SOUTH PLAINS EMERGENCY MEDICAL SERVICES

PRE-HOSPITAL TREATMENT
PROTOCOLS
for
EMT-INTERMEDIATE

APPROVED FOR USE

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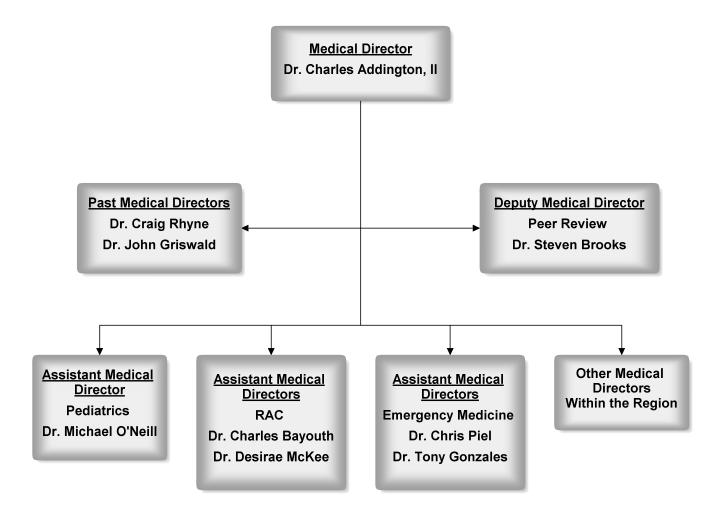
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SPEMS Medical Direction Committee Organizational Chart



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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 <u>treatment protocols</u>, 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 <u>treatment protocols</u>.

EMT-intermediates who do not have current medical control authorization from the SPEMS Medical Director are prohibited from operating under these <u>treatment protocols</u>.

Execution of <u>treatment protocols</u> 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 <u>treatment protocols</u> 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 <u>treatment protocols</u> 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 <u>treatment protocols</u> 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 <u>treatment protocols</u> 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.: IM 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. (A current National Registry card can NOT be used in the place of a current TDSHS certification)
- 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 with a grade of 90% or higher. All initial testing will be done via the internet. A copy of the official protocol exam results email must be forwarded to all EMS directors in which the EMT-I is on the roster. Each EMT-I shall be allowed to take the test twice. Failure of the Protocol exam twice will require the EMT-I to contact the SPEMS office for additional testing and remediation. The Medical Director may require additional formal training in the protocols at any time.
 - **NOTE**: The Protocol exam is open book and each EMT-I is encouraged to utilize the Protocols to complete the exam.
- 5. Participate in case review at least four times per year. Two of which are recommended by the end of the first half of the year and the remaining two by the end of the second half of the year The SPEMS Medical Director, or his designee, shall attend all case reviews. A written record will be kept of all case reviews. This record will consist of at least a summary of the cases presented and recommendations made for changes in procedure.
 - Exemption: EMT-Is enrolled in a State approved EMT-P class may be exempted from a Case Review while enrolled and/or performing rotations during that quarter. This is subject to the approval of the EMS Director and local EMS services may opt to NOT allow such exemptions. This exemption can only apply to two (2) case reviews in a calendar year. All case review exemptions must be documented on the SPEMS Case Review Exemption form, located on the SPEMS website and will be submitted annually by the EMS Director along with the SPEMS Compliance Checklist. This exemption does not apply to the SPEMS required skills proficiencies. Therefore, all skills proficiencies must be verified per the protocols.
 - Example: An EMT-I is enrolled in an EMT-P course that the classroom runs from January through May and all rotations must be completed by August. That student may be exempted from the first 2 case reviews, with the EMS Director's approval and properly documented.
- 6. Use an approved standard run report form/software, and by the 10th each month send a copy of all run reports to the SPEMS Medical Director through the SPEMS office.
- Documentation is a critical component of pre-hospital care. All documentation must be complete, accurate and done in a timely manner.
 - A patient contact form, list of medications given, and procedures performed will be given to the patient's nurse prior to leaving the receiving facility.

