

# SOUTH PLAINS EMERGENCY MEDICAL SERVICES

## PRE-HOSPITAL TREATMENT PROTOCOLS for EMT-INTERMEDIATE

APPROVED FOR USE



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February 1, 2010

Effective Date

January 31, 2011

Expiration Date

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## **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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## **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-Intermediates 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-intermediates 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-Intermediates 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-Intermediate 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-Intermediates 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-Intermediates who wish to operate under the treatment protocols in this manual.

Furthermore, these requirements must also be satisfied by any EMT-Intermediate 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.: SQ injections. These records are subject to examination at anytime, by the SPEMS Medical Director or his/her designate.

Each EMT-Intermediate must:

1. Provide documentation of current certification as an EMT-Intermediate by the Texas Department of State Health Services.
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-Intermediate will be using the SPEMS protocols.
  - b) Acknowledges that the EMT-Intermediate 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. A copy of the protocol exam must be forwarded to the SPEMS office. The Medical Director may require additional formal training in the protocols at any time.
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.
6. Use the approved standard run report form, and by the 10<sup>th</sup> each month send a copy of all run reports to the SPEMS Medical Director through the SPEMS office.
7. Leave a copy of **ALL** EMS run reports at the receiving hospital within 24 hours of the call. A patient contact form, list of medications given, and procedures preformed will be given to the patients nurse prior to leaving the receiving facility.

8. EMT-Intermediates must demonstrate proficiency of the following advanced skills 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> by:
- Performing 6 successful IVs, 3 successful endotracheal intubations, 3 King airway, 3 properly preformed adult EZ IO placements, 3 properly preformed pediatric EZ IO placements, and 3 Subcutaneous Epinephrine injections(if currently carried by your service) during actual patient care as documented by an observer\* approved by the Medical Director;
- OR**
- Participating in at least one formal laboratory evaluation of IV, endotracheal intubation, King airway, properly preformed adult EZ IO placements, properly preformed pediatric EZ IO, and Subcutaneous Epinephrine injection (if currently carried by your service) approved by the Medical Director or an approved designee\*;
- OR**
- Participating in a combination of these options which adequately demonstrates maintenance of proficiency in IV, endotracheal intubation, King airway, properly preformed adult EZ IO placements, properly preformed pediatric EZ IO, and Subcutaneous Epinephrine injection (if currently carried by your service) to the satisfaction of the Medical Director.  
(\*Skills may be checked off by a TDSHS Skills Examiner, SPEMS Peer Reviewer, Associate Medical Director, or the SPEMS Medical Director.)
  - Participating once per year in a formal laboratory evaluation of pleural decompression conducted by a TDSHS Instructor, SPEMS Peer Reviewer, SPEMS Medical Director, or the Associate Medical Director.
9. These protocols shall only 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 outside of the SPEMS/TSA-B area when off duty and not responding with any emergency service agency (i.e. EMS, Police, or Fire Dept.). In the event that you are outside of the SPEMS/TSA-B area and assist an EMS service, online medical direction must be obtained prior to performing any advanced procedures
10. The intent of these protocols are for EMS professionals to treat patients as they would a member of their own family.

## **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 submit 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 is 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-Intermediate 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. 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 antiseptics. 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

### 4. APPROPRIATE LEVEL OF CARE:

Following a complete assessment of the patient, the EMT-Intermediate should treat the patient at the EMT-Intermediate protocol level unless impractical or unobtainable. In that event, the EMT-Intermediate may treat the patient at the EMT-Basic protocol level. An example of this might be: A very close (< 3 minutes) proximity to the receiving hospital where initiating ALS treatment would not affect patient care. Another example: **Oral Glucose** could be administered as oppose to IV **Dextrose** 50%, in the event that an IV is unobtainable. The EMT-Intermediate should document these occurrences and justifications in the report narrative.

**All incidences mentioned above must be peer reviewed.**

### 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. CROUP:

Characterized by inspiratory and expiratory stridor and a seal-bark like cough, it is most common amongst children < 3 years of age. Croup is often preceded by an upper respiratory infection. Respiratory distress, tachypnea, and retractions are also commonly associated with Croup. One of the most distinctive characteristics of croup is the abrupt or sudden onset of the symptoms noted above.

9. 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.

10. INADEQUATE RESPIRATIONS:

SHALLOW respirations <10, or >35 per minute.

11. 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.

12. MULTIPLE PARALLEL PROTOCOLS:

It is understandable that patients may present with multiple problems that require simultaneous treatment. An example is the patient involved in a trauma and 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 should be referred to the service director, peer reviewer, or medical director.

13. “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.

14. REQUEST ASSISTANCE FROM RECEIVING AREA'S ALS SERVICE:

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. 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. The Medical Control physician may direct a backup response whenever he believes this would be in the patient's best interest. 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.

Patients who could potentially benefit by air transport include, but are not limited to:

- Multiple systems injury (Revised Trauma Score of  $\leq 11$ ).
- Patients whose injuries require care at Level I or Level II Trauma Center.
- Major injuries when prolonged extrication times are anticipated.
- Respiratory insufficiency, or labored at a rate  $<10$  or  $>35$  per minute.
- Hypotension with systolic BP  $<90$ mmHg.
- Coma or decreased level of consciousness.
- Patients who are potential candidates for thrombolytic therapy.
- Severe chest pain.
- Obstetric complications.
- Any patient who, in the opinion of the EMS technician, needs rapid transport to a facility where specialized treatment is available.

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 and have determined that rapid transport to the hospital will be needed.

15. 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.

16. 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 are apneic, or who are unable to maintain their airway due to severely decreased levels of consciousness, should have an oropharyngeal airway inserted.

Patients who will not tolerate an oropharyngeal airway, but who show signs of inability to maintain an airway without assistance, should have a nasopharyngeal airway placed.

Patients requiring intubation should be pre-oxygenated before attempting endotracheal intubation. Attempts should not exceed 30 seconds without resuming ventilations. Intubation attempts will be limited to 2 attempts by the primary intermediate and 1 attempt by the secondary intermediate/paramedic. In the event that all 3 attempts at endotracheal intubation fail, secondary airway adjuncts shall be utilized. Patients who cannot be intubated with an endotracheal tube should be intubated with the King airway device.

Proper placement of the endotracheal tube must be confirmed and must be documented by:

1. Observing the tube pass through the glottic opening.
2. Observing symmetrical chest rise and auscultating equal breath sounds bilaterally in the lung fields.
3. Auscultating for absence of sound over the epigastrium during ventilations.
4. Use of pulse oximetry and end-tidal carbon dioxide detection or monitoring.

Proper tube placement should be reconfirmed and documented by auscultation of the lung fields and epigastrium, and observation of the end tidal CO<sub>2</sub> detection monitor following any movement of the patient and upon final disposition at the receiving facility. It is recommended that tube placement also be confirmed by a member of the receiving facility (RN, RT, MD, etc...) prior to turning over patient care to that facility. The confirmation as well as the person confirming the placement of the ET tube should be documented in the run report

If the end tidal CO<sub>2</sub> detection device has the capability, keep monitored levels between 30 and 34mm.

Patients who cannot be intubated with an endotracheal tube should be intubated with a King airway (Proper training should be documented prior to use).

### **BLOOD DRAW FOR LABS:**

Due to the importance of rapidly diagnosing Acute Coronary Syndrome and Cerebrovascular Accidents, blood draws will be attempted in the pre-hospital setting. It is required that all units with at least ALS capabilities stock blood tubes to include, but not limited to, "blue top" (PT/PTT INR), "purple top" (CBC), and "green top" (BMP/CMP). The tubes listed above should be filled appropriately and labeled with the patients first and last name as well as the time the sample was collected. Samples can be drawn on any call as deemed necessary; however, samples should be drawn anytime a CVA or an ACS is in question. If the IV line is considered to be in jeopardy, then an alternative site should be accessed (i.e. butterfly catheter or Vacu-tainer needle).

### **CENTRAL LINES:**

If IV access is impossible and the patient has an existing external venous catheter, contact medical control for permission to access these catheters

### **GASTRIC TUBE INSERTION:**

Gastric tube insertion may be performed in circumstances where gastric distension in a comatose patient is interfering with ventilation. Gastric tube insertion of comatose patients must be preceded by endotracheal intubation to protect against possible aspiration.

### **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-Intermediate should initiate appropriate Basic Life Support, perform a thorough patient assessment, and communicate the results of the assessment to Medical Control. If appropriate, an IV, NS, TKO, may be established.

**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.

All other patients needing **oxygen** should receive it via non-rebreather or simple face mask. The highest possible **oxygen** saturation should be maintained. The nasal cannula generally should NOT be used in pre-hospital care.

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

**PARAMEDIC BACKUP:**

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

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.

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

**PERIPHERAL VASCULAR ACCESS:**

- **INTRAOSSUEOUS INFUSION-ADULT:**

Intraosseous infusion is a valuable and safe treatment for the serious or critically ill/injured patient where drug and/or fluid therapy are required for life saving measures. Intraosseous infusion should be considered as a temporary measure during emergencies when other vascular sites are not immediately available. Intraosseous cannulization is not intended for prophylactic use. Only an Intermediate with documentation of prior training can perform an Adult IO. If the patient is 40kg and over, and IV access cannot be obtained after three attempts, or 120 seconds, whichever comes first, an EZ-IO intraosseous cannula should be inserted into the anterior surface of the tibia as per manufacturer instructions. Indications listed below.

**Indications:**

1. Altered mental status (GCS of 8 or less)
2. Hemodynamic instability (Systolic BP of < 90)
3. Respiratory compromise (respiratory rate of <10 or >35 with low O2 sats not relieved with O2 therapy.
4. Profound hypovolemia with altered LOC
5. Patient in need of immediate medications or fluids.
6. Resuscitation efforts/CPR
7. Contact Medical Control with concerns/questions.

**Contraindications:**

1. Previous orthopedic procedure (previous surgery of the knee or proximal tibia, previous IO within 24 hrs.) or injury, or soft tissue injury to the insertion site.
2. Fractures of the bone selected for IO infusion.
3. Infection at the insertion site.
4. Inability to locate landmarks and/or excessive tissue over the insertion site.

Prior to the infusion of fluids or flushes through the IO catheter in the conscious adult patient you may administer **Lidocaine** 1mg/kg SIVP to a max of 50mg if there are no contraindications (Drug allergies, bradycardia, etc...). This will help alleviate the pain in the IO space created by intramedullary pressure due to fluid infusion. Paramedic back up may be requested at any time, but if there is a sudden change in patient condition Paramedic back up must be requested.

**Appropriate training and testing must be documented prior to administration of Lidocaine.**

### **The Medical Director or his designee MUST review ALL cases of Adult Intraosseous Cannulization**

#### ● **INTRAOSSIOUS INFUSION-PEDIATRIC:**

Intraosseous infusion is a valuable and safe treatment for the serious or critically ill/injured patient where drug and/or fluid therapy are required for life saving measures. Intraosseous infusion should be considered as a temporary measure during emergencies when other vascular sites are not immediately available. Intraosseous cannulization is not intended for prophylactic use. Only an Intermediate with documentation of prior training can perform an IO. If the patient is 3-39kg and IV access cannot be obtained after three attempts, or 120 seconds, whichever comes first, an EZ-IO PD intraosseous cannula should be inserted into the anterior surface of the tibia as per manufacturer instruction. Indications listed below.

#### **Indications:**

1. Altered mental status (GCS of 8 or less)
2. Hemodynamic instability or signs and symptoms of hypoperfusion.
3. Respiratory compromise (respiratory rate of <10 or >35 with low O2 sats not relieved with O2 therapy.
4. Profound hypovolemia with altered LOC
5. Patient in need of immediate medications or fluids.
6. Resuscitation efforts/CPR
7. Contact Medical Control with concerns/questions.

