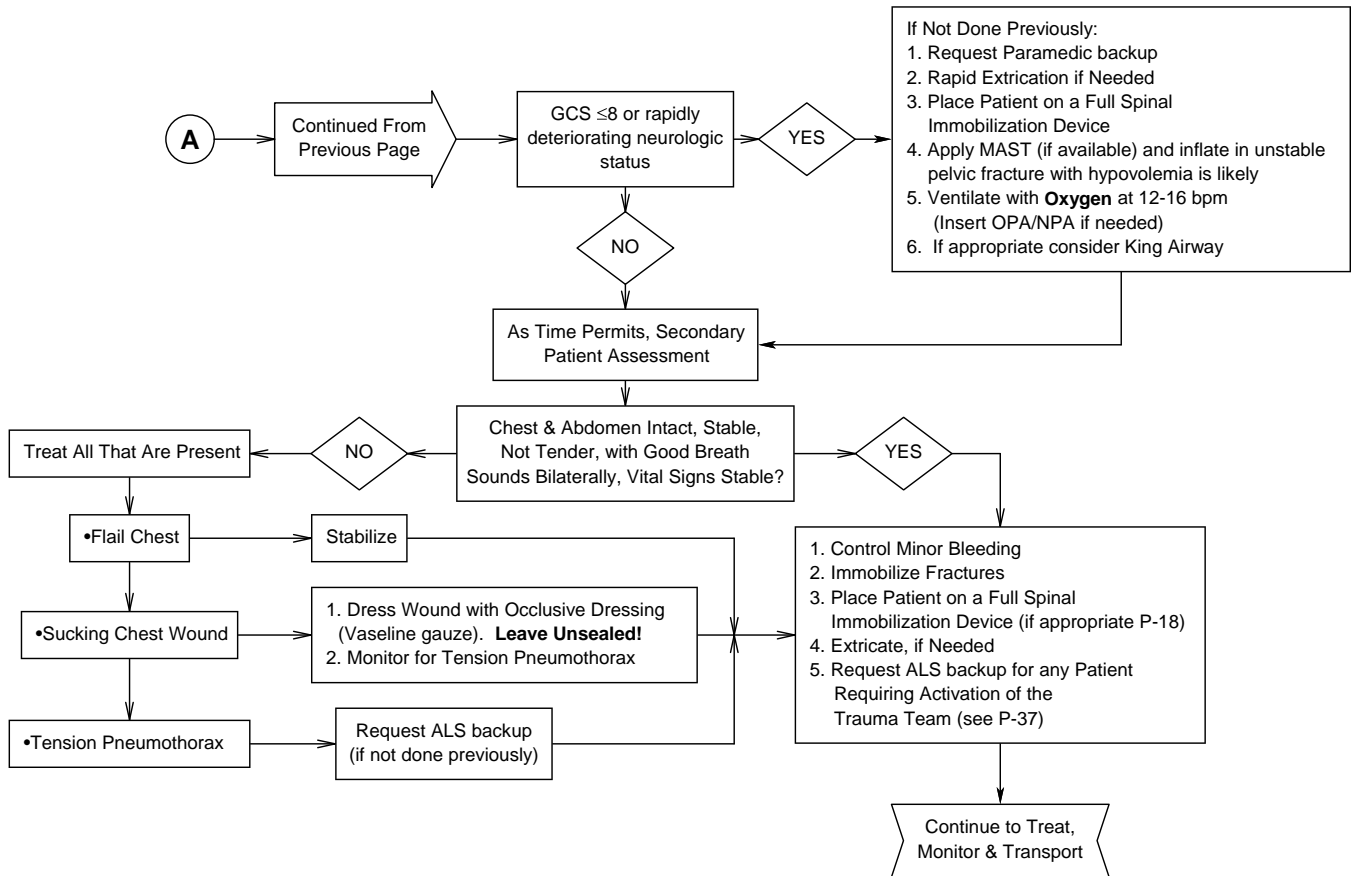
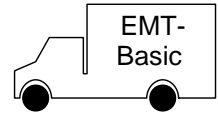


For pediatric burns  
Refer to the Pediatric Burn  
Triage/Transport Scheme  
(P-35)

# TRAUMA

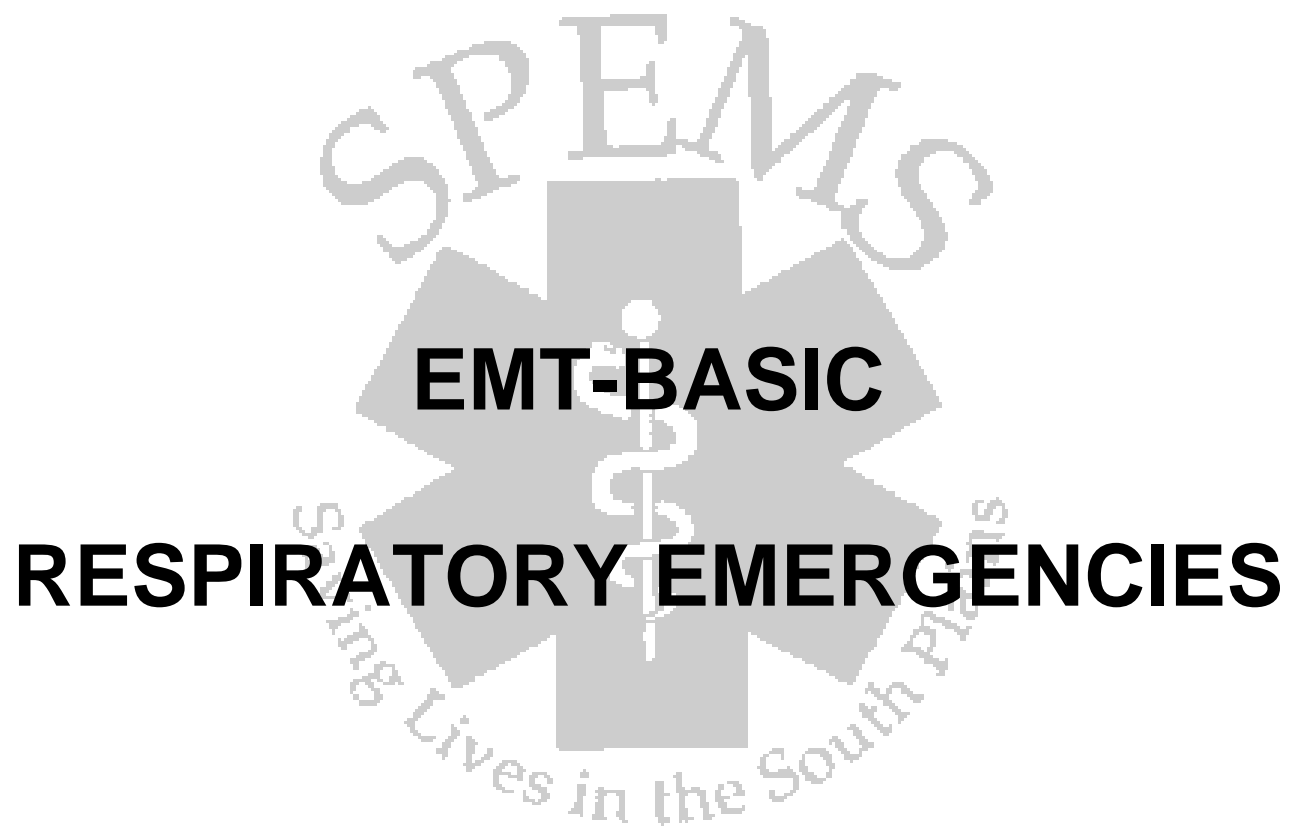


# TRAUMA (Continued)



For pediatric trauma  
Refer to the Pediatric Trauma  
Triage/Transport Scheme  
(P-34)