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

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

- 8. EMT-Intermediates must demonstrate proficiency of the following advanced skills at least twice per year between the period of January 1st through June 30th and July 1st through December 31st by:
 - Performing 6 successful IVs, 3 successful endotracheal intubations, 3 King airway, 3 properly performed adult EZ IO placements, 3 properly performed pediatric EZ IO placements, 2 AED, and 3 Intramuscular 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
performed adult EZ IO placements, properly performed pediatric EZ IO, AED, and Intramuscular
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 performed adult EZ IO placements, properly performed pediatric EZ IO, AED, and Intramuscular Epinephrine injection (if currently carried by your service) to the satisfaction of the Medical Director.
 - (*Skills may be checked off by a SPEMS Peer Reviewer, Associate Medical Director, SPEMS Medical Director, or by a person approved by the SPEMS Medical Director. To be approved, a person must submit to the SPEMS Medical Director a list of qualifications and must receive an endorsement from the Peer Reviewer that performs peer review for that service. All skills will be verified according to the standards listed on the SPEMS website.)
- Participating once per year in a formal laboratory evaluation of pleural decompression conducted by a SPEMS Peer Reviewer, Associate Medical Director, SPEMS Medical Director, or by a person approved by the SPEMS Medical Director
- 9. These protocols shall be utilized under medical direction of the SPEMS Medical Director in the SPEMS/TSA-B area or during routine transfers from one service area to another.
 - These protocols may also be followed in the performance of **GOOD SAMARITAN** duties when **OFF DUTY** and not responding with any emergency service agency (i.e. EMS, Police, or Fire Dept.). However, in the event that you are **OFF DUTY** and assisting an EMS service that is not under SPEMS medical direction, their online medical direction must be contacted for approval prior to performing any advanced procedures.
- 10. The intent of these protocols are for EMS professionals to treat patients as they would a member of their own family.

EMS DIRECTOR'S RESPONSIBILITIES

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

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

PROCEDURAL GUIDELINES FOR MEDICAL CONTROL AUTHORIZATION

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

Suspension means that the technician may not practice until completion of all medical control authorization requirements 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:

- 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.
- 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:
 - · Amniotic fluid
 - Blood
 - Body fluids with visible blood
 - Cerebrospinal fluid (CSF)
 - Feces
 - Nasal secretions

- Pericardial fluid
- · Peritoneal fluid
- Semen
- Sputum
- Sweat
- Synovial Fluid

- Tears
- Teeth
- Tissues
- Urine
- Vaginal secretions
- Vomitus
- 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.
- 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:

- 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.
- 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.
- 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.
- 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, palpations, 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 sign point to ACS, then EMS personnel should consider the patient a candidate for the Chest Pain/Possible MI Protocol until proven otherwise.

2. ADEQUATE PERFUSION:

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

3. ADULT REFUSAL OF TRANSPORT

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

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

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

4. ASEPTIC TECHNIQUE:

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

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

5. 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

6. 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

7. 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

8. 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.

9. 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.

10. DUTY STATUS/GEOGRAPHICAL AREA/GOOD SAMARITAN

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

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

11. 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.

12. 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 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.

13. INADEQUATE RESPIRATIONS:

SHALLOW respirations <10, or >35 per minute.

14. 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.

15. MEDICATION CONCENTRATIONS/STORAGE

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

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

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

16. 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 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.