#### **Contraindications:**

1. Previous orthopedic procedure (previous surgery of the knee or proximal tibia, previous IO within 24 hrs.) or injury, or soft tissue injury to the insertion site.
2. Fractures of the bone selected for IO infusion.
3. Infection at the insertion site.
4. Inability to locate landmarks and/or excessive tissue over the insertion site.

Prior to the infusion of fluids or flushes through the IO catheter in the conscious pediatric patient you may administer **Lidocaine** 0.5mg/kg SIVP to a max of 50mg if there are no contraindications (Drug allergies, bradycardia, etc...). This will help alleviate the pain in the IO space created by intramedullary pressure due to fluid infusion. Paramedic back up may be requested at any time, but if there is a sudden change in patient condition Paramedic back up must be requested

#### **Pediatric Bradycardic rates:**

- Newborn to 1 yoa < 100bpm
- 1 yoa to 4 yoa < 90bpm
- 5 yoa and older < 60bpm

**Appropriate training and testing must be documented prior to the administration of Lidocaine.**

### **The Medical Director or his designee MUST review ALL cases of Pediatric Intraosseous Cannulization**

- **IV THERAPY:**

With the exception of entrapment situations where extrication is required, all IV attempts with unstable trauma patients should take place en route to the hospital. **Two IV attempts** may be performed on non-trauma patients at the scene prior to moving the patient. All other attempts should be made en route to the hospital.

Patients requiring keep open lines may have saline locks placed by personnel trained in this procedure. Precautions should be taken to ensure that the lock and angiocath are flushed with sufficient frequency to maintain patency.

IV fluids should be infused at a wide open rate in all adult cardiac arrest situations to a max of 3000cc.

IV fluids should be infused at 20cc/kg over 10 minutes and may be repeated once in all pediatric arrest situations

### **PLEURAL DECOMPRESSION:**

A 14-gauge angiocath should be inserted in the mid-clavicular line at the second or third intercostal space. Insert the angiocath over the superior margin of the rib and withdraw the needle. Stabilize the catheter to avoid kinking. The mid-axillary route should only be used with approval of On-Line Medical Control.

### **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:**

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. Intermediates who have been properly trained in the use of the ResQPOD should apply the device directly to the ventilation adjunct ie.(BVM, ET tube, 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.

### **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 Mobile Intensive Care Unit.

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 intubation
- Administer high flow **oxygen**
- Maintain patient's body temperature
- Elevate lower extremities
- Give nothing by mouth
- Fluid resuscitation

**TREATMENT FOR SNAKEBITES**

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

**UNCONTROLLED HEMORRHAGE MANAGED WITH CELOX (optional):**

At times, in addition to direct pressure it may be necessary to apply a Hemostatic agent (Celox) to assist in bleeding control. Celox is Chitosan-base and its granules assist in clot formation. It has no identified adverse reaction.

1. Blot excess blood from wound with gauze pad
2. Immediately pour entire contents of pouch directly into the wound
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 package (Celox) to accepting physician

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

## PRE-HOSPITAL MEDICATIONS AND INTRAVENOUS FLUIDS

### INHALED MEDICATIONS

#### **Oxygen**

**Albuterol** (Ventolin), 2.5mg/3ml (Page 6, 11)

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

**Racemic Epinephrine** 2.25% 11.25mg/0.5ml (optional)(Page 6)

### ORAL MEDICATIONS

**Activated Charcoal**, 50g (P-15)

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

**Oral Glucose** 15g tube (P-9)

**Liquid Children's Motrin** 100mg/5ml (Page 20)

### SUBLINGUAL MEDICATIONS

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

### INTRAMUSCULAR MEDICATIONS

**Epinephrine Auto-Injector** (Adult), 0.3mg/unit (Page 11)

**Epinephrine Auto-Injector** (Pediatric), 0.15mg/unit (Page 11)

**Glucagon** 1mg/unit (optional) (Appropriate training and testing must be documented prior to administration)  
(Page 13, 20)

### INTRAVENOUS FLUIDS

**Normal Saline** (NS)

### INTRAVENOUS MEDICATIONS

**Dextrose 50%** (D<sub>50</sub>W), 25g/50cc (Pages 13,20)

**Naloxone** (Narcan), 2mg/2cc (Page 13)

**Diphenhydramine** (Benadryl), 50mg/1ml (Page 11)

### INTRAOSSEOUS MEDICATIONS

**Lidocaine** 100mg/5cc (Appropriate training and testing must be documented prior to administration) (pages P-13 & P-14)

### SUBCUTANEOUS MEDICATIONS

**Epinephrine** (1:1,000) 1mg/1cc (Appropriate training and testing must be documented prior to administration)(Page 11)

## **SERVICES UNDER MEDICAL DIRECTION MAY CARRY EPINEPHRINE 1:1000 AND/OR EPHINEPHRINE AUTO-INJECTOR**

### ENDOTRACHEAL MEDICATIONS (Preferred drug route is IV/IO)

If an endotracheal tube has been placed and venous access is delayed, **Naloxone (Narcan)** may be administered by the endotracheal route.

Medications should be administered at 2 times the recommended IV dose. Medications should be administered in a total volume of 10 cc, diluted with normal saline as needed, and introduced directly into the endotracheal tube or through a suction catheter passed beyond the tip of the endotracheal tube. The medication should be followed by 10 quick ventilations with the bag-valve-mask to aerosolize the medication. Chest compressions should be withheld during these ventilations.

### DRUGS NOT SPECIFICALLY INDICATED IN PROTOCOLS:

Although not indicated for routine pre-hospital use, the following drugs are included in the authorized medication list and must be directly requested 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 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:

1. The patient is decapitated.
2. Rigor mortis is present.
3. Dependent lividity is present.
4. Evidence of tissue decomposition is present.
5. Massive trauma to the head, neck or thorax, clearly incompatible with life, is present.
6. In a multiple casualty situation there are inadequate numbers of trained personnel to initiate resuscitation while providing life-saving care to other patients.
7. 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)
8. 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)
9. 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)
10. The patient's attending physician is at the scene of the emergency and orders the EMS personnel to withhold resuscitation efforts.
11. 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.
12. 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 and ACLS 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)

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 this form is on subsequent pages. The form is considered valid if:

1. All relevant portions have been completed.
2. 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 (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 6 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  
STANDARD OUT-OF-HOSPITAL DO-NOT-RESUSCITATE ORDER**

Page 1 of 2

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 TDSHS Out-of-Hospital (OOH) DNR Form: Front Side**

Figure: 25 TAC §157.25 (b)(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.

**REVOCAION:**

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 REVOCAION:** 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 TDSHS Out-of-Hospital (OOH) DNR Form: Back Side**

**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.

**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.

## 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 10 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.
6. 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.

## 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 II (General) facility may be appropriate if expected transport time to a Level I facility is excessive (>25 minutes).
3. A Level III (Basic) facility may be appropriate for immediate evaluation and stabilization if the expected transport time to a Level I facility is excessive (>25 minutes).
4. Medical Control may order a 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.
5. 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.
6. 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  $\geq 2$
- 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)  $\leq 11$
  - Open fractures
- Secondary deterioration (Late Sequelae):
  - Patients requiring mechanical ventilation
  - Sepsis
  - Organ system(s) failure
  - Osteomyelitis

**Continued on Next Page**

## **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



## **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 neurologic 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

## **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.

## **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, N-5, N-6, AND N-8 CALLS REQUIRE A FULL REPORT (A SPEMS RUN FORM WILL BE A 5 PAGE REPORT). ALL N-3, N-4, AND N-5 CALLS REQUIRE THAT THE SERVICE DIRECTOR OR (DESIGNEE) REVIEW THE WRITTEN REPORT.**

## **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

## **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

### **Intermediate Life Support**

1. Peripheral intravenous access should be accomplished prior to chemical restraint whenever possible. If unable to obtain due to patient agitation, venous access is to be obtained as soon as possible after the chemical restraint has been safely accomplished.
2. Fluid therapy 10-20 ml/kg IV for hypotension (SBP<90mm/Hg). Maintain SBP>90mm/Hg.
3. **Request paramedic backup for possible chemical restraint.**

## **DUTY STATUS-GEOGRAPHICAL AREA**

These protocols shall only 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 outside of the SPEMS/TSA-B area when off duty and not responding with any emergency service agency (i.e. EMS, Police, or Fire Dept.). In the event that you are outside of the SPEMS/TSA-B area and assist an EMS service, online medical direction must be obtained prior to performing any advanced procedures.

## **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.

## **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 manufacturers specification. Documentation as to how drugs are stored may be requested by DSHS.

## **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" or "patient's physician on scene."(P-25)

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

## SOUTH PLAINS EMS EQUIPMENT LIST

### BLS UNITS

- 1- SAED with defibrillator pads/paddles to accommodate the adult and 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
- 1ea- Bag valve mask (adult, child, infant sizes)
- 1ea- ResQPOD
- 1ea- Oral airway (adult, child, infant sizes)
- 1ea Nasal airway (adult, and child)
- 3ea-Oxygen delivery devices: Non-rebreather (adult and pediatric), Nasal Cannula, Hand-Held Nebulizer, or Nebulizer Mask
- 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 sizes)
- 2- Long spine boards with straps
- 1- Short board or KED-type extrication device (does not have to be a KED brand)
- 1ea- Blood pressure cuffs (adult, child sizes)
- 1- Stethoscope
- 1- Glucometer
- 2- Appropriate glucometer test strips
- 2- Lancet/needle
- 3ea-syringes that will accommodate all the appropriate drug volumes stocked
- 3- hypodermic needles appropriate for SQ or IM injections (if stocked)
- 2- Multi trauma dressings
- 1- Celox (optional)
- 24- Sterile gauze pads
- 5- Soft roller adhering bandages
- 2- Rolls of adhesive tape
- 12- Triangular bandages
- 3- Vaseline gauze

- 10- Alcohol preps
- 2- Sterile burn sheets
- 1- Bandage shears
- 1- Sealed OB kit with non-porous infant insulator
- 1- Pen light
- 1- Multilevel stretcher with at least 2 sets of clean sheets and blankets
- 1- Mast pants (Optional)
- 1ea- King LT-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
- 2- Medical respiratory protection
- 2- Medical protective gowns or equivalent
- 2- Personal cleansing supplies
- 5- Biohazard bags
- 1- Fire extinguisher
- 1- No smoking signs in the cab and patient compartment

## **BLS MEDICATIONS**

### **INHALED MEDICATIONS**

- Oxygen
- 5- Albuterol (Ventolin) 2.5mg/3ml
- 2- Levalbuterol (Xopenex) 1.25mg/3ml

### **ORAL MEDICATIONS**

- 1- Activated Charcoal, 50g
- 10- Aspirin, 325mg tablets
- 1- Oral Glucose 15g Tube
- 1-Liquid Children's Motrin 100mg/5ml

### **SUBLINGUAL MEDICATIONS**

- 1 Bottle- Nitroglycerin, 0.4mg tablet or spray

### **INTRAMUSCLAR MEDICATIONS**

- 1- Epinephrine Auto-Injector (Adult) 0.3mg/unit
- 1- Epinephrine Auto-Injector (Pediatric) 0.15mg/unit
- 1- Glucagon 1mg/unit (optional)

**SUBCUTANEOUS MEDICATIONS**

- 2- Epinephrine (1:1000) 1mg/1cc (if stocked at the BLS or ALS level, appropriate training required)

Services under SPEMS medical direction may carry Epinephrine Auto-Injectors to accommodate both adult and pediatric patients **AND/OR** Epinephrine (1:1000) 1mg/1cc. However, Epinephrine (1:1,000) can only be carried if all active ECA's, EMT's and Intermediates are appropriately trained on SQ injections (and the standing Allergic Reaction Protocol). This training must be documented including location, date, and time. Documentation must be readily accessible upon inspection.