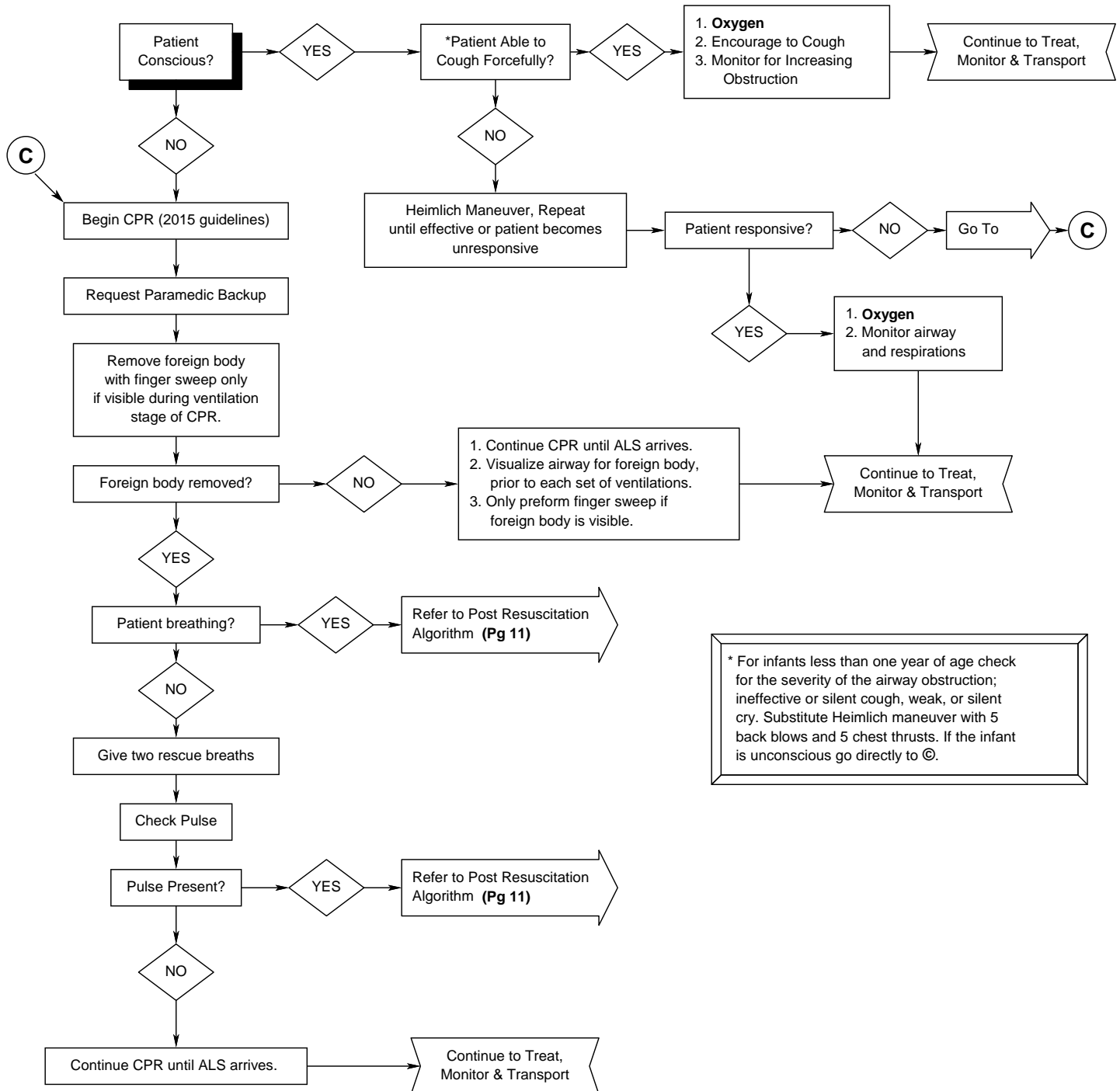
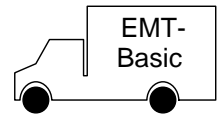
- Time on scene with Trauma patients should not exceed 10 minutes unless extrication is required. If time on scene exceeds 10 minutes, reasons for delay should be documented.
- If extrication >15 minutes is required, or if time to definitive care is likely to exceed 25 minutes, consider air transport.



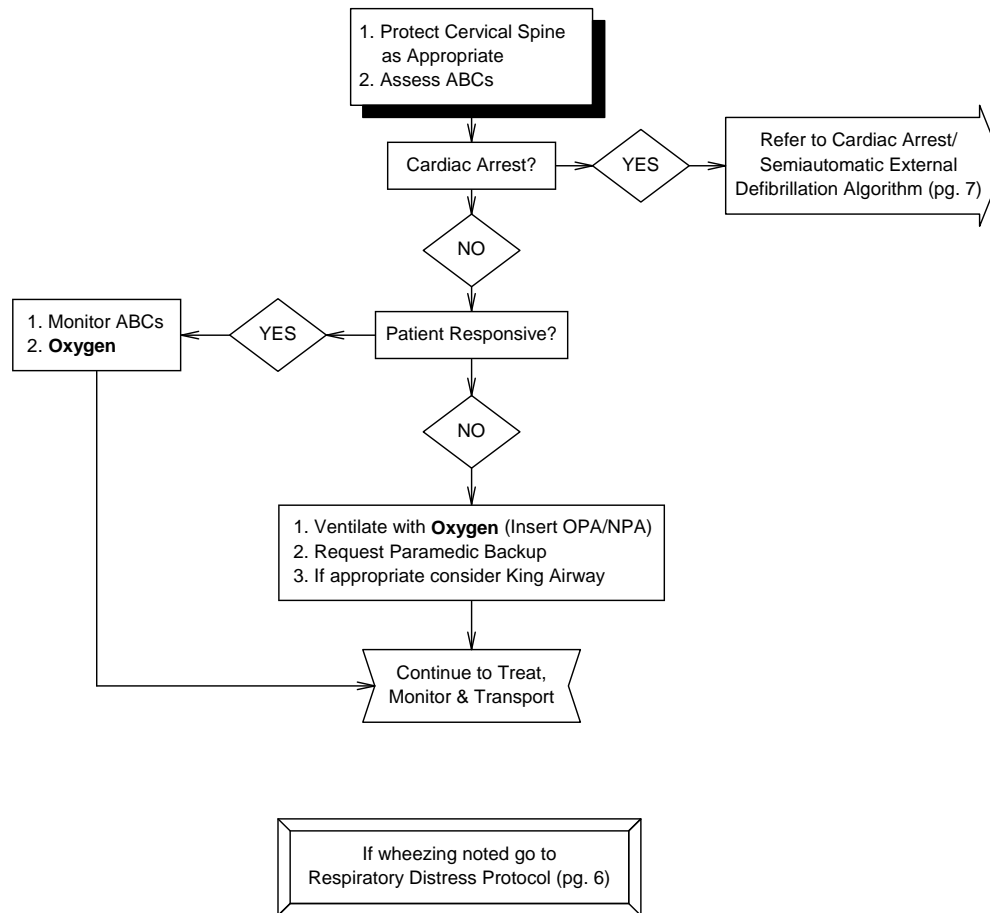
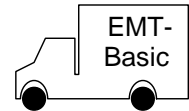
**EMT-BASIC**

**RESPIRATORY EMERGENCIES**

# FOREIGN BODY AIRWAY OBSTRUCTION

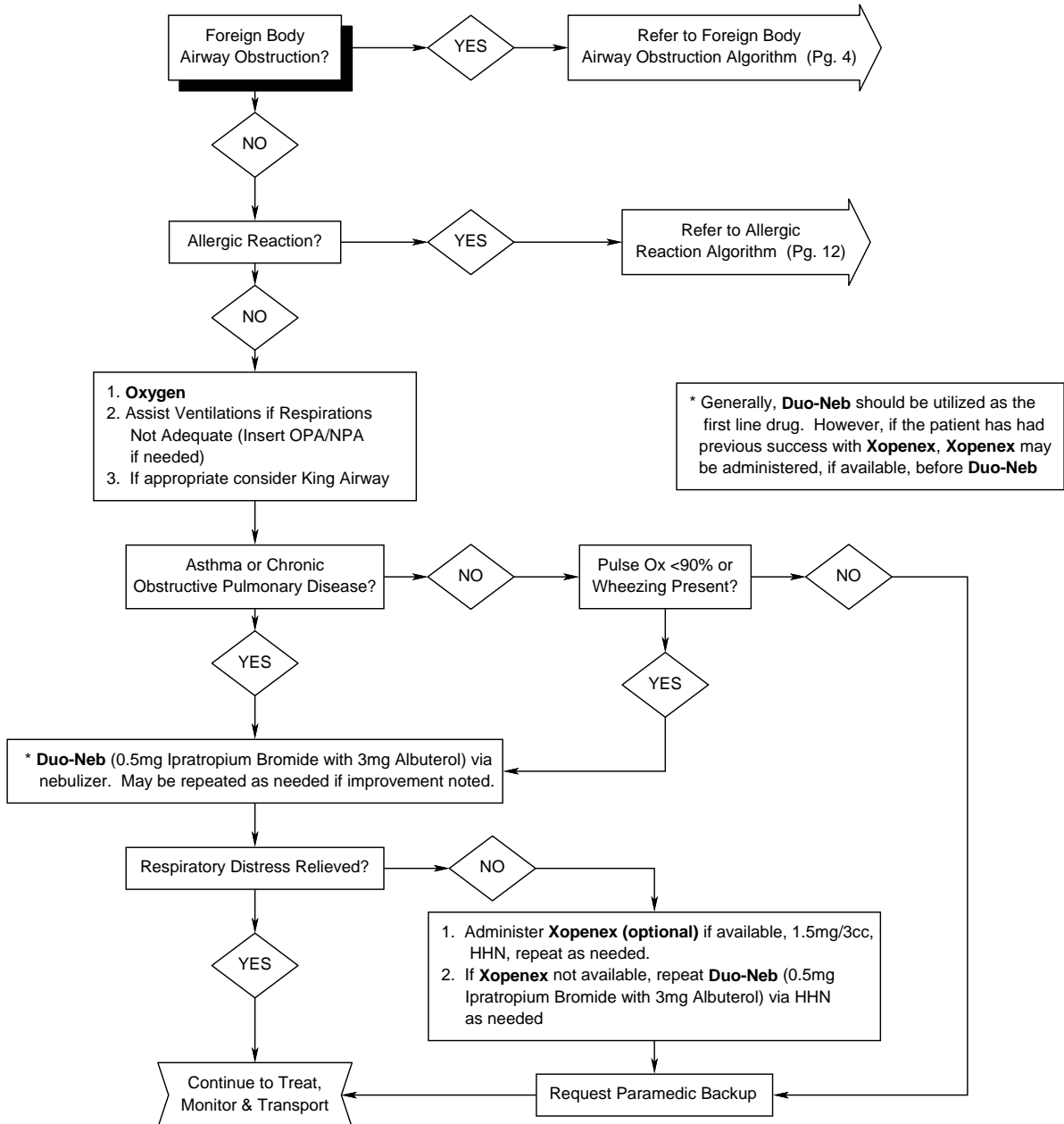
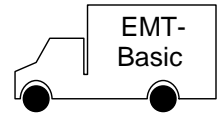


# NEAR DROWNING



- Consider spinal cord trauma, air embolism, hypothermia, alcohol or drug ingestion, hypoglycemia, seizures and myocardial infarction as accompanying problems or underlying causes.
- All near drowning patients should be transported for observation & evaluation, no matter how mild the episode appears to be.
- Air transport should be considered to expedite the patient's arrival at the hospital.