17. NON-ACCIDENTAL TRAUMA:

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

18. NON-EMS LICENSED/CERTIFIED PERSONNEL

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

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

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

19. NO TRANSPORT CODES

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

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

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

20. "OPTIONAL" OR "RECOMMENDED":

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

21. PATIENT'S PHYSICIAN ON SCENE

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

22. REQUESTING ASSISTANCE AND/OR HIGHER LEVEL OF CARE

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

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

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

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

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

23. TRANSPORTATION GUIDELINES

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

- 1. Bring a transfer form completed by the sending hospital.
- 2. Know the name of the receiving physician.
- Request assistance from the receiving area's Advanced Life Support service if the patient's condition is unstable or his/her condition deteriorates while en route. EMS providers will develop written mutual aid agreements with neighboring communities to facilitate coordination of backup responses. Copies of these agreements will be sent to the Regional EMS Communications Center through the SPEMS office.

- 4. Contact Receiving Hospital **as soon as possible prior to arrival**, and re-establish contact any time patient's condition changes. Monitor patient's overall condition and vital signs every 5 to 10 minutes.
- 5. Notify Lubbock EMS dispatch on Med Channel 9 if transporting a patient into the City of Lubbock Code 3. Include sending hospital, city of origin, destination hospital, route traveling, patient severity, transport code, and estimated time of arrival.
- 6. During interfacility transfers SPEMS personnel should operate under the orders of the transferring physician, except were State statute or regulation dictate otherwise such as a physician written DNR. An attempt should be made to contact the transferring or receiving physician to dictate treatment if a decrease in the patient's condition occurs or at the onset of new complications which need to be immediately addressed. If contact is not possible, SPEMS personnel are authorized to operate under the existing SPEMS protocols. Personnel may also contact Medical Control at anytime. Include in your verbal as well as written report any changes in patient condition, orders received or treatment provided. Interfacility transfers include but are not limited to: Hospital to Hospital, Hospital to Specialized care centers and Hospitals to extended care facilities.

24. TRANSPORTATION OF MINORS

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

Exceptions:

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

25. UNKNOWN PHYSICIAN ON SCENE

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

26. VENTILATION:

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

27 VITAL SIGNS:

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

TREATMENT PROCEDURES

AIRWAY MANAGEMENT:

Patients who 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 1attempt by the secondary intermediate/paramedic. An ET tube introducer (i.e. Bougie) may be used, if needed, to facilitate endotracheal intubation at any time. 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. An ET tube introducer (i.e. Bougie) **CAN NOT** be passed through a King airway in order to endotracheally intubate.

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 CO₂ 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

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 (or their equivalent) 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 or when a pt presents with altered mentation. 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 catheter

CO₂ CONTINUOUS WAVEFORM CAPNOGRAPHY

Continuous CO₂ waveform capnography (if available) provides multiple benefits for patients and multiple monitoring aids for advanced EMS providers. The 2010 AHA ACLS guidelines recommend use of continuous quantitative CO₂ waveform capnography for all patients with advanced airways. If available, continuous quantitative CO₂ waveform capnography should be used for the following:

- Continuous confirmation of proper intubation tube placement
 - Goal of ETCO₂ levels between 30 and 34mmHg for perfusing patients
- · Monitoring effectiveness of quality of CPR
 - o ETCO2 readings should be maintained at or above 20mmHg at all times
 - ETCO₂ readings of less than 10mmHg has been shown to have NO chance of return of spontaneous circulation (ROSC)
 - Readings of less than 20mmHg indicates ineffective CPR
 - If ETCO₂ readings are less than 20mmHg: look at rate, hand placement, depth of compressions, ET tube placement, lung sounds, supplemental oxygen supply, etc.
- Induced hypothermia in post resuscitation patients
 - o Readings should be maintained at or above 20mmHg at all times

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).

BLS

- 1. Request Law Enforcement assistance on any patient who requires chemical restraint.
- 2. Assess blood glucose to rule-out hypoglycemia.
- 3. Request Paramedic Backup

<u>ALS</u>

- 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.

Excited Delirium Syndrome:

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

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

Management of Excited Delirium Syndrome:

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

FEVER MANAGEMENT:

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

Adult Fever Management:

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

Pediatric Fever Management:

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

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.