**ALS & ALS-CAPABLE UNITS****ALL BLS EQUIPMENT AND:**

- Advanced airway equipment including equipment required to perform endotracheal intubation including but not limited to:
  - ◆ 1-Laryngoscope handle with appropriate spare batteries
  - ◆ 1ea- Laryngoscope blades (Miller 0,1,2,3,4 and Mac 1,2,3, 4)
  - ◆ 1ea- Extra laryngoscope bulbs (small and large)(extra bulbs not required for fiber optic laryngoscope sets)
  - ◆ 2ea- Endotracheal tubes (adult, pediatric sizes, 2.5 thru 9.0)
  - ◆ 1- ET tube holder
  - ◆ 1ea- Stylet (adult, pediatric sizes)
- 1ea- Magill forceps (adult and pediatric)
- Equipment & supplies to establish intravenous infusions for adult & pediatric patients to include but not limited to:
  - ◆ 5ea- IV catheters (14ga, 16ga, 18ga, 20ga, 22ga, 24ga)
  - ◆ 4-1000cc Normal Saline or 500cc equivalent
  - ◆ 4-Macro IV tubing
  - ◆ 2-Micro IV tubing  
(If dial-a-flow tubing is used then a total of 6 IV tubes are required)
  - ◆ 4-Securing devices (nonporous tape or Veni-guard devices are acceptable)
- 1ea- EZ IO Driver with spare batteries (EZ IO Drivers with the non-replaceable battery need not have a spare)
- 1ea- EZ IO PD
- 1ea- Adult EZ-IO
- 1ea- EZ-IO LD (optional)
- 2ea- Purple, Green, and Blue blood specimen tubes (red tube optional)
- 2- Gastric tubes & supplies
- 1- Plural decompression equipment & supplies (2 inch 14ga angiocatheters)
- 1- Copy of current, signed SPEMS treatment protocols for EMT-Intermediate

**ALS MEDICATIONS****INHALED MEDICATIONS**

- 1- Racemic Epinephrine 2.25% 11.25mg/0.5ml (optional)

**INTRAVENOUS MEDICATIONS**

- 1- Dextrose 50% (D50W), 25g/50cc
- 2- Naloxone (Narcan) 2mg/2cc
- 1- Diphenhydramine (Benadryl), 50mg/cc

**INTRAOSSEOUS MEDICATION**

- 1- Lidocaine (Xylocaine), 100mg/5cc
- 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, Morgan lenses, vein finder, thermometer, ect...) 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.

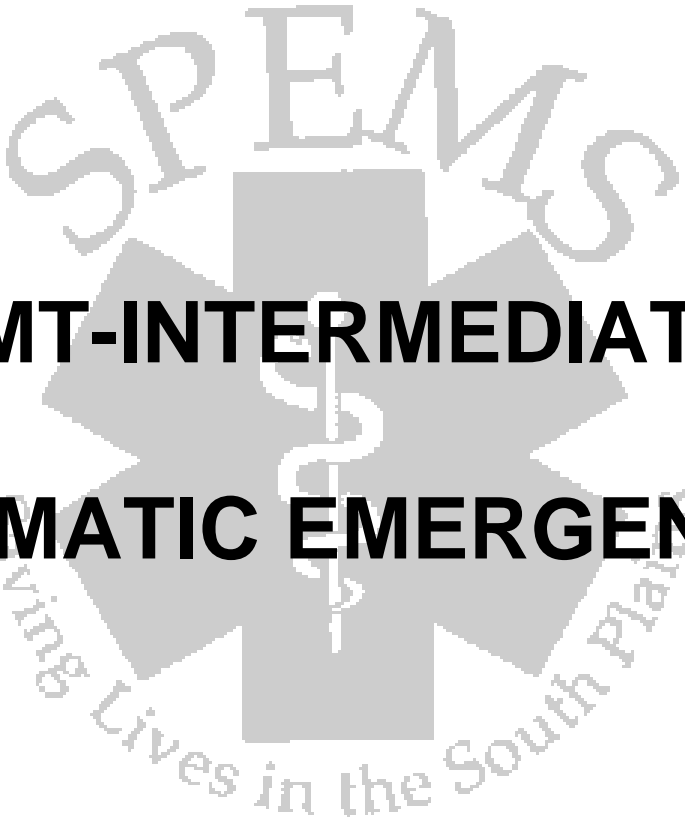


SPEMS Medical Director

Date 02/01/2010

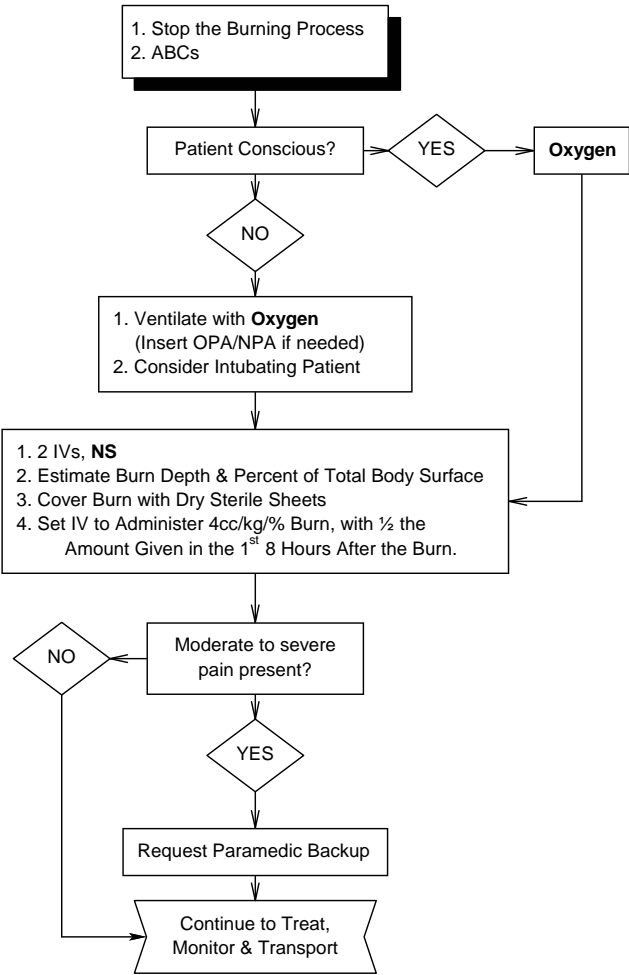
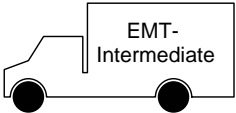
Service Director

Date 02/01/2010

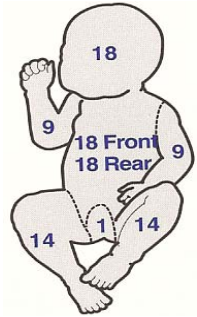
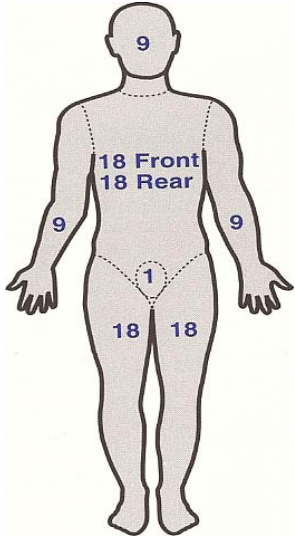


**SPEMS**  
**EMT-INTERMEDIATE**  
**TRAUMATIC EMERGENCIES**  
Saving Lives in the South Plains

# BURNS (Moderate to Critical)



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



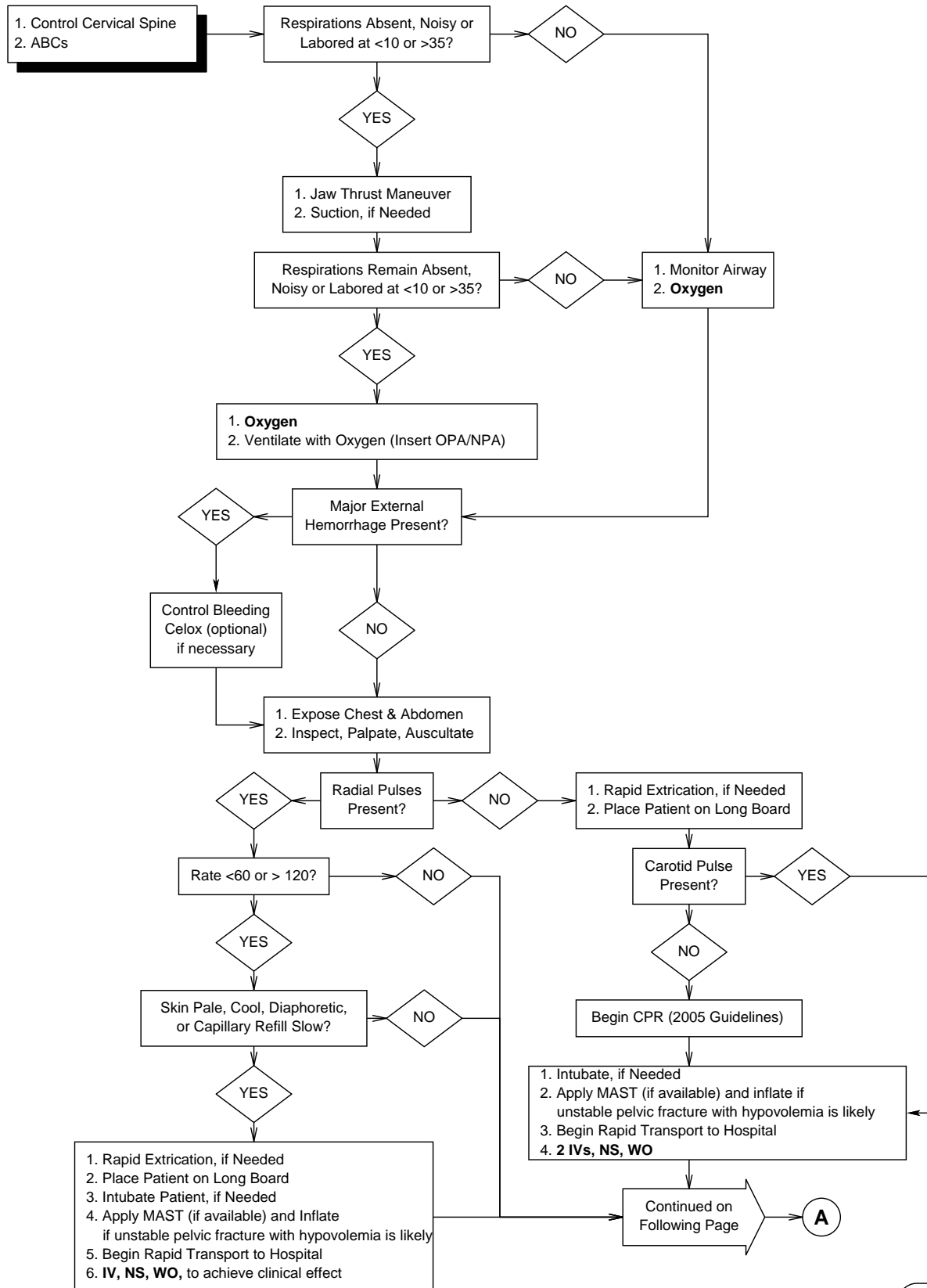
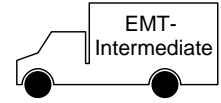
**MODERATE**