# RESPIRATORY DISTRESS



\* Generally, **Duo-Neb** should be utilized as the first line drug. However, if the patient has had previous success with **Xopenex**, **Xopenex** may be administered, if available, before **Duo-Neb**

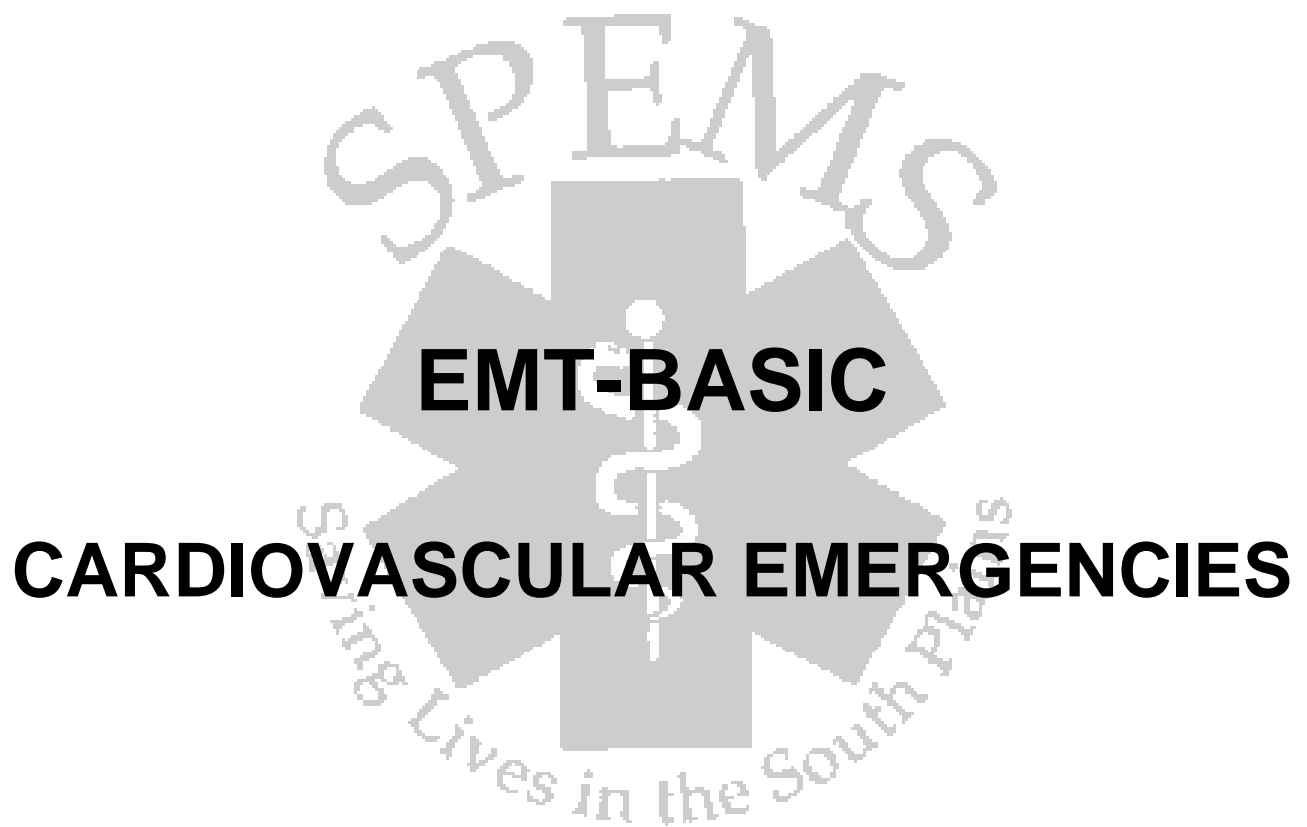
**PEDIATRIC DOSE**

- Duo-Neb** (0.5mg Ipratropium Bromide with 3mg Albuterol), by nebulizer, dose and frequency same as adult
- Xopenex (optional)** 1.25mg by Nebulizer, dose and frequency same as adult

If serious respiratory distress with wheezing **AND** O2 sats <90% with **oxygen** contact Paramedic backup.

IF PATIENT'S CONDITION IS UNSTABLE OR DETERIORATES DURING TRANSPORT, REQUEST ASSISTANCE FROM RECEIVING AREA'S ADVANCED LIFE SUPPORT SERVICE.

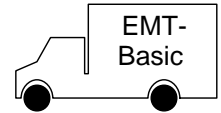




**EMT-BASIC**

**CARDIOVASCULAR EMERGENCIES**

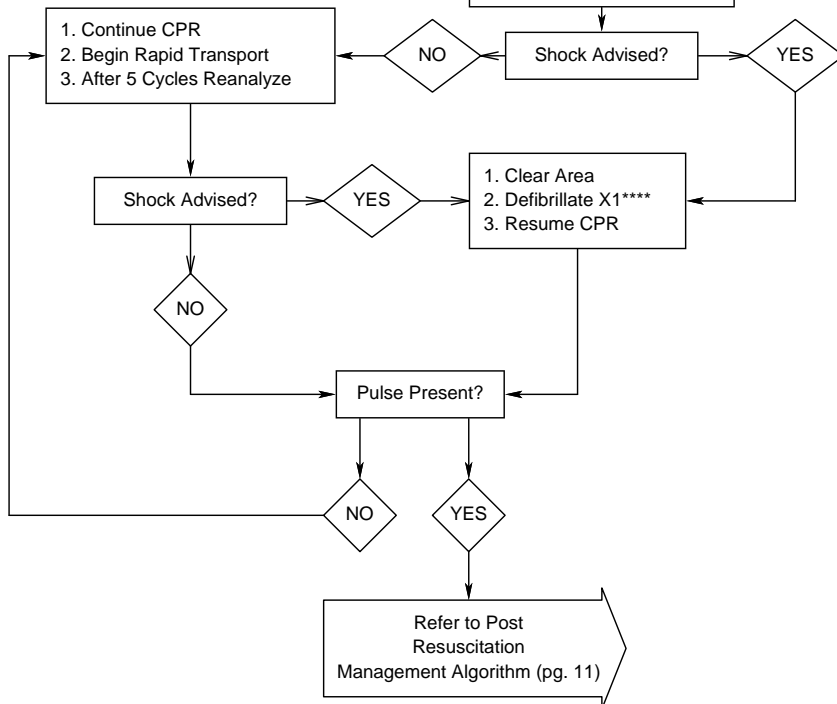
# CARDIAC ARREST/SEMI-AUTOMATIC EXTERNAL DEFIBRILLATION\*



1. CPR (2015 guidelines)\*\*
2. Ventilate with **Oxygen** (Insert OPA/NPA)
3. Consider King Airway
4. Use ResQPOD if the patient has reached puberty (Optional)
5. Request Paramedic Backup

Do Not defibrillate a hypothermic patient more than once

1. Attach SAED\*\*\*
2. If arrest unwitnessed preform 5 cycles of CPR
3. Clear Area
4. Analyze Rhythm



\* In all witnessed or known short duration (<4-5 minutes) cardiac arrest where defibrillation is indicated immediate defibrillation should be performed.

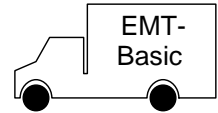
In all other arrest situations where defibrillation is indicated the provider should perform 5 cycles (2 minutes) of CPR prior to defibrillation.

\*\*\* **PEDIATRIC**  
Use pediatric pads on patients < 8 yoa. If pediatric pads not available use adult pads according to manufacturers recommendation and AHA 2015 guidelines.