HYPERGLYCEMIA

If during routine exam, the patient's BGL is found to be > 300mg/dL, an IV of NS is recommended.

- Patients with vague or non-specific complaints; IV of NS, TKO is recommended.
- If the patient presents severely ill and/or is hemodynamically unstable; IV of NS is recommended to be infused
 at WO rate for a 1-2 liter bolus or until clinic effect is noted. Pediatric fluid bolus; 20cc/kg or until clinical effect
 is noted

Caution is advised with infusing high volume crystalloids in patients with CHF or chronic renal failure.

INTRANASAL MEDICATION ADMINISTRATION:

This procedure authorizes the SPEMS Intermediate to administer intranasal (IN) medications using the MAD (Mucosal Atomizer Device). The rich vasculature of the nasal cavity provides a direct route into the bloodstream for medications that easily cross the mucous membranes. Due to this direct absorption into the bloodstream, rate and extent of absorption is relatively comparable to IV administration. This procedure allows for the substitution of approved medication administration via the intranasal route in place of other routes listed in specific protocols. This procedure may be used when it is determined by the Intermediate that a needleless delivery system may be desired for safety reasons because of patient agitation or combativeness, or an IV is unobtainable. The SPEMS Intermediate should refer back to the original protocol upon completion of this treatment guideline. Generally, the intravenous route is the preferred method of drug administration and IV therapy should follow as soon as appropriate or practical.

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

Indications:

 Adult and Pediatric Altered Level of Consciousness with respiratory compromise. Only the full 2mg dose of Narcan should be administered IN with the exception of the pediatric patient. If the "low dose" of Narcan is warranted it must be administered IV.

Factors that affect absorption (which are relative contraindications):

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

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Procedure:

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

General Comments:

- Prior to using a nasal medication, inspect the nostril for significant amounts of blood or mucous discharge.
 Presence of these will limit the medication absorption. Suctioning the nasal passage prior to delivery may be necessary or an alternative delivery method should be explored.
- Always deliver ½ of the medication dose into each nostril. This doubles the available mucosal surface area (over single nostril) for drug absorption and increases rate and amount of absorption.
- Always use the most concentrated form of the drug available-diluted forms are less effective.
- Do not use over ½ to 1cc of medication per nostril (0.2-0.3cc is the idea volume). If a higher volume is required, apply it in two separate doses allowing a few minutes for the former dose to absorb.
- For small volume doses of medication, be aware that most delivery devices have a "dead space" in the applicator
 tip where some of the medication will remain. Be sure to take that dead space into account when calculating the
 volume of medication to be administered. Usually the addition of 0.1cc of medication will account for the dead
 space.
- Narcan IN failures are due to being in a hurry to see the patient wake up. IN Narcan takes 3-5 minutes to begin
 working. The patients often just improve breathing so do not always expect full arousal. (The goal is breathing). In
 order to prevent Acute Withdrawal Syndrome, patients that are chronically dependant on opiates should receive
 increments of 0.1mg of Narcan via the intravenous route (IN Narcan can only be administered with the 2mg
 dose with exception of the pediatric patient).

Intranasal Dosages:

DECREASED LOC WITH RESPIRATORY COMPROMISE: Strength: Narcan (Naloxone), 1mg/cc

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

MAST:

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

NONSPECIFIC COMPLAINT:

If a patient's problem or chief complaint is not addressed by a specific algorithm (e.g. malaise or generalized weakness), the EMT-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.

If a patient has profound Nausea/Vomiting, consider administering **Zofran** 4mg IVP. Pediatric (2-12 years of age) dose of **Zofran** is 0.1mg/kg to a max of 4mg, IVP. Do not administer **Zofran** to patients < 2 years of age

OXYGEN THERAPY:

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

To avoid hyperoxia, adult patients with cardiac and/or stroke related problems should be given **oxygen** only if their O2 sats are below 94% or if signs of hypoxia are present. If **oxygen** is required, **oxygen** should be administered, using a non-rebreather, simple face mask or nasal cannula to maintain O2 sats between 94 and 99%. These patients should not be allowed to have a sat of 100%.