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

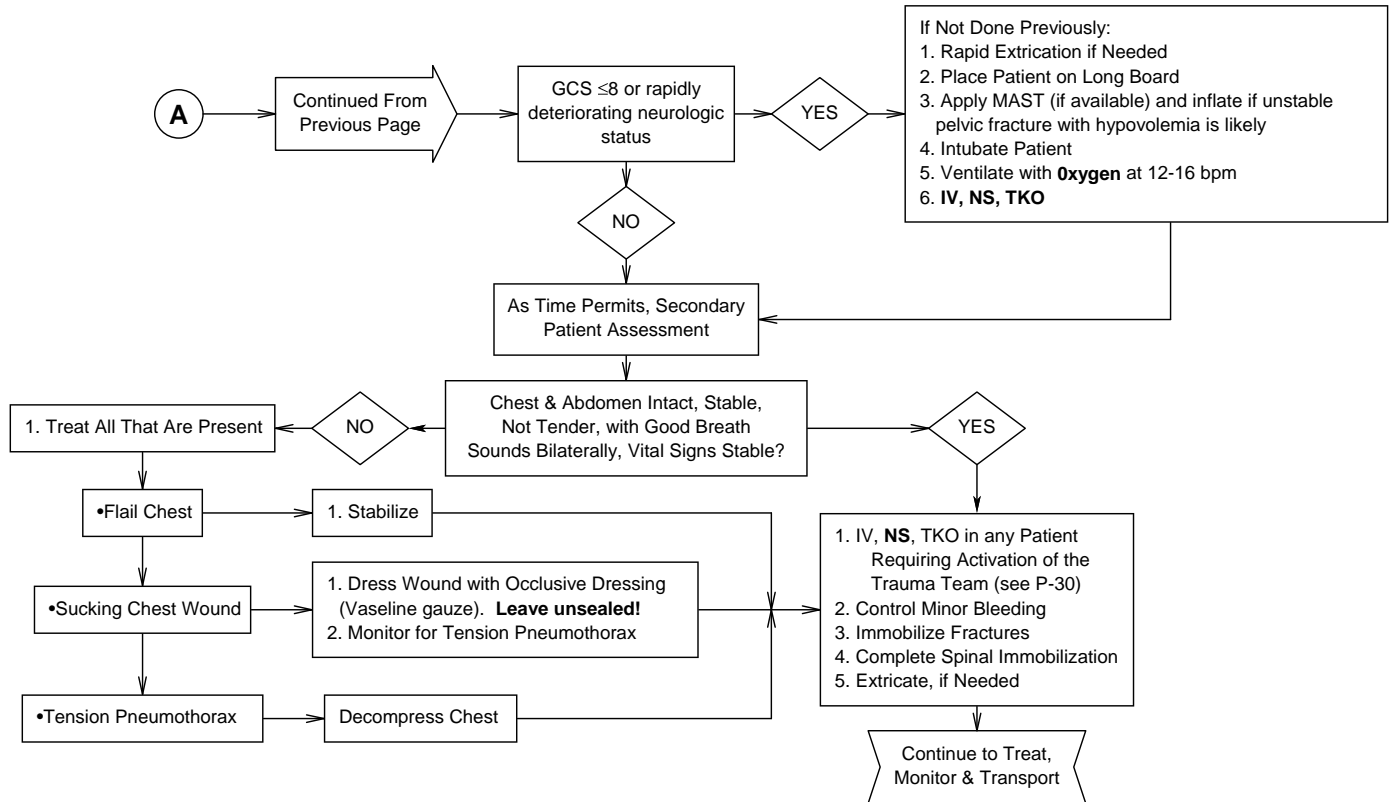
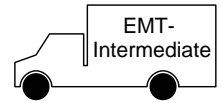
**CRITICAL BURNS**

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

# TRAUMA



# TRAUMA (Continued)



- 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.

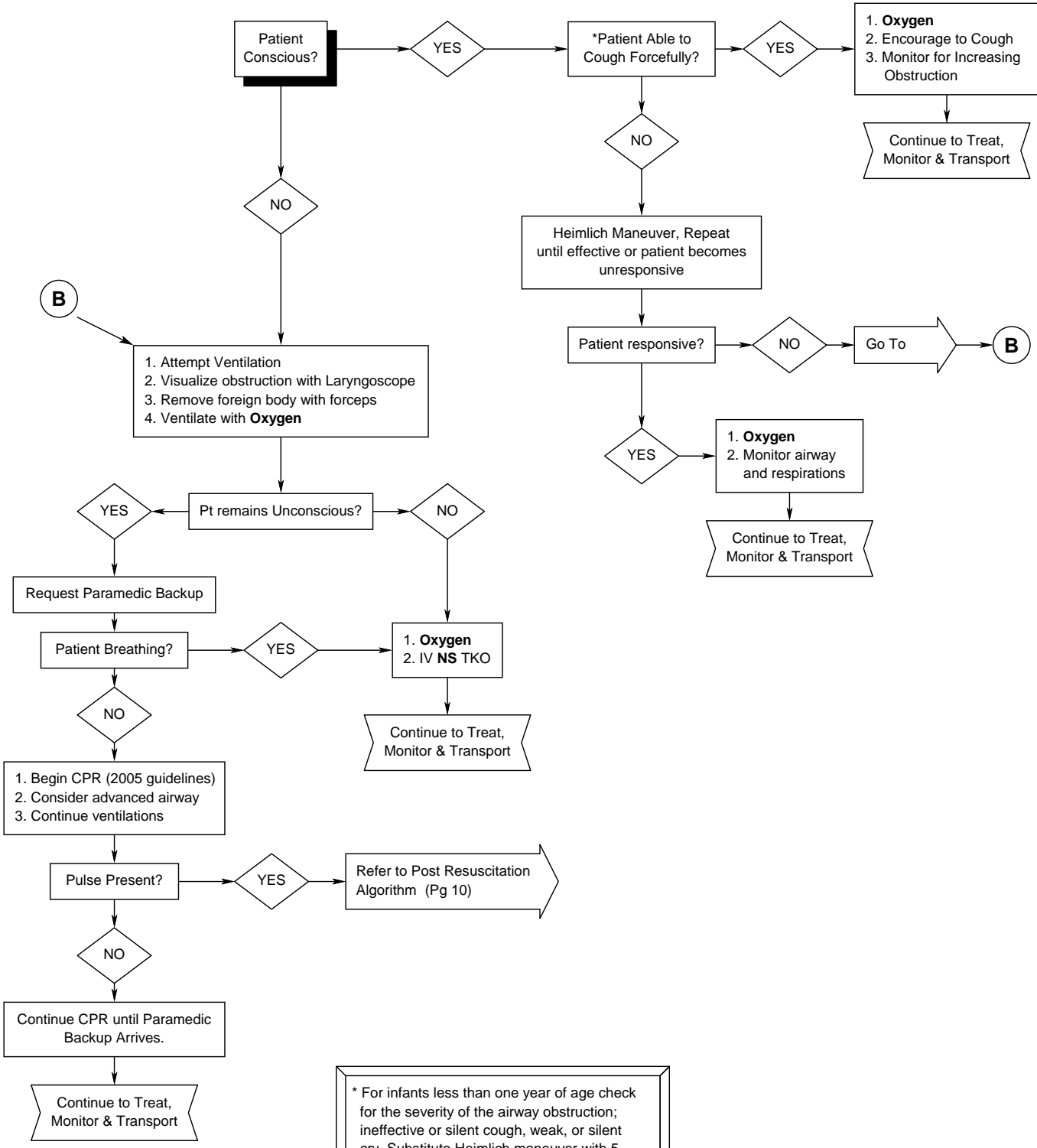
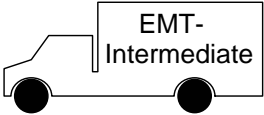
SPEMS

**EMT-INTERMEDIATE**

**RESPIRATORY EMERGENCIES**

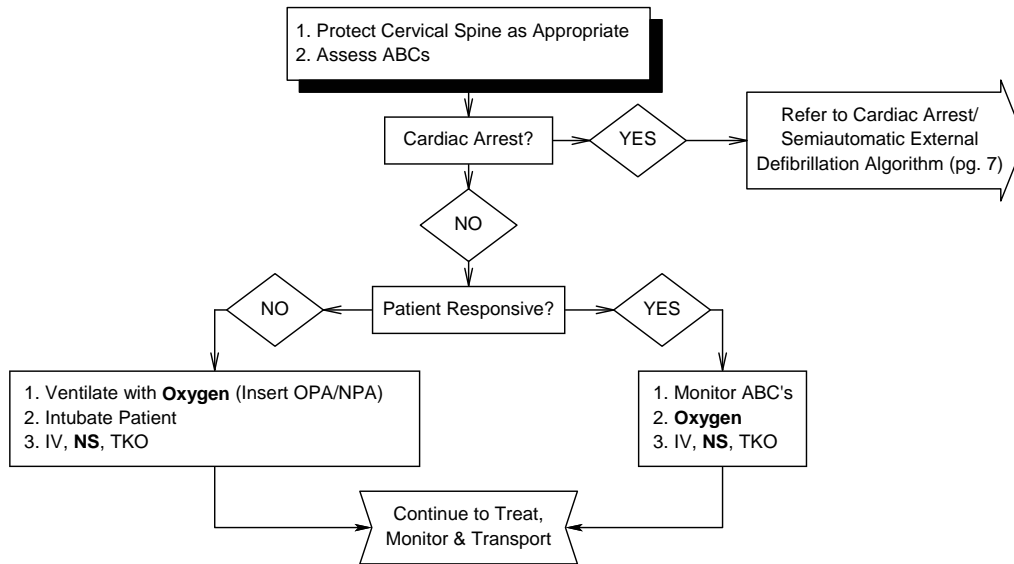
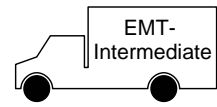
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# FOREIGN BODY AIRWAY OBSTRUCTION



\* For infants less than one year of age check for the severity of the airway obstruction; ineffective or silent cough, weak, or silent cry. Substitute Heimlich maneuver with 5 back blows and 5 chest thrusts.

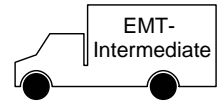
# NEAR DROWNING



**If wheezing noted go to  
Respiratory Distress Protocol  
(Page 6)**

- 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.

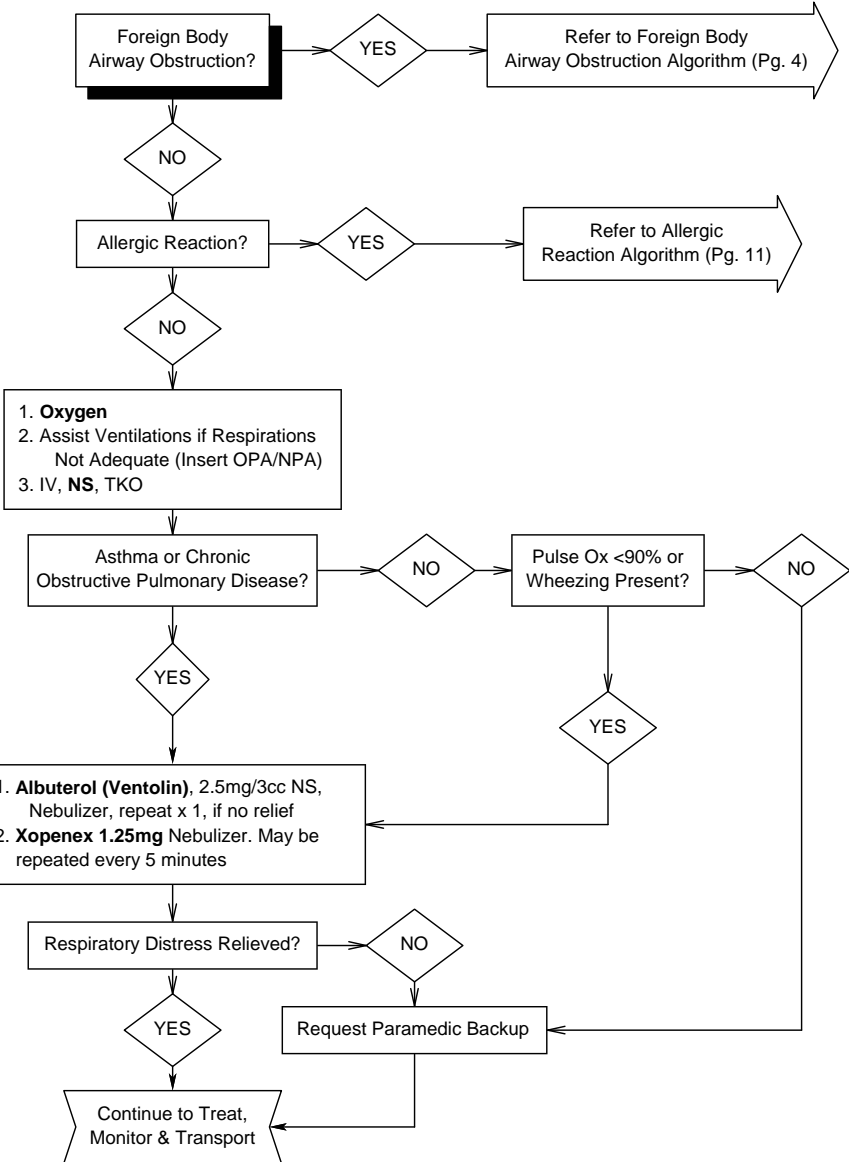
# RESPIRATORY DISTRESS



If Croup is suspected (P-10) in the pediatric patient administer **Racemic Epi** (Optional) 11.25mg/0.5cc, diluted in 3cc NS via nebulizer 1st line. May repeat dose X 1 if needed. If wheezing persists administer Xopenex per protocol.