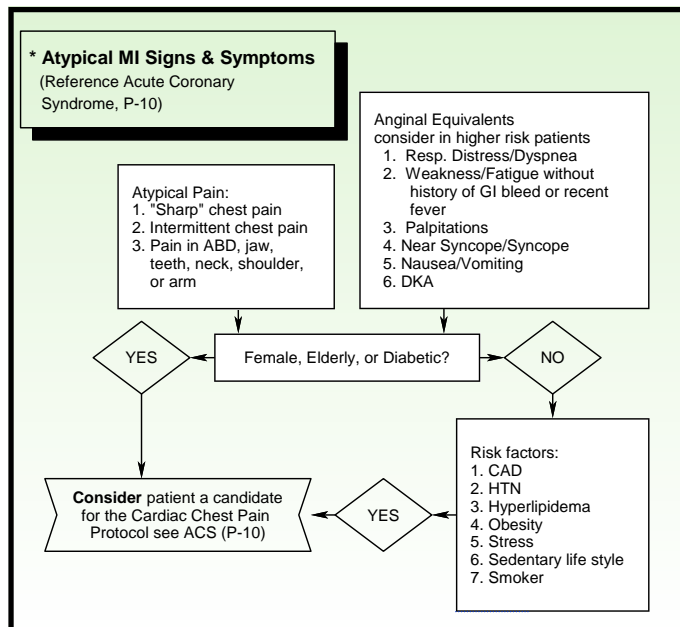
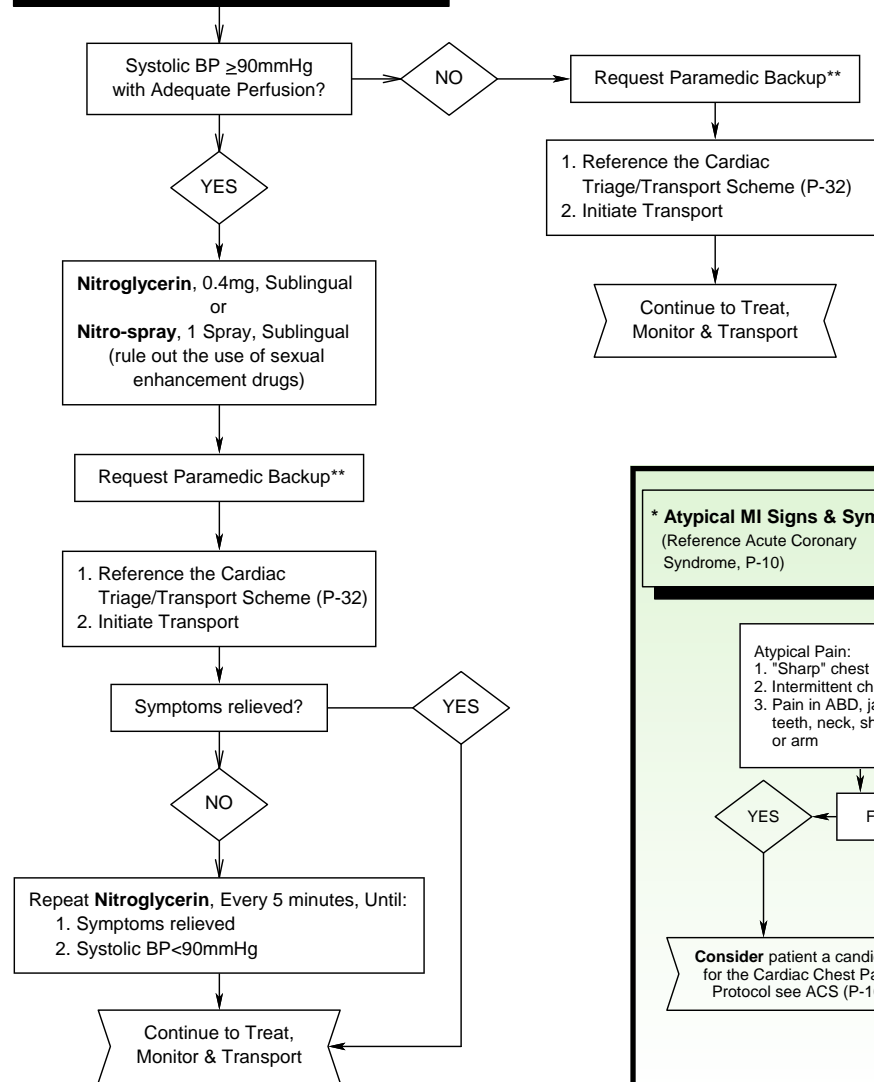
\*\*\*\* If AED is Not Updated to the AHA 2015 Guidelines. Follow Manufacturers Recommendations

\*\* Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2015 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions. Continue CPR while defibrillator is charging. Providers must organize care to ensure that chest compressions, initial and subsequent defibrillations are not delayed due to the placement of a King Airway.

# \*CARDIAC CHEST PAIN or SUSPECTED MYOCARDIAL INFARCTION



1. **Oxygen** if O2 sat is <94% or signs of hypoxia  
Maintain O2 sat between 94 and 99%
2. **Aspirin**, 325mg, PO



\* Following the request of Paramedic backup the EMT-Basic may place the patient on the cardiac monitor/12lead if available. EKGs may then be transmitted to the receiving hospital if capable. Under no circumstances shall an EMT-B use monitor placement for interpretation/treatment. Appropriate training and testing must be documented prior to the placement of the cardiac monitor/12 lead.

# LVAD

EMT-  
Basic

## History

- End stage renal failure
- Patient has surgically-implanted pump that assists the action of one or both ventricles
- Patient may or may not be on a heart transplant list

## Signs and Symptoms

- The flow through most LVADs is not pulsatile, therefore, THE PATIENT MAY NOT HAVE A PULSE AT BASELINE. For this reason, pulse oximetry readings may also be inaccurate
- Altered mental status may be the only indicator of a problem
- Consider both LVAD-related and non-LVAD problems.

## Differential Diagnosis

- Stroke
- Cardiac Arrest
- Dysrhythmia different from patient's baseline
- Infection
- Bleeding (VAD patients will be on anti-coagulants)
- Dehydration
- Cardiac tamponade
- Device problem such as low battery or a disconnected cable

**ALWAYS talk to the family/caregiver since they will have specialized training and knowledge about the device. An appropriate knowledgeable/trained family member should accompany the patient to the hospital. CALL THE VAD COORDINATOR EARLY per patient/family instructions or as listed on the device. The VAD coordinators are available 24/7 and should be an integral part of the treatment**

1. Request Paramedic Backup
2. Auscultate the left upper abdominal quadrant with a stethoscope. If there is a humming sound, the pump is functioning. \*
3. **Oxygen**
4. Assist Ventilations if respirations are inadequate (Insert OPA/NPA if needed)

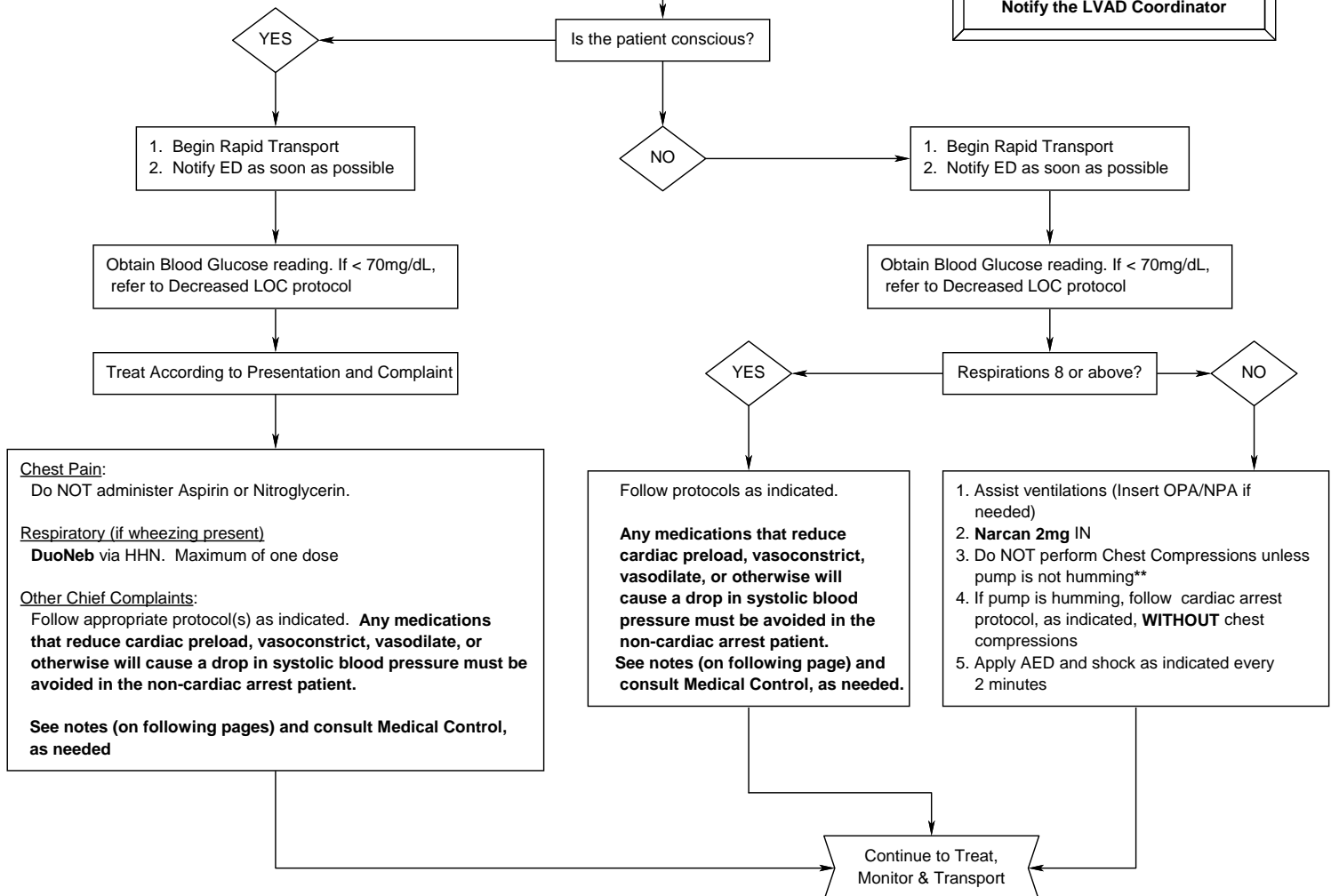
**\*If the LVAD pump is not functioning, refer to the caregiver and operation book.**

**Spare battery should be on-site**

**Perform Chest Compressions ONLY if LVAD is NOT humming and the patient is unresponsive**

**\*\*Limit compression depth to no greater than 2 inches to prevent LVAD dislodgement**

**Notify the LVAD Coordinator**



## Chest Pain:

Do NOT administer Aspirin or Nitroglycerin.

## Respiratory (if wheezing present)

**DuoNeb** via HHN. Maximum of one dose

## Other Chief Complaints:

Follow appropriate protocol(s) as indicated. **Any medications that reduce cardiac preload, vasoconstrict, vasodilate, or otherwise will cause a drop in systolic blood pressure must be avoided in the non-cardiac arrest patient.**

**See notes (on following pages) and consult Medical Control, as needed**

See Additional Information on Next Page

LVAD stands for Left Ventricular Assist Device. It is an electromechanical device for assisting cardiac circulation that is designed to assist a failing heart. Patients may or may not be on a heart transplant list. These patients will most likely have an internal pacemaker and an internal defibrillation device.

The LVAD is implanted into the left upper abdominal quadrant and produces a humming sound when functioning. It is critical that the pump be auscultated to assure proper functioning. In the event of arrest, the LVAD device should produce sufficient blood flow without the performance of chest compressions. Chest compressions can cause dislodgement of the device and could result in death from blood loss.