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

Except as listed above, all other patients, with an O2 sat below 94%, should receive **oxygen** via non-rebreather or simple face mask. Patient's with an O2 sat of 94% or above; requiring **oxygen** per protocol, may have **oxygen** applied using either a non-rebreather mask, a simple face mask or a nasal cannula.

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

PARAMEDIC BACKUP:

Whenever a patient would reasonably benefit from MICU care (EKG monitoring, 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:

INTRAOSSEOUS 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. The preferred site for the EZ-IO is the anterior surface of the proximal tibia. However, the proximal humerus may be utilized as a secondary site if one or more of the contraindication listed below prevents cannulization into the proximal tibia. The EZ-IO must be used as per manufacturer instructions. The EZ-IO may be secured with an EZ-STABILIZER (Optional) as per manufacturer instructions or by other means such as bulky dressings. Manual hand insertion may be done only if the power driver fails. Simply remove the power driver, grasp the needle set and rotate, pushing the needle into the intraosseous space.

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 at or around the insertion site, 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

• INTRAOSSEOUS 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 instructions. The EZ-IO PD may be secured with an EZ-STABILIZER (Optional) as per manufacturer instructions or by other means such as bulky dressings. Manual hand insertion may be done only if the power driver fails. Simply remove the power driver, grasp the needle set and rotate, pushing the needle into the intraosseous space.

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.
- 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 midaxillary 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 (Optional):

The use of the ResQPOD is for the adult patient in cardiac arrest. An adult patient is defined by AHA as one whom has reached puberty. Intermediates who have been properly trained in the use of the ResQPOD may apply the device directly to the ventilation adjunct (i.e. 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.

SPINAL IMMOBILIZATION CLEARANCE:

The acronym "NSAIDS" should be used to remember the steps for spinal immobilization clearance. · N - Neuro Exam:

Look for any focal deficits such as tingling, reduced strength, or numbness.

Verify that there is no language barrier between you and the patient.

· S - Significant MOI: Use judgment; Studies have shown that MOI alone should NOT dictate the need for

immobilization.

• A - Alertness and Age: Assess that the patient is conscious, alert, and oriented to person, place, time, and

event? Confirm the patient is > 10 years of age.

• I - Intoxication: Assess for any indicators that the person is intoxicated or under the influence (Illicit or

Legal Drugs, Alcohol, etc.)

•D - Distracting Injuries: Look for any other injuries that might distract the patient from spinal pain.

·S - Spinal Exam: Check for point tenderness along the spinous process of the entire spine (log rolling the patient while holding manual c-spine is appropriate in order to assess for point tenderness).

- Assess for painful range of motion only if the patient had no tenderness to spine (patient should be able to touch their chin to their chest, extend their neck by looking upward, and turn their head from side to side without any midline spinal pain).
- Once an immobilization device has been placed, it MUST ONLY BE REMOVED BY A PHYSICIAN.

See flowsheet on the following page

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SPINAL IMMOBILIZATION **CLEARANCE***



- * •The acronym "NSAIDS " should be used to remember the steps for spinal immobilization clearance.
- •N Neuro Exam: Look for any focal deficits such as tingling, reduced strength, or numbness.
- Verify that there is no language barrier between you and the patient.

 S Significant MOI: Use judgement; Studies have shown that MOI alone should NOT dictate the need for immobilization.

 A Alertness and Age: Assess that the patient is conscious, alert, and oriented to person, place, time, and event?
- Confirm the patient meets the age requirements noted above.