Use **Xopenex** only in the event that **Albuterol** does not provide relief. Use **Xopenex** as a first line drug if patient is already on **Xopenex** or if the patient has already received two Albuterol tx without relief.

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



**PEDIATRIC DOSE**

- Albuterol (Ventolin)** 2.5mg/3cc NS by Nebulizer, dose and frequency same as adult
- Xopenex** 1.25mg by Nebulizer, dose and frequency same as adult
- Racemic Epinephrine** 11.25mg/0.5cc, dilute with 3cc of NS, administer by Nebulizer for Croup. (optional) (P-9)

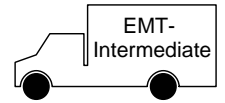
SPEMS

**EMT-INTERMEDIATE**

**CARDIOVASCULAR EMERGENCIES**

Saving Lives in the South Plains

# CARDIAC ARREST/SEMI-AUTOMATIC EXTERNAL DEFIBRILLATION\*



1. ABCs
2. CPR (2005 guidelines)\*\*
3. Ventilate with **Oxygen** (Insert OPA/NPA)
4. Use ResQPOD if the patient has reached puberty
5. Request Paramedic Backup

\* 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.

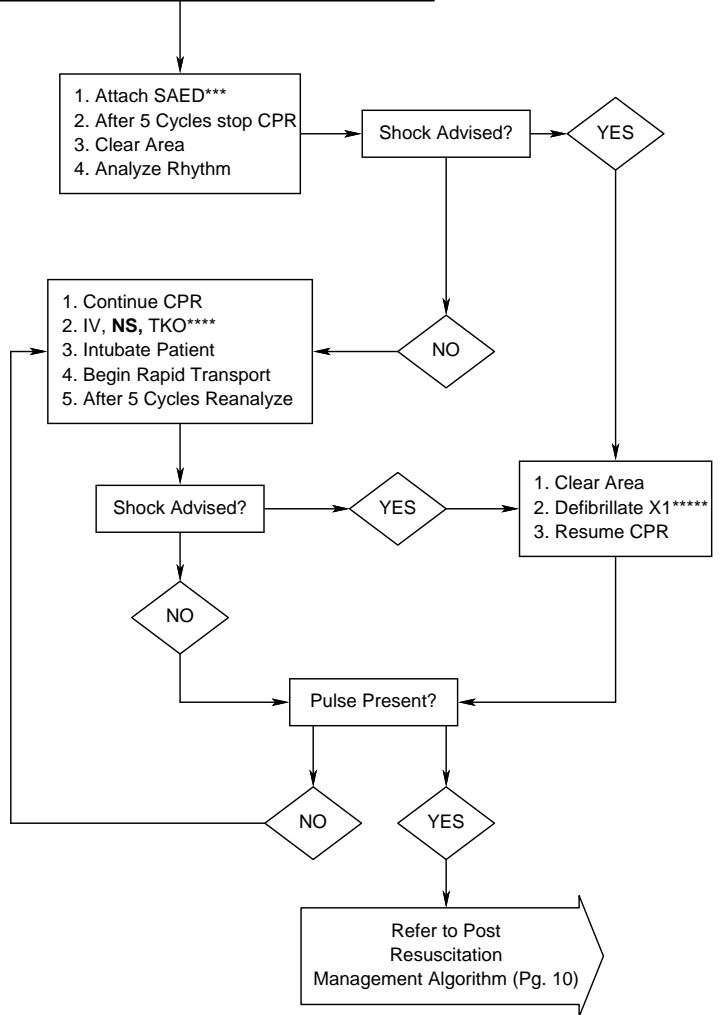
\*\*\* **PEDIATRIC**

1. Do not apply AED to patients < 1 yoa.
2. Use Pediatric pads on patients from 1-8 yoa. If pediatric pads not available use adult pads according to manufacturers recommendation.

\*\*\*\* IV Fluid Bolus for all Cardiac Arrest Situations

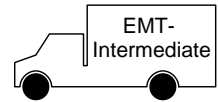
- **Adult:** Infuse at a Wide Open Rate to a Max of 3000cc
- **Pediatric:** Infuse 20cc/kg over 10 Minutes May Repeat Once

\*\*\*\*\*If AED is Not Updated to the AHA 2005 Guidelines. Follow Manufacturers Recommendations



\*\* Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2005 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions. Continue CPR while the defibrillator is charging. Providers must organize care to ensure that chest compressions, initial and subsequent defibrillations are not delayed due to placement of advanced airways or to obtain vascular access.

# \*CARDIAC CHEST PAIN or SUSPECTED MYOCARDIAL INFARCTION



1. **Oxygen**
2. IV, **NS**, TKO
3. Blood draw for labs (P-12)
3. **Aspirin**, 325mg, PO
4. Initiate Transport

Systolic BP  $\geq$ 90mmHg  
with Adequate Perfusion?

NO

Refer to Cardiogenic  
Shock Algorithm (Pg. 9)

YES

**Nitroglycerin**, 0.4mg, Sublingual  
or  
**Nitrospray**, 1 Spray, Sublingual  
(rule out the use of sexual  
enhancement drugs)

Request Paramedic Backup\*\*

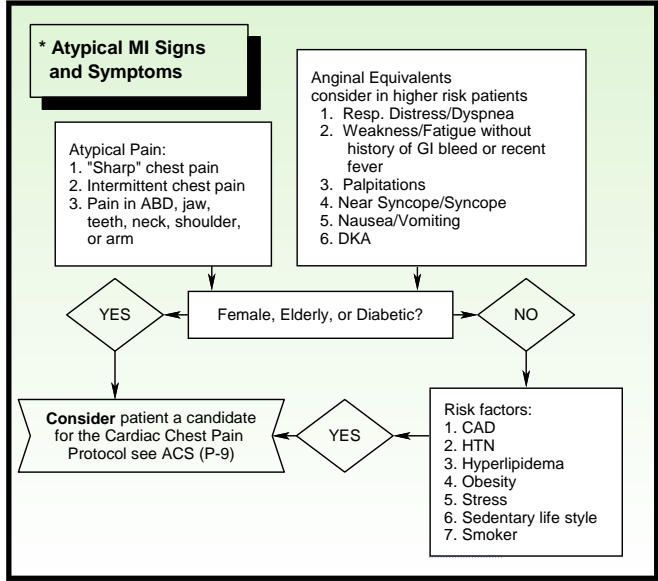
Symptoms Relieved?

YES

NO

Repeat **Nitroglycerin**, Every 5 minutes, Until:  
1. Symptoms relieved  
2. Systolic BP <90mmHg

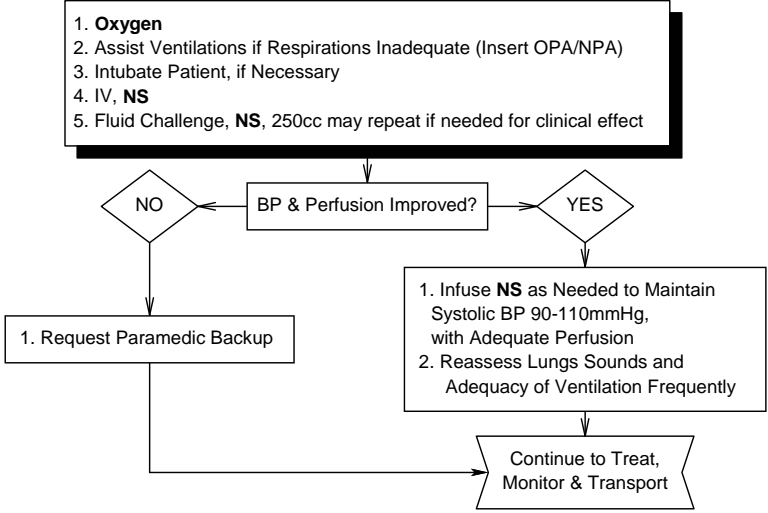
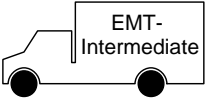
Continue to Treat,  
Monitor & Transport



Air Transport Should be  
Considered When its Use Would  
Expedite an AMI Patient's Arrival  
at the Receiving Hospital.

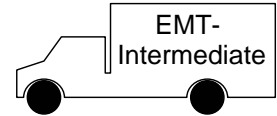
\*\* Following the request of Paramedic backup the EMT-Intermediate may place the patient on the cardiac monitor/12lead if available. EKGs may then be transmitted to the receiving hospital if capable. Under no circumstances shall an EMT-I use monitor placement for interpretation/treatment. Appropriate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

# CARDIOGENIC SHOCK

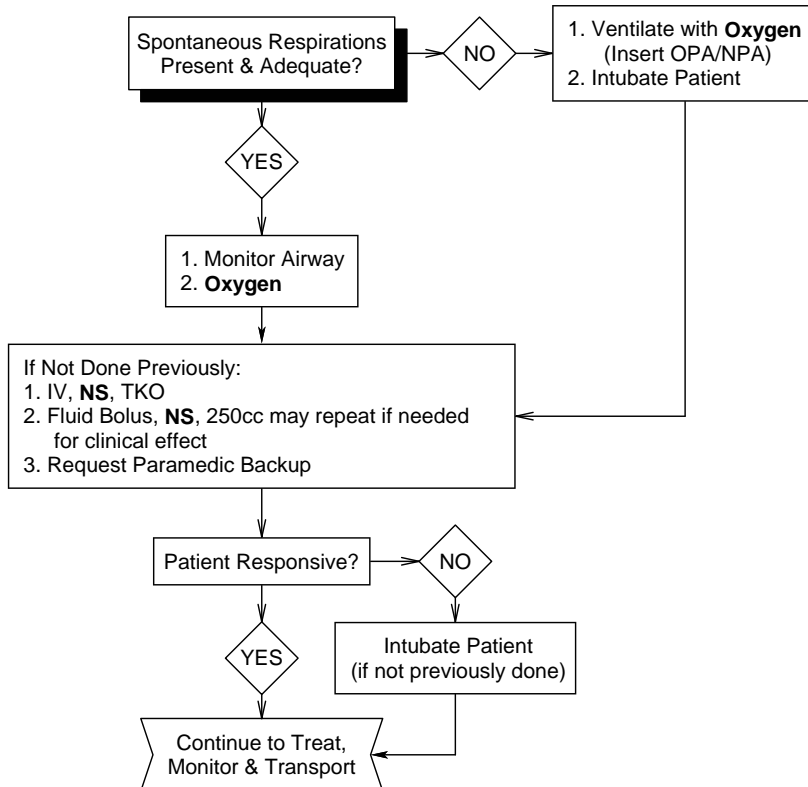


**PEDIATRIC**  
Fluid challenge 20cc/kg over 10 minutes.  
Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema.

# \*POST RESUSCITATION MANAGEMENT



\*Remove ResQPOD if previously used.