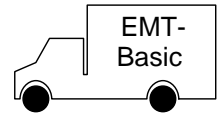
## Key Notes for caring for LVAD Patients:

- Always talk to family/caregivers since they will have specialized training and knowledge about the device. An appropriate knowledgeable/trained family member should accompany the patient to the hospital.
- CALL THE VAD COORDINATOR EARLY per patient/family instructions or as listed on the device. The VAD coordinators are available 24/7 and should be an integral part of the treatment plan.
- Questions to ask: Does the patient have a DNR? Can the patient be cardioverted or defibrillated if needed?
- Chest compressions should NOT be given unless the pump has stopped working (not humming).
- Common complication in LVAD patients include stroke and TIA (incidence up to 25%), bleeding, dysrhythmias, and infection.
- The cardiac monitor and 12-Lead ECG are not affected by the LVAD and will provide important information.
- LVAD patients are pre-load dependent. Consider that a FLUID BOLUS can often reverse hypoperfusion.
- Transport patients with ALL device equipment including any instructions, hand pumps, backup batteries, primary and secondary controllers, as well as knowledgeable family members or caregivers. Most patients will have a "Go Bag" available. A charged spare battery should be part of the "Go Bag".
- Remember that it is unlikely an auscultated or palpated blood pressure can be measured. Pulse oximetry may be inaccurate.
- If patient is unconscious with no respiratory effort and the ECG shows V-Fib or V-Tach, defibrillation is necessary
- CPAP CANNOT be used on patients with LVAD

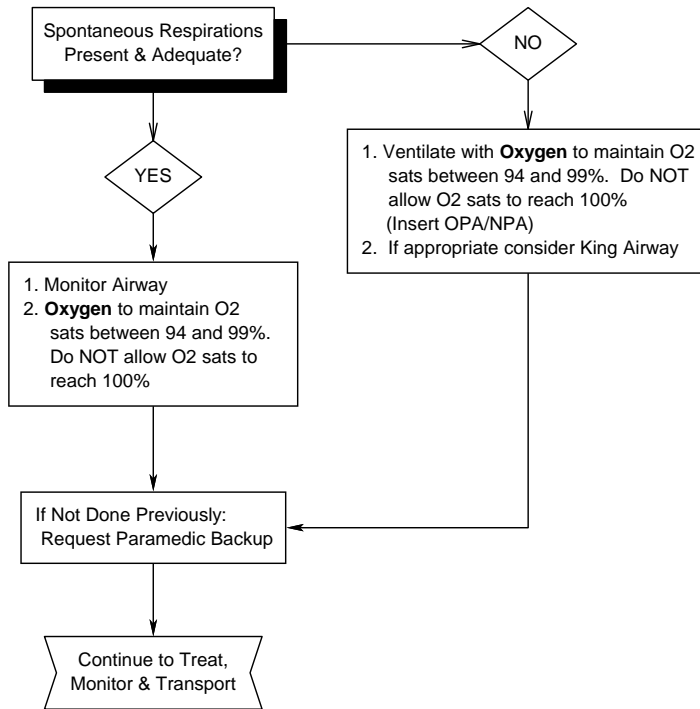
## Prehospital Medications to Avoid with LVAD Patients:

<b>Anti-arrhythmics</b> May be used only if patient is in cardiac arrest	
Amiodarone	Amiodarone and Lidocaine may be used in cardiac arrest. Calcium channel blockers should not be administered due to the negative inotropic affect and potential to develop hypotension.
Diltiazem (Cardizem) and other calcium channel blockers	
Lidocaine	
<b>Anti-Coagulants/ Anti-platelet properties</b>	
Aspirin	Patient is already on anti-coagulants and adding aspirin may increase bleeding risks or delay healing
<b>Anti-hypertensives</b>	
Labetalol (Normodyne)	Peripheral vasodilation or significant reduction in blood pressure may decrease preload. The LVAD patient is dependent on preload for optimal pump function.
<b>Benzodiazepines</b>	
Diazepam (Valium)	May result in peripheral vasodilation that can reduce preload to the heart. For continuous seizures, use lowest effective dose.
Lorazepam (Ativan)	
Midazolam (Versed)	
<b>Elementals</b>	
Magnesium Sulfate	Risk for developing hypotension and dysrhythmias
<b>Sympathomimetic Medications</b> May be used only if patient is in cardiac arrest	
Epinephrine 1:10,000	Drugs that stimulate the sympathetic response may increase myocardial oxygen demand Increases myocardial oxygen demands
Dopamine	
Repeated doses of nebulized beta-agonists	
<b>Vasodilatory Medications</b>	
Nitroglycerin	Peripheral vasodilation will decrease preload. The LVAD patient is dependent on preload
Morphine	

# \*POST RESUSCITATION MANAGEMENT



\*Remove ResQPOD if previously used.



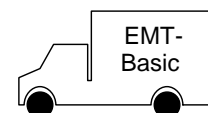
If patient's condition changes, refer to appropriate algorithm.



**EMT-BASIC**

**OTHER MEDICAL  
EMERGENCIES**

# ALLERGIC REACTION\*



\*Request Paramedic Backup For All Pt's With Bee Stings

1. ABCs
2. **Oxygen**
3. Assist Respirations if inadequate (Insert OPA/NPA if needed)
4. If appropriate consider King Airway

Systolic BP >90mmHg with Adequate Perfusion?

NO

Request Paramedic Backup

**Epinephrine** (1:1,000) 0.3mg, IM, Using Auto-Injector or administer 0.3mg (0.3cc), IM, if properly trained

YES

Dyspnea Present?

NO

Continue to Monitor & Transport

YES

**\*\* Duo-Neb** (0.5mg Ipratropium Bromide with 3mg Albuterol) via nebulizer. may be repeated as needed if improvement noted.

\*\*\*Signs & Symptoms Relieved?

YES

NO

1. **Xopenex** (optional), if available 1.25mg/3cc, HHN, repeat as needed
2. If **Xopenex** not available, repeat **Duo-Neb** (0.5mg Ipratropium Bromide with 3mg Albuterol) via HHN as needed
3. Request Paramedic Backup (If Not Done Previously)

Continue to Treat, Monitor & Transport

**\*\*Generally, Duo-Neb** should be utilized as the first line drug. However, if the patient has had previous success with **Xopenex**, **Xopenex** may be administered, if available, before **Duo-Neb**

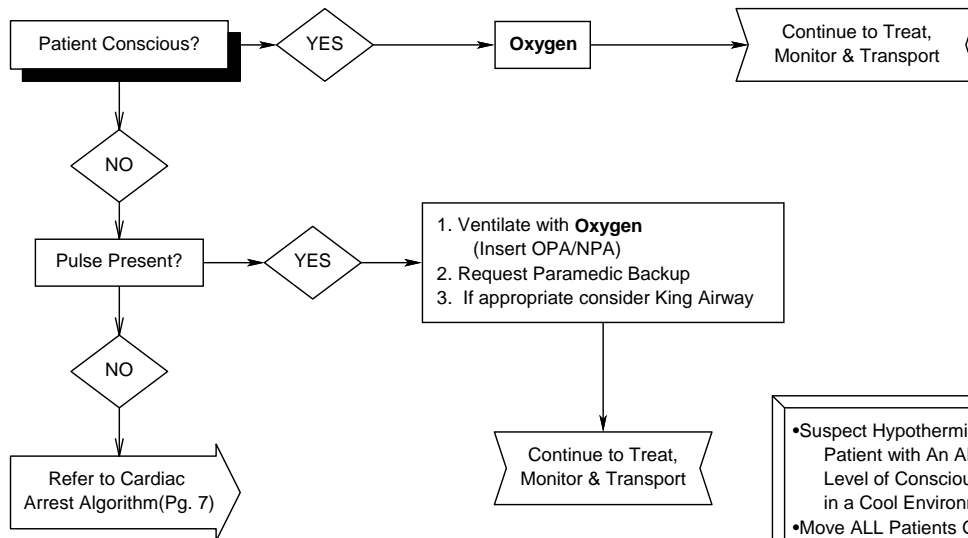
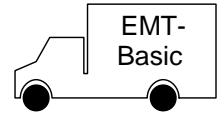
**\*\*\*If dyspnea not relieved and Epinephrine** not previously given, contact medical control for use of **Epinephrine** (1:1,000) 0.3mg (0.3cc) IM, if properly trained.

## PEDIATRIC DOSE

- **Epinephrine**, 0.15mg, IM, Using Auto-Injector or
- **Epinephrine**, (1:1,000), 0.01mg/kg to a max of 0.15mg (0.15cc)IM, if properly trained
- **Duo-Neb** (0.5mg Ipratropium Bromide with 3mg Albuterol), by nebulizer, dose and frequency same as adult
- **Xopenex (optional)** 1.25mg by Nebulizer, dose and frequency same as adult