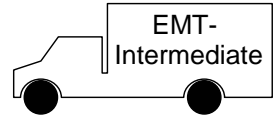
**PEDIATRIC**  
 Fluid challenge 20cc/kg over 10 minutes.  
 Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema.

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



**SPEMS**  
**EMT-INTERMEDIATE**  
**OTHER MEDICAL**  
**EMERGENCIES**  
Saving Lives in the South Plains

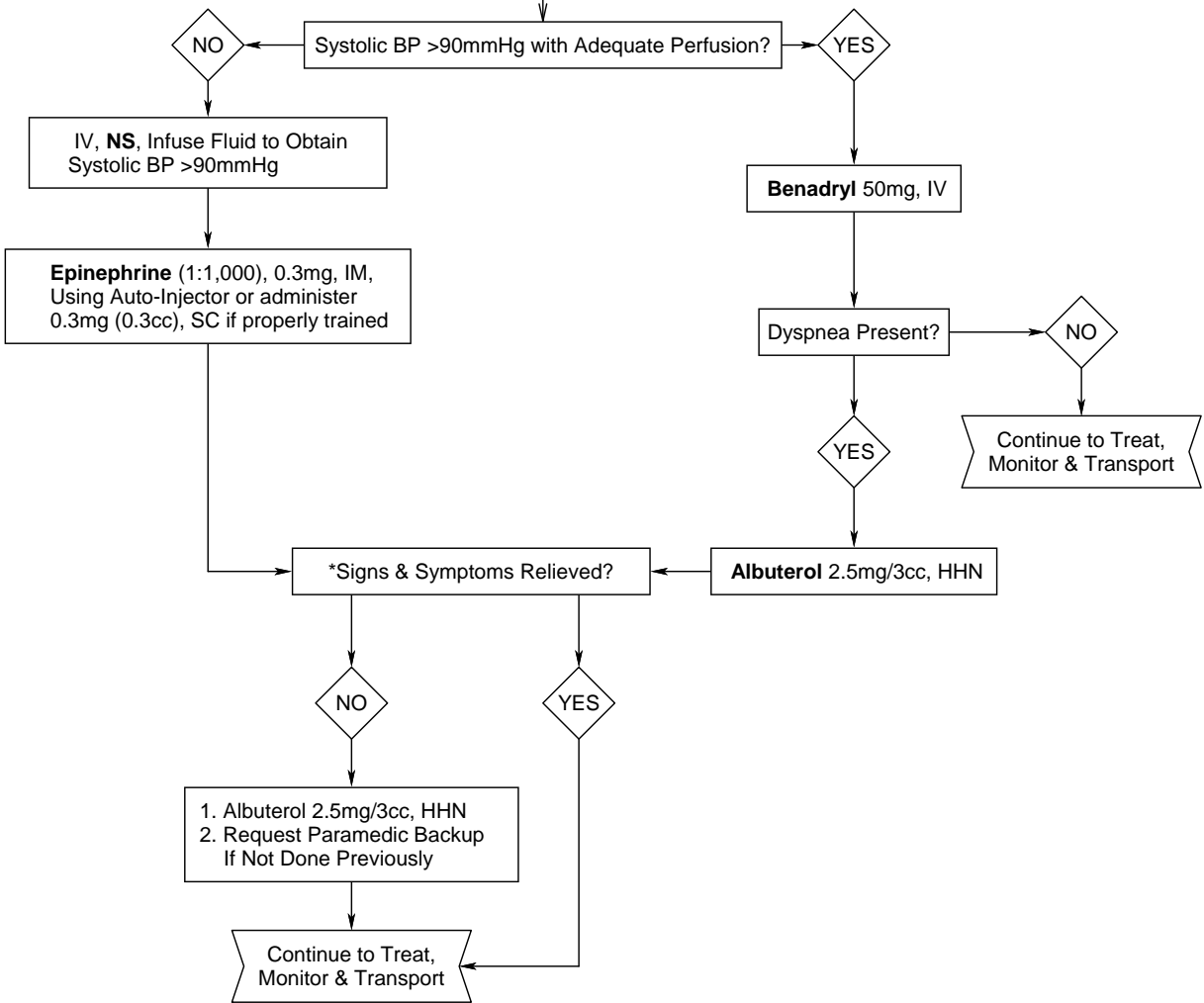
# ALLERGIC REACTION



Request Paramedic Backup Immediately For All Patients With Bee Stings That Have Shortness of Breath or BP < 90mmHG.

1. ABCs
2. **Oxygen**
3. Assist Respirations if inadequate (Insert OPA/NPA if needed)
4. IV, **NS**, TKO

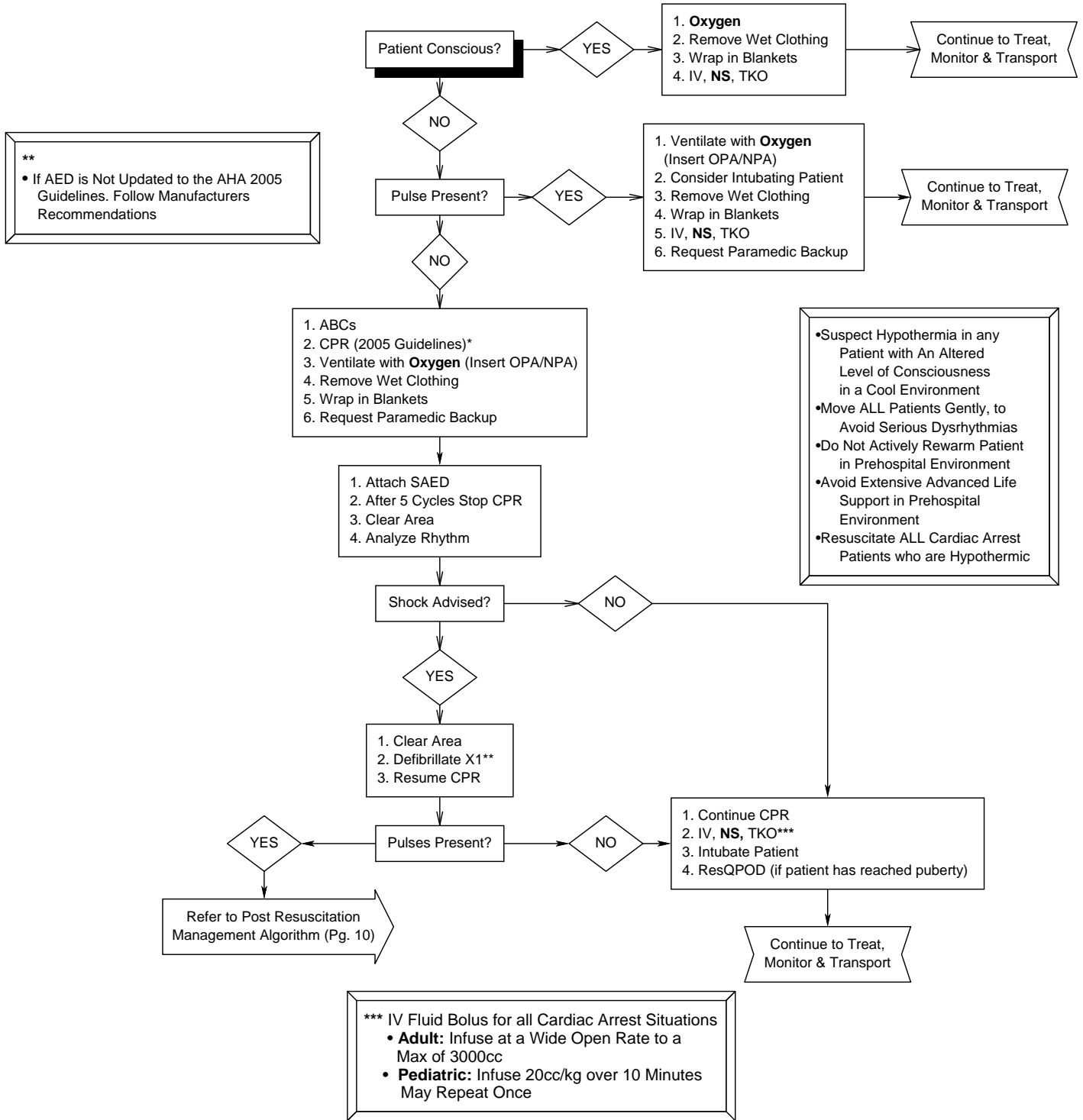
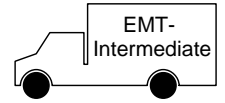
\*If dyspnea not relieved and **Epinephrine** not previously given, contact medical control for use of **Epinephrine** (1:1,000) 0.3mg (0.3cc) IM or SC if properly trained.



**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), SC, if properly trained
- **Albuterol** 2.5mg/3cc, HHN
- **Benadryl** 1mg/kg, IV to max of 50mg

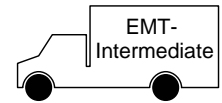
# COLD EXPOSURE (SYSTEMIC HYPOTHERMIA) (Estimated Core Temp. < 86 F)



\* Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2005 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions. Continue CPR while the defibrillator is charging. Providers must organize care to ensure that chest compressions, initial and subsequent defibrillations are not delayed due to placement of advanced airways or to obtain vascular access.

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

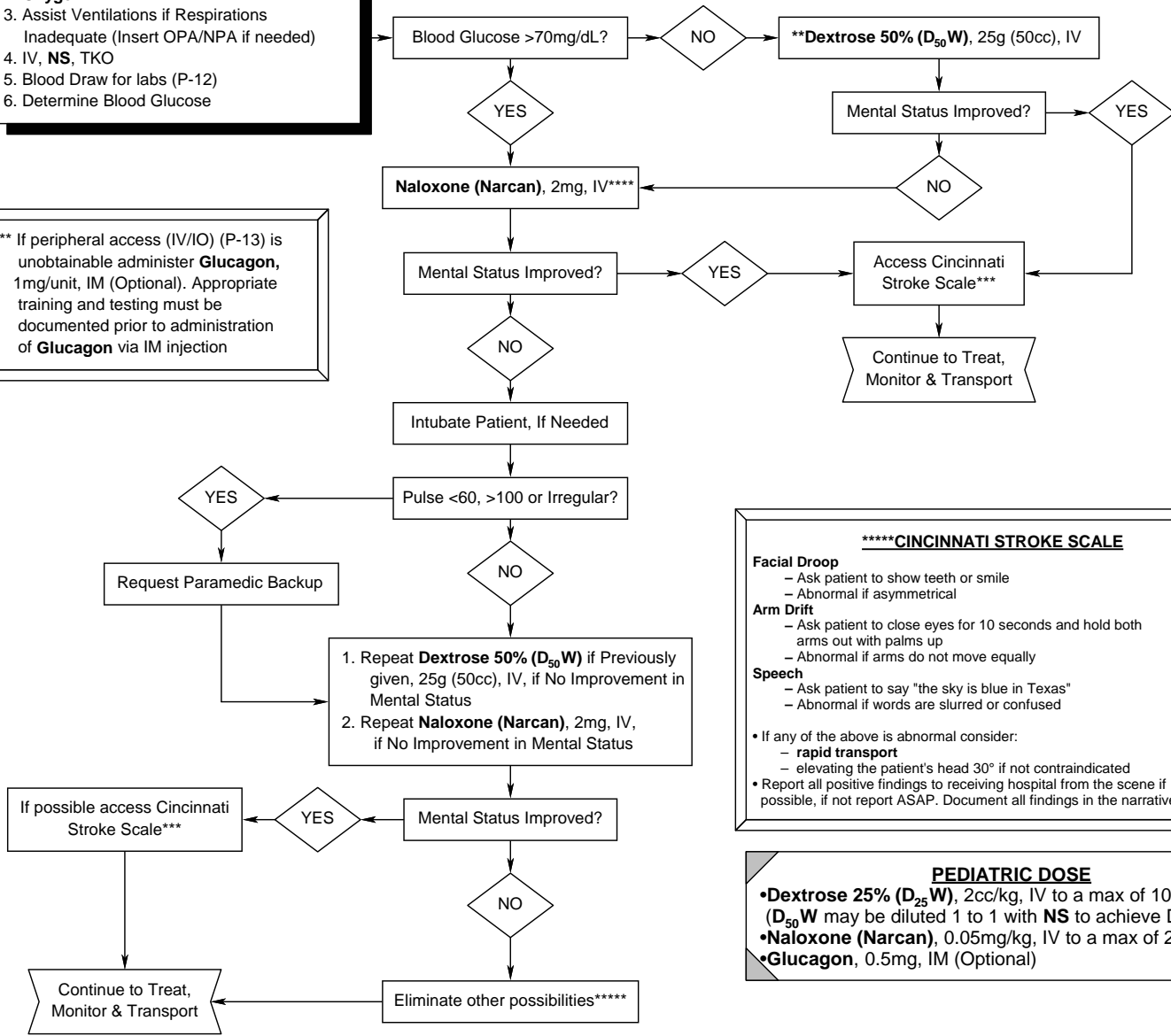
# DECREASED LEVEL OF CONSCIOUSNESS or NEUROLOGIC SYMPTOMS\* (NON-TRAUMATIC)