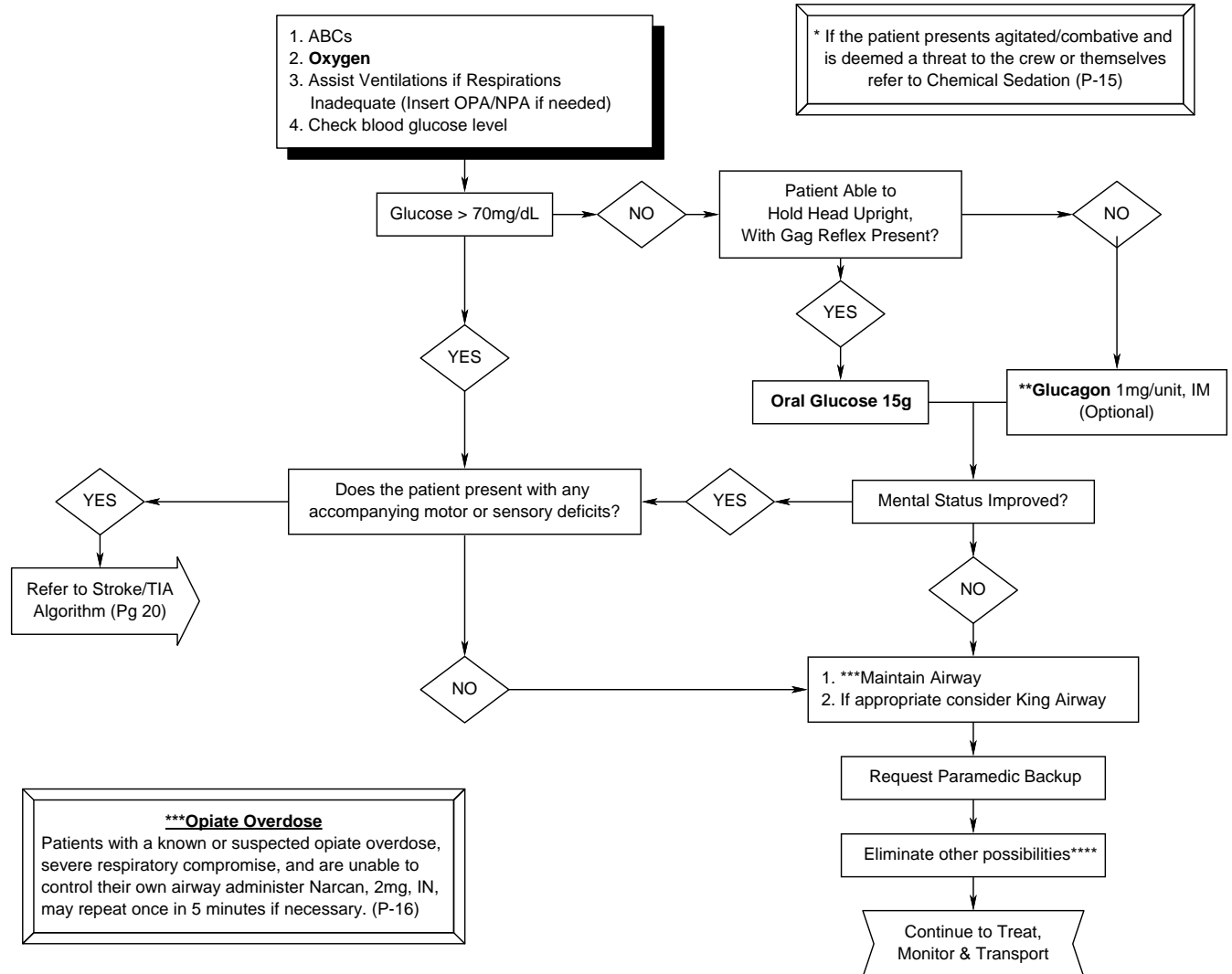
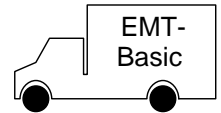


# COLD EXPOSURE (SYSTEMIC HYPOTHERMIA) Estimated Core Temp. < 86 F



- Suspect Hypothermia in any Patient with An Altered Level of Consciousness in a Cool Environment
- Move ALL Patients Gently, to Avoid Serious Dysrhythmias
- Remove all Wet Clothing
- Wrap Patient in Blankets
- Do Not Actively Rewarm Patient in Prehospital Environment
- Resuscitate ALL Cardiac Arrest Patients who are Hypothermic

# \*DECREASED LEVEL OF CONSCIOUSNESS (NON-TRAUMATIC)



## PEDIATRIC DOSE

- Glucagon(optional), 0.5mg, IM
- Narcan, 0.1mg/kg, IN, up to a max of 2mg, per dose (P-16)

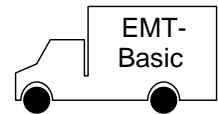
\*\*\*\*

### Other considerations for decreased LOC:

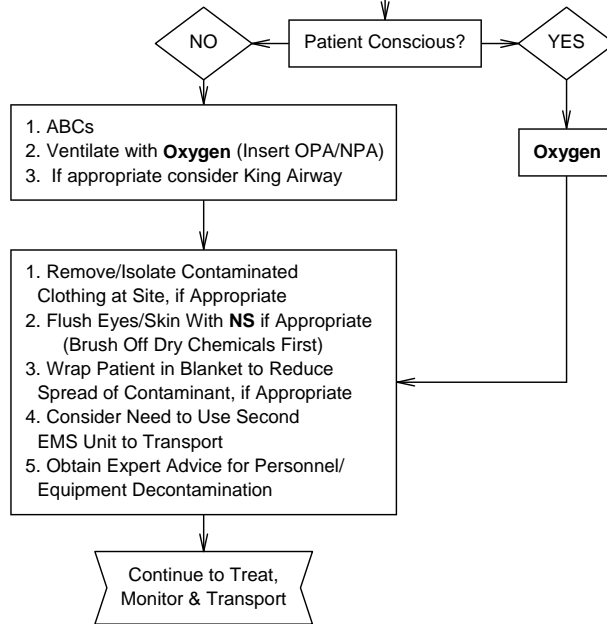
1. Possible Cold Exposure (Pg. 13),
2. Heat Exposure (Pg. 16), or
3. Hypovolemia (Pg. 17)

\*\* Appropriate training and testing must be documented prior to administration of **Glucagon** via IM injection. ALS/MICU backup must be requested if Glucagon is administered.

# HAZARDOUS/TOXIC MATERIAL EXPOSURE



1. Observe Hazmat Precautions\*
2. **Do Not Enter Incident Area Without Appropriate Protective Clothing/Respiratory Equipment**
3. Evacuate Patients From Exposure Without Risking EMS Personnel Safety
4. In Cooperation With Police/Fire Authorities, Evacuate/Isolate Scene
5. Attempt to Identify Nature of Hazardous Material as Soon as Possible
6. Request Paramedic Backup

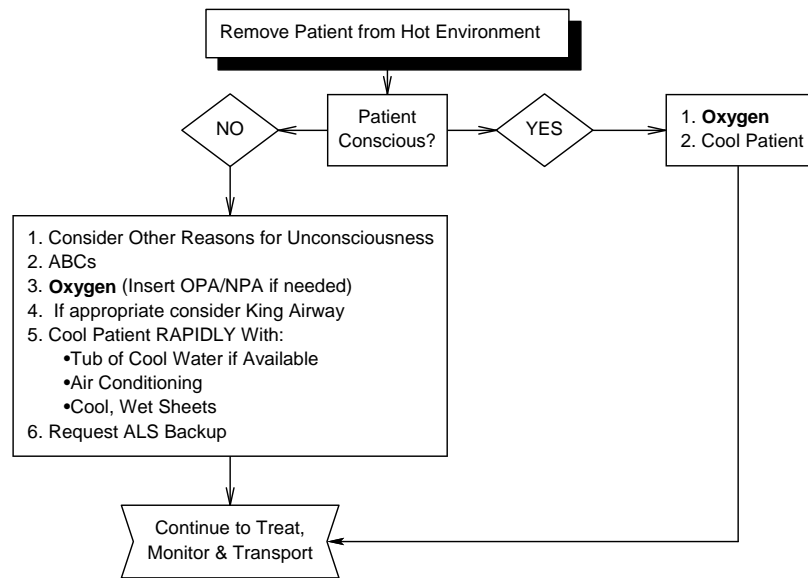
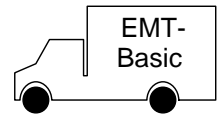


## **\*HAZMAT PRECAUTIONS**

1. Assume ALL Chemicals Hazardous Until Proven Otherwise
2. Approach From Upwind
3. Stay Out of Low-Lying Areas; Stay Uphill if Possible
4. Do Not Walk Into or Touch Spilled Chemicals; Wear Gloves When Touching Contaminated Patients
5. Avoid Smoke, Gasses, Fumes, Vapors
6. Keep Combustibles Away
7. Keep Ignition Sources Away

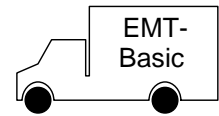
- All Patients Should Be Transported for Observation, Regardless of how Mild the Episode Seems to be
- Rescue Attempts, Scene Management, & Patient Care Should be Based on Best Information Available about the Material
- Coordinate with Fire Authorities & Regional EMS Communications Center to Obtain Information
- Air transport should be avoided

# HEAT EXPOSURE (HEAT STROKE)

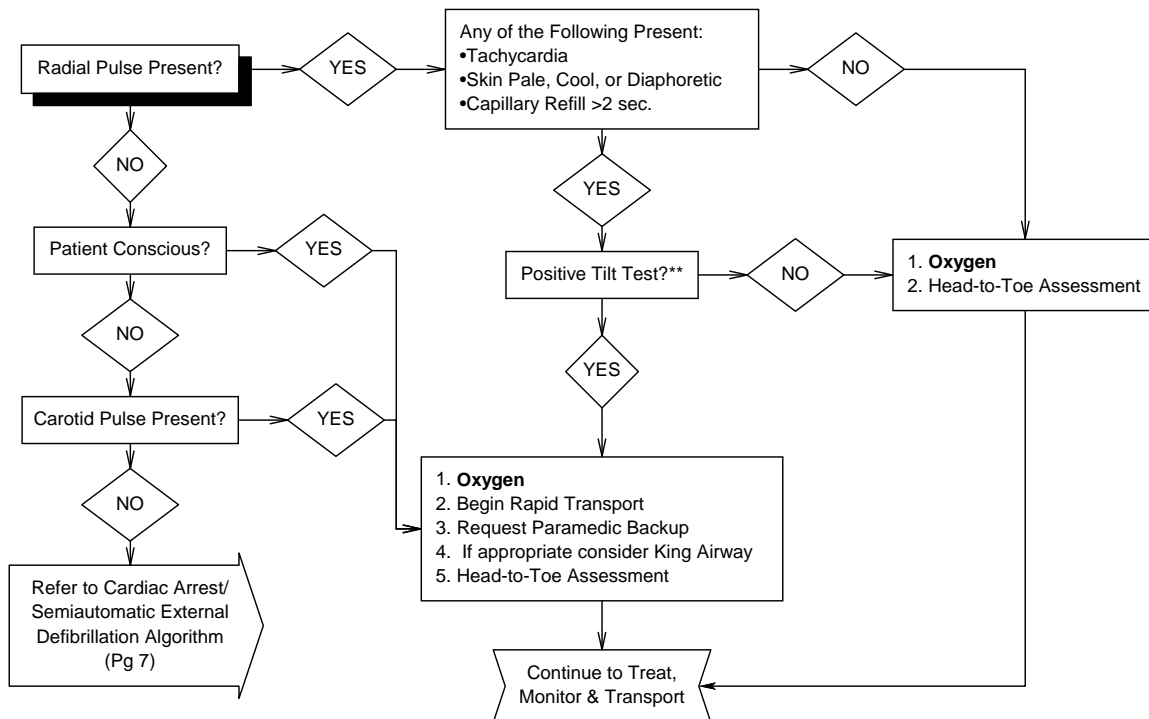


Suspect Heat Stroke in any Patient with an Altered  
Level of Consciousness in a Hot Environment

# HYPOVOLEMIA\* (NON-TRAUMATIC)



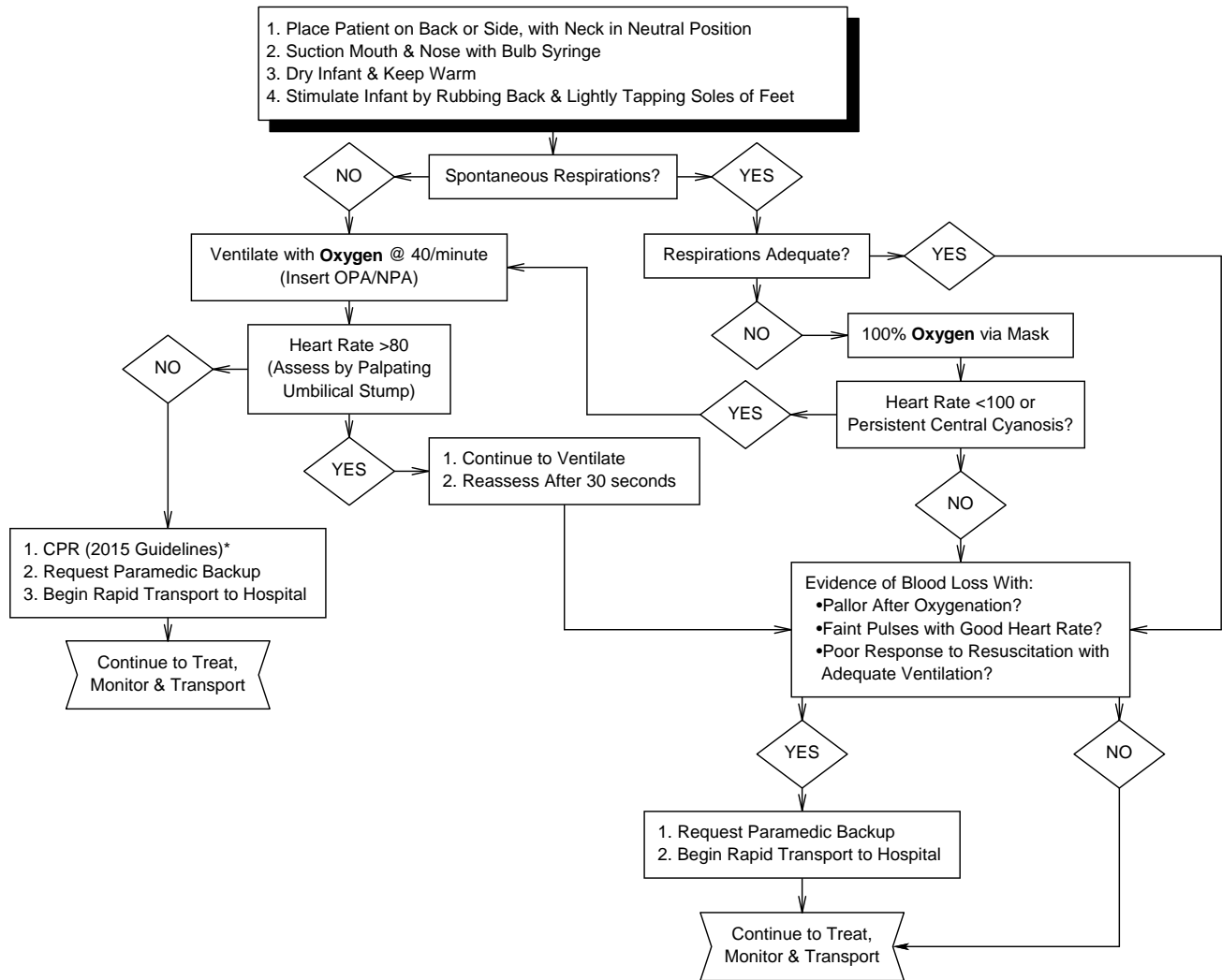
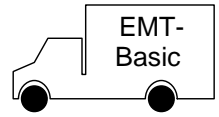
\*Possible Causes Could Include Vomiting, Diarrhea, Bloody/Dark Stool, Abdominal Pain, or Possible Diabetic Hyperglycemic State



## **\*\*POSITIVE TILT TEST**

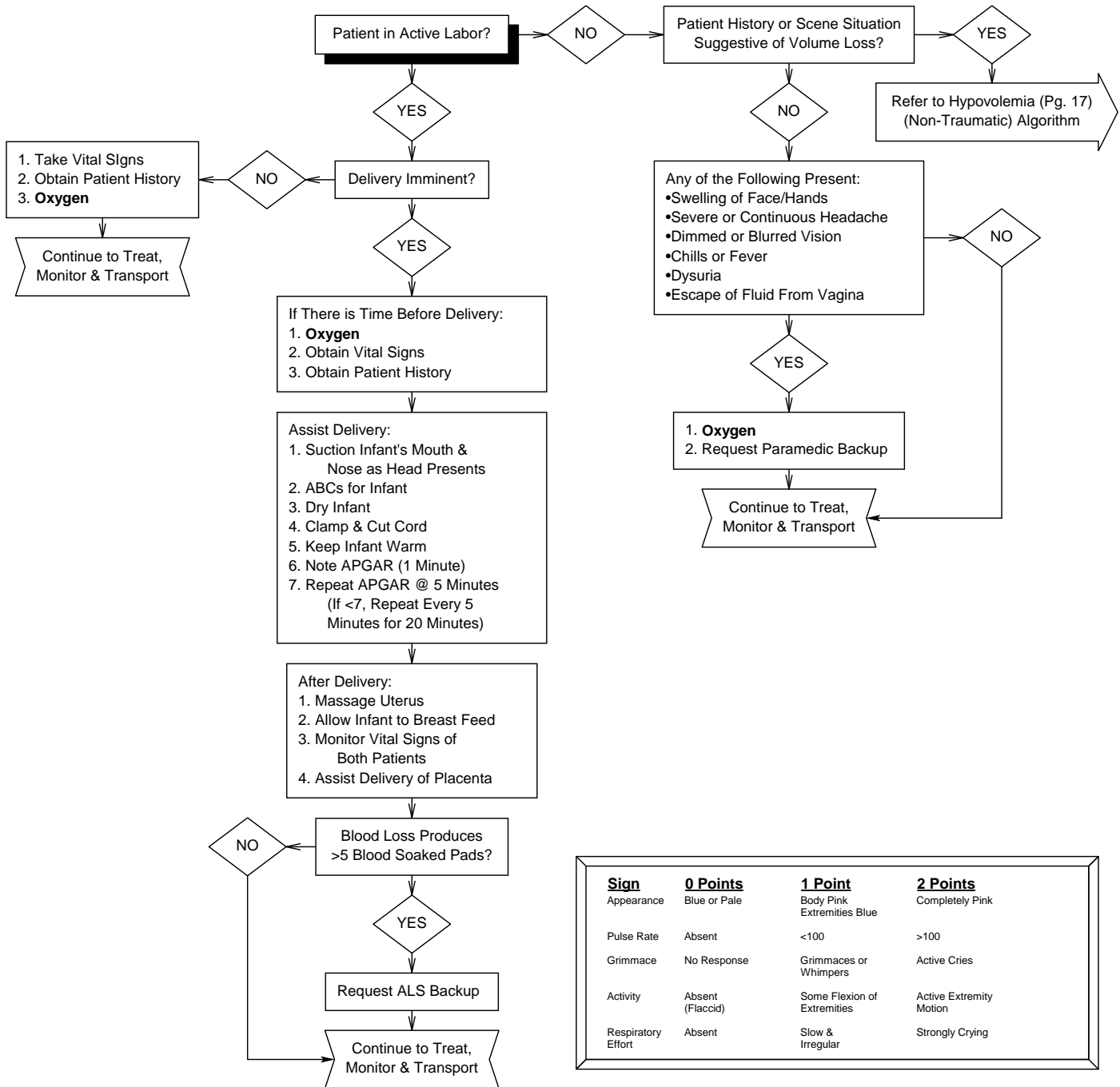
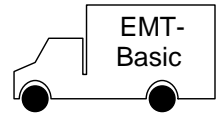
Pulse Rate Increases by 20, Systolic BP Decreases by 20mmHg, or Diastolic BP Decreases by 10mmHg when Patient is Raised from Supine to Sitting position **OR** Patient will Not Tolerate Being Raised From Supine to Sitting Position Because of Weakness, Dizziness, Presyncope, or Syncope.