**\*NEUROLOGIC SYMPTOMS**  
 1. Any Motor or Sensory Deficit  
 2. Any Altered Level of Consciousness

1. ABCs
2. **Oxygen**
3. Assist Ventilations if Respirations Inadequate (Insert OPA/NPA if needed)
4. IV, **NS**, TKO
5. Blood Draw for labs (P-12)
6. Determine Blood Glucose

\*\* If peripheral access (IV/IO) (P-13) is unobtainable administer **Glucagon**, 1mg/unit, IM (Optional). Appropriate training and testing must be documented prior to administration of **Glucagon** via IM injection



**\*\*\*\*\*CINCINNATI STROKE SCALE**

**Facial Droop**  
 - Ask patient to show teeth or smile  
 - Abnormal if asymmetrical

**Arm Drift**  
 - Ask patient to close eyes for 10 seconds and hold both arms out with palms up  
 - Abnormal if arms do not move equally

**Speech**  
 - Ask patient to say "the sky is blue in Texas"  
 - Abnormal if words are slurred or confused

- If any of the above is abnormal consider:
  - **rapid transport**
  - elevating the patient's head 30° if not contraindicated
- Report all positive findings to receiving hospital from the scene if possible, if not report ASAP. Document all findings in the narrative.

**PEDIATRIC DOSE**

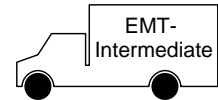
- **Dextrose 25% (D25W)**, 2cc/kg, IV to a max of 100cc (D50W may be diluted 1 to 1 with **NS** to achieve D25W)
- **Naloxone (Narcan)**, 0.05mg/kg, IV to a max of 2mg
- **Glucagon**, 0.5mg, IM (Optional)

\*\*\*\*\*  
**Other considerations for decreased LOC:**  
 1. Possible Cold Exposure (Page 12),  
 2. Heat Exposure (Page 15), or  
 3. Hypovolemia (Page 16)

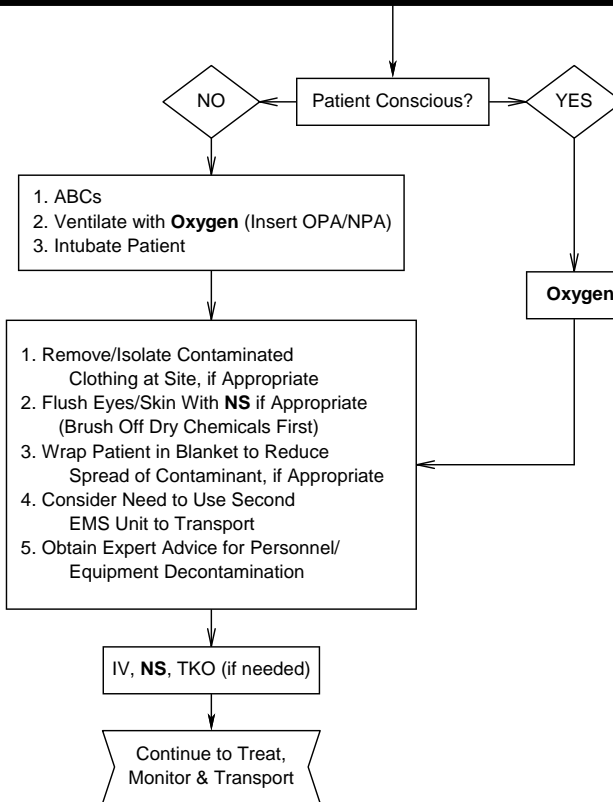
\*\*\*\*\*To Prevent Florid Withdrawal in Patients on Chronic or High Dose Narcotics. Administer **Narcan** in Increments of 0.1mg Every 2-3 Minutes Until Clinical Effect Noted.

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

# 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

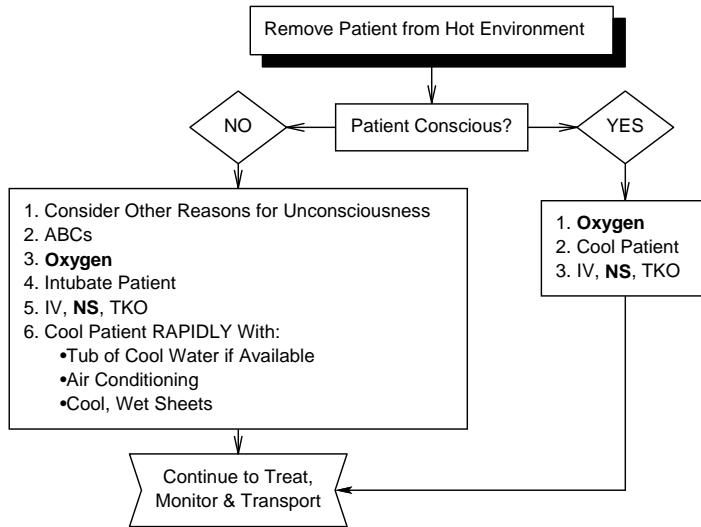
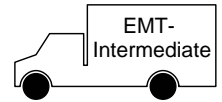


## \* HAZMAT PRECAUTIONS

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

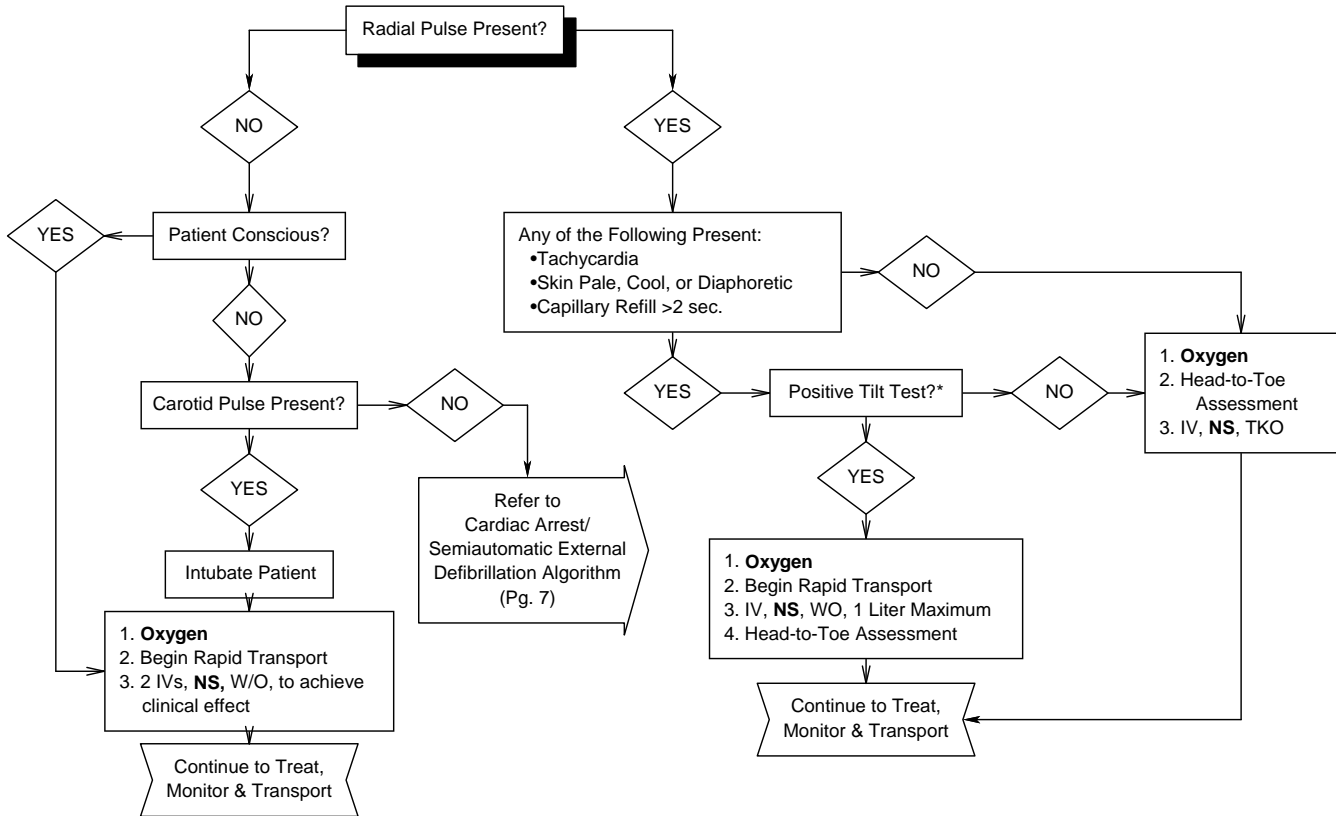
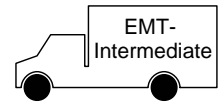
- In Multiple Patient Incidents, Use Triage to Determine Which Patients Receive IV's
- All Patients Should Be Transported for Observation Regardless of how Mild the Episode Seems to be
- Rescue Attempts, Scene Management, & Patient Care Should be Based on Best Information Available about the Material
- 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