# NEONATAL RESUSCITATION



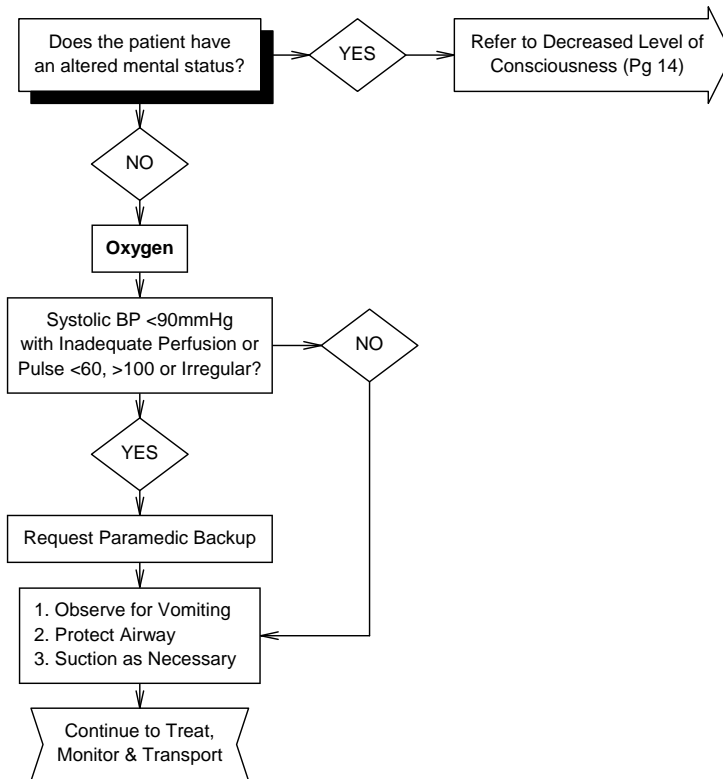
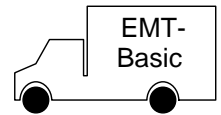
\* Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2015 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions.

# OBSTETRIC EMERGENCY



Sign	0 Points	1 Point	2 Points
Appearance	Blue or Pale	Body Pink Extremities Blue	Completely Pink
Pulse Rate	Absent	<100	>100
Grimace	No Response	Grimaces or Whimpers	Active Cries
Activity	Absent (Flaccid)	Some Flexion of Extremities	Active Extremity Motion
Respiratory Effort	Absent	Slow & Irregular	Strongly Crying

# POISONING/OVERDOSE

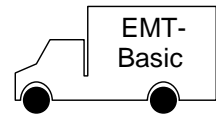


Bring ALL Potential Agent Containers and/or Samples of Agents, if Possible, to the Emergency Department

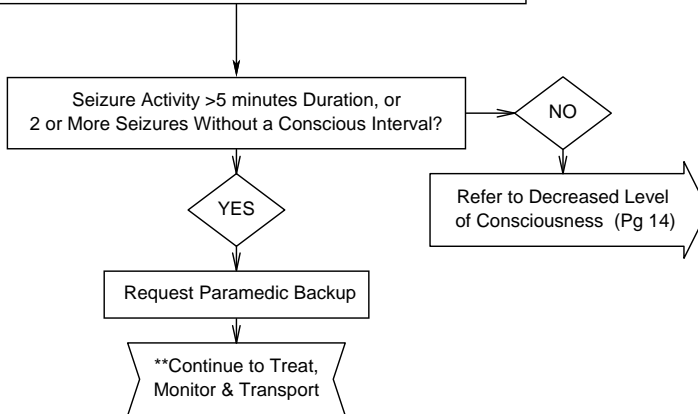
Paraquat Poisoning  
Do Not Give Supplemental **Oxygen**



# SEIZURES\*



1. Remove Patient From Potentially Harmful Environment;  
Do NOT Forcefully Restrain Patient
2. Secure Airway
3. **Oxygen**
4. Assist Ventilations if Respirations Inadequate (Insert OPA/NPA)
5. If appropriate consider King Airway

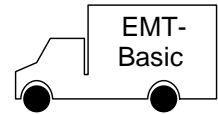


- Paramedic backup must be requested for all pregnant patients that are seizing or have had a seizure prior to EMS arrival in order to treat for Eclampsia.
- Eclampsia is defined as a presentation of an unexplained seizure or convulsion in the setting of the signs and symptoms of Pre-Eclampsia. Not all patients will be clinically diagnosed with Pre-Eclampsia. It is considered a complication of severe Pre-Eclampsia. It typically occurs during or after the 20th week of gestation or in the postpartum period.

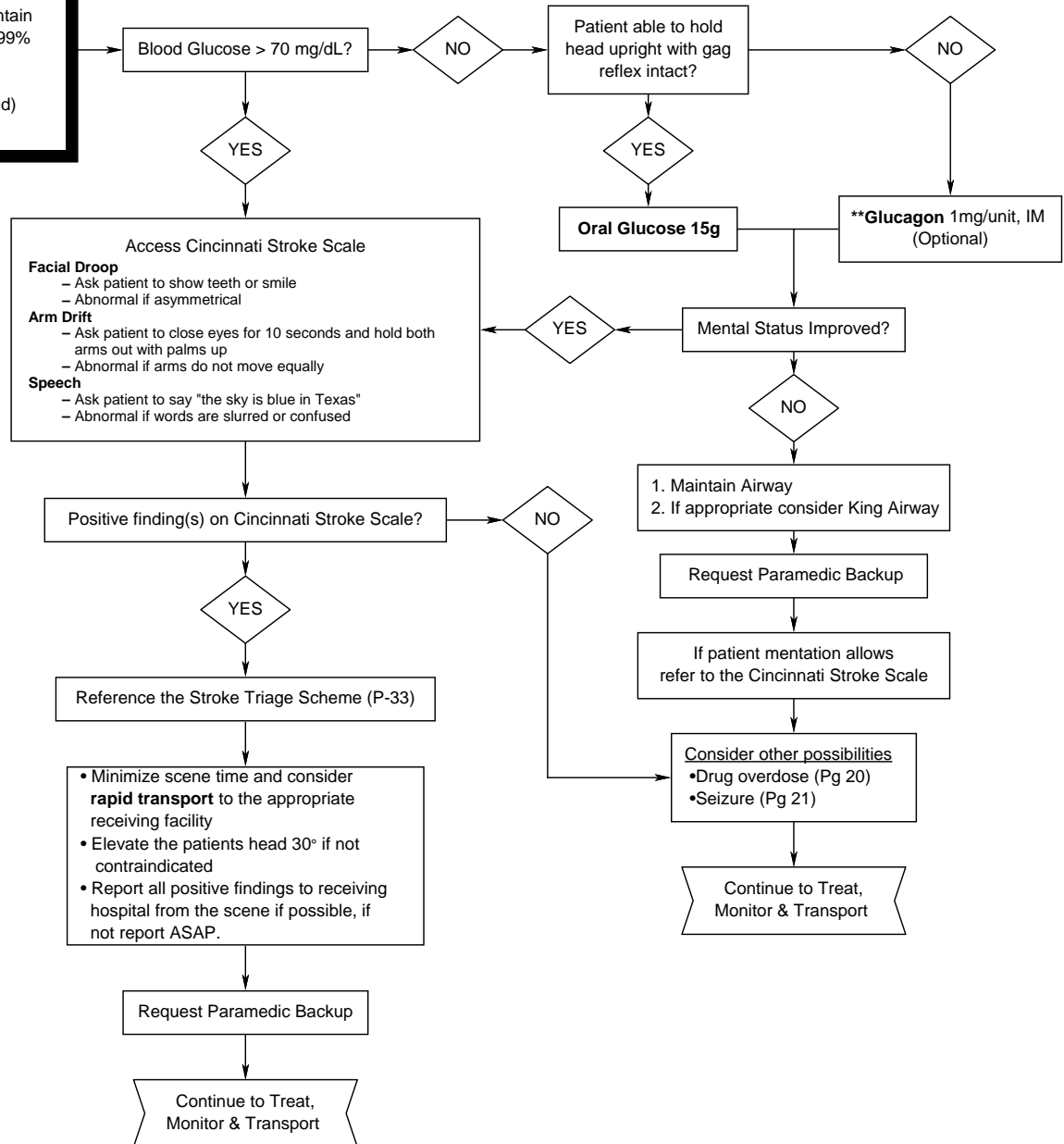
## PEDIATRIC DOSE

**\*\*Liquid Motrin (Ibuprofen)**, 10mg/kg, PO, to a max of 800mg, post seizures with temperature > 100.4 and adequate LOC.

# STROKE / TIA or NEUROLOGICAL DEFICIT\*



1. ABCs
2. **Oxygen**, if O<sub>2</sub> sat is <94% or signs of hypoxia. Maintain O<sub>2</sub> sats between 94 and 99%
3. Assist Ventilations if Respirations Inadequate (Insert OPA/NPA if needed)
4. Determine Blood Glucose



## \*NEUROLOGICAL DEFICIT

1. Any Sudden Motor or Sensory Deficit
2. Sudden confusion, trouble speaking or understanding
3. Sudden difficulty seeing in one or both eyes
4. Sudden trouble walking, coordination, or focal weakness

If possible inquire about the patients baseline neurological state.  
Chronic neurological deficits do not warrant rapid transport to a Stroke Center. ALWAYS err on the side of caution if questionable.

## PEDIATRIC DOSE

•Glucagon(optional), 0.5mg, IM

\*\* Appropriate training and testing must be documented prior to administration of **Glucagon** via IM injection. ALS/MICU backup must be requested if Glucagon is administered.