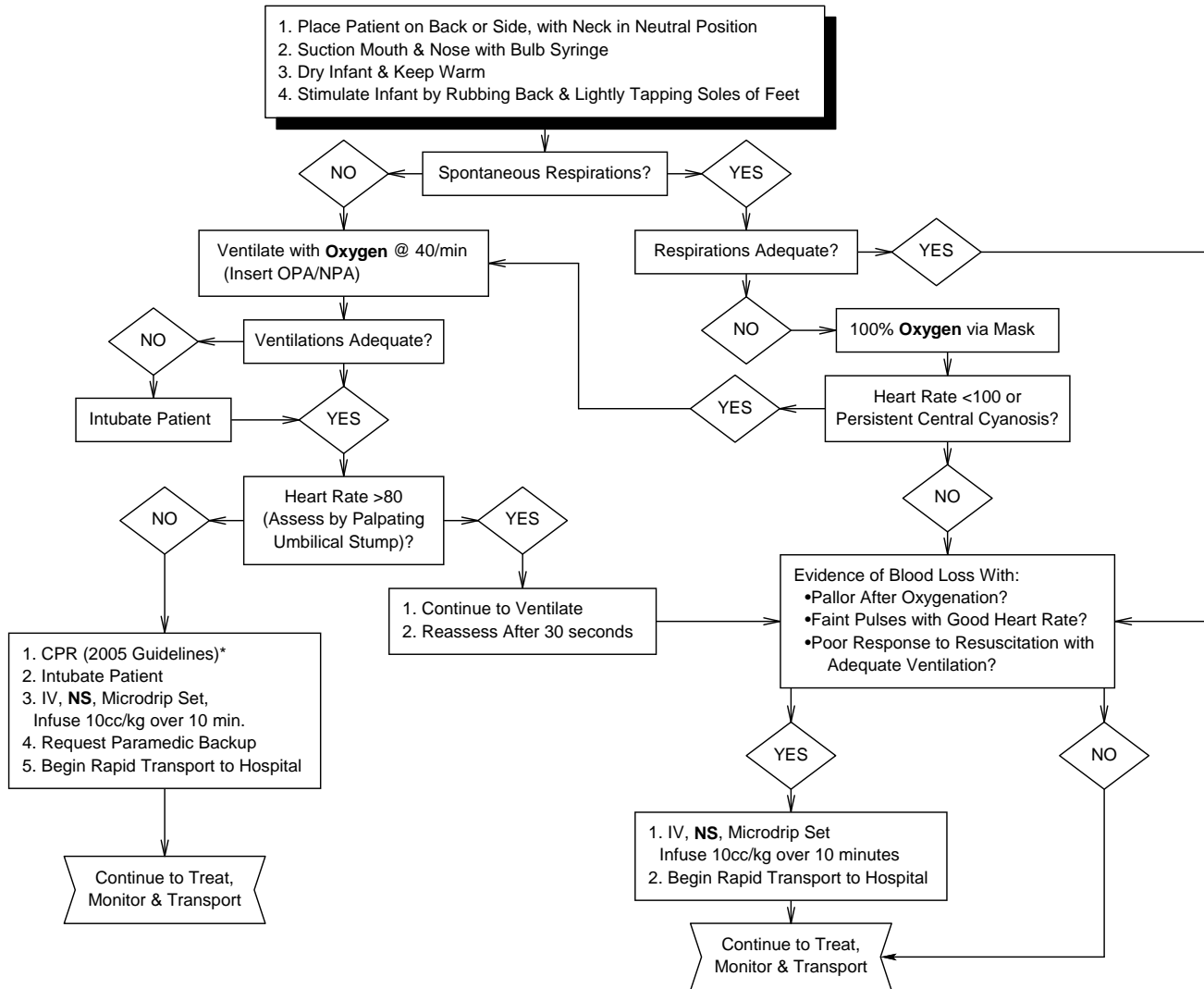
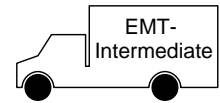
# HYPOVOLEMIA (NON-TRAUMATIC)



**PEDIATRIC**  
Fluid challenge 20cc/kg over 10 minutes.  
Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema.

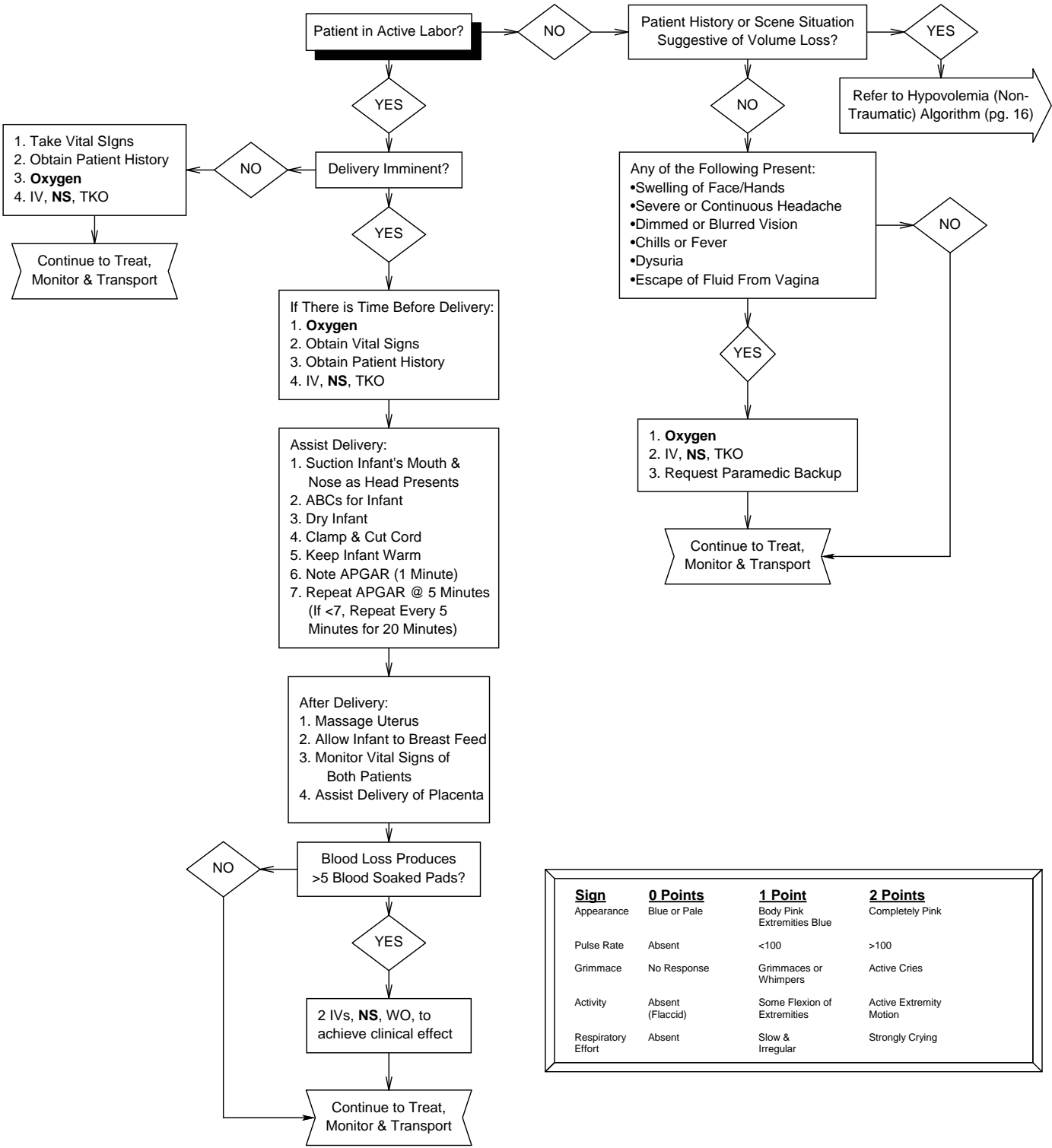
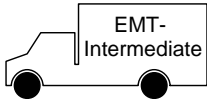
**\*POSITIVE TILT TEST**  
Pulse Rate Increases by 20, Systolic BP Decreases by 20mmHg, or Diastolic BP Decreases by 10mmHg when Patient is Raised from Supine to Sitting position **OR** Patient will Not Tolerate Being Raised From Supine to Sitting Position Because of Weakness, Dizziness, Presyncope,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

# NEONATAL RESUSCITATION



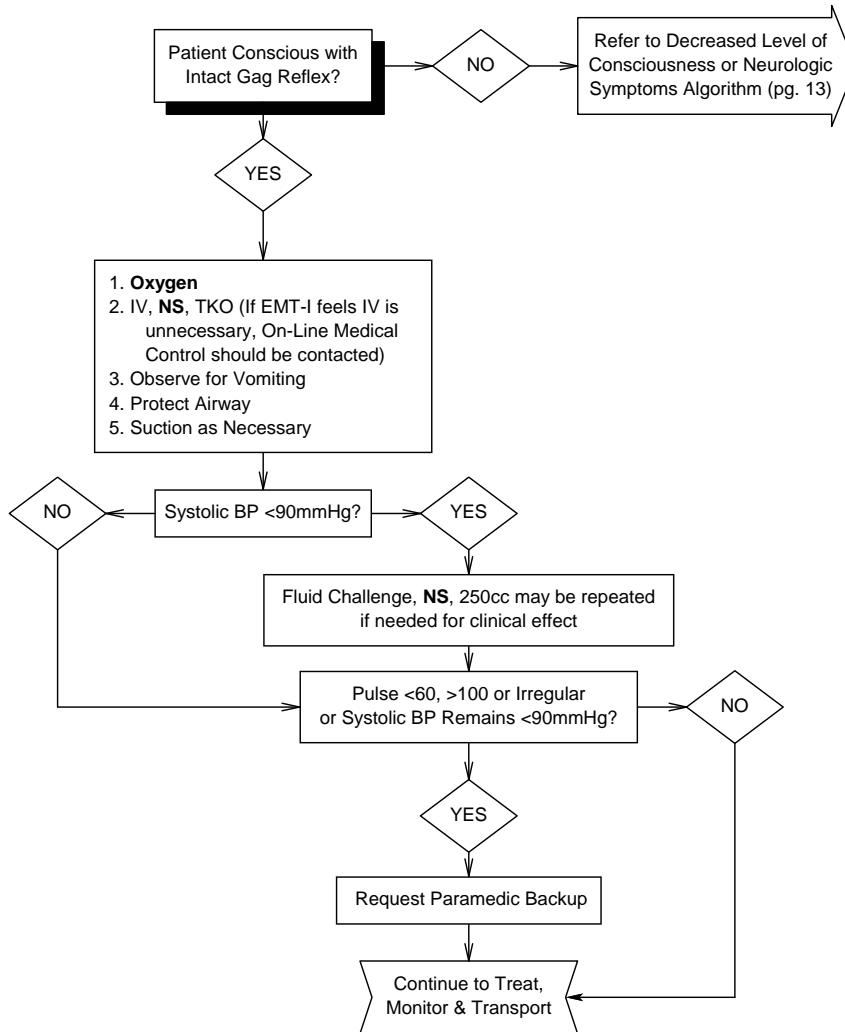
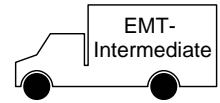
\* Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2005 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions. Continue CPR while the defibrillator is charging. Providers must organize care to ensure that chest compressions, initial and subsequent defibrillations are not delayed due to placement of advanced airways or to obtain vascular access.

# 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

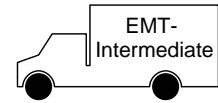


**PEDIATRIC**  
Fluid challenge 20cc/kg over 10 minutes. Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema.

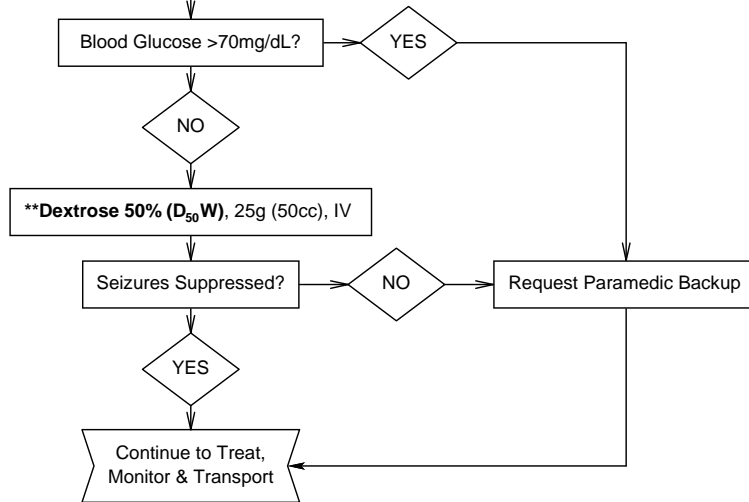
Bring ALL Potential Agent Containers and/or Samples of Agents, if Possible, to the Emergency Department

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. IV, **NS**, TKO
6. Determine Blood Glucose



\*\* If peripheral access (IV/IO)(P-13) is unobtainable administer **Glucagon**, 1mg/unit, IM (Optional). Appropriate training and testing must be documented prior to administration of **Glucagon** via IM injection

## PEDIATRIC DOSE

- **Dextrose 25% (D<sub>25</sub>W)**, 2cc/kg, IV to a max of 100cc  
**D<sub>50</sub>W** may be diluted 1 to 1 with **NS** to achieve (**D<sub>25</sub>W**)
- \* **Liquid Motrin (Ibuprofen)**, 10mg/kg, PO, to a max of 800mg per single dose Post seizures with temperature > 100.4 and adequate LOC.
- **Glucagon**, 0.5mg, IM (Optional)