- 1 Intoxication: Assess for any indicators that the person is intoxicated or under the influence (Illicit or Legal Drugs, Alcohol, ect.)
 D Distracting Injuries: Look for any other injuries that might distract the patient from spinal pain.
 S Spinal Exam: Check for point tenderness along the spinous process of the entire spine (log rolling the patient while holding manual c-spine is appropriate in order to assess for point tenderness).
- · Assess for painful range of motion only if the patient had no tenderness to spine (patient should be able to touch their chin to their chest, extend their neck by looking upward, and turn their head from side to side without any any midline spinal pain).
- · Once an immobilization device has been placed, it MUST ONLY BE REMOVED BY A PHYSICIAN.

SEMIAUTOMATIC 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.

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

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

TREATMENT FOR SHOCK:

- Assure Airway, Breathing, Circulation, and control of Bleeding (ABCs)
- Insert oropharyngeal/nasopharyngeal airway if patient is unconscious and consider 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

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

QUICKCLOT

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

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

COMMERCIAL TOURNIQUET DEVICE

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

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

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

PRE-HOSPITAL MEDICATIONS AND INTRAVENOUS FLUIDS

INHALED MEDICATIONS

Oxygen

Duo-Neb: Consists of 0.5mg Ipratropium Bromide and 3mg of Albuterol Sulfate in 3ml (Page 6, 10, 13)

Levalbuterol (Xopenex) (optional) 1.25mg/3ml (Page 6, 13) Racemic Epinephrine 2.25% 11.25mg/0.5ml (optional) (Page 6)

ORAL MEDICATIONS

Acetaminophen, 500mg tablets (P-17)

Activated Charcoal, 50g (P-25)

Aspirin, 325mg tablet (Page 8, 10, 11)

Ibuprofen 200mg tablets (P-17)

Oral Glucose 15g tube (P-10)

Liquid Children's Motrin 100mg/5ml (P-17) (Page 22)

SUBLINGUAL MEDICATIONS

Nitroglycerin, 0.4 mg tablet or spray (Page 8, 10, 11)

INTRAMUSCULAR MEDICATIONS

Epinephrine Auto-Injector (Adult), 0.3mg/unit (Page 13)

Epinephrine Auto-Injector (Pediatric), 0.15mg/unit (Page 13)

Epinephrine (1:1,000) 1mg/1cc (Appropriate training and testing must be documented prior to administration) (Page 13)

Glucagon 1mg/unit (optional) (Appropriate training and testing must be documented prior to administration) (Page 15, 22)

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

INTRANASAL MEDICATIONS

Narcan (Naloxone), 2mg/2cc (P-17) (Page 10, 15)

INTRAVENOUS FLUIDS

Lactated Ringers (LR)

Normal Saline (NS)

INTRAVENOUS MEDICATIONS

Dextrose 50% (D₅₀W), 25g/50cc (Pages 15, 22)

Diphenhydramine (Benadryl), 50mg/1ml (Page 13)

Naloxone (Narcan), 2mg/2cc (Page 10, 15)

Ondansetron (Zofran) 4mg/2cc (P-18) (Page 8, 10)

INTRAOSSEOUS MEDICATIONS

Lidocaine 100mg/5cc (Appropriate training and testing must be documented prior to administration) (P-19, P-20) (Page 11)

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**:

<u>Activated Charcoal</u>: (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 <u>AND</u> ONE OF THE FOLLOWING SITUATIONS EXISTS:

- 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.
- 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)
- 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. <u>ALL</u> 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.

<u>IF ANY DOUBT WHATSOEVER EXISTS, RESUSCITATE!</u>

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

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DO NOT RESUSCITATE ORDERS

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

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

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

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

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

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

Texas OOH DNR Order Bracelet

Two types of OOH DNR Order bracelets are valid:

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

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

Texas OOH DNR Order Necklace

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

Out-of-State DNR Orders

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

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

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

DOCUMENTS THAT MAY NOT BE ACCEPTED:

Do Not Accept:

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

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

- 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.
- The patient is pregnant.
- 4. The patient cannot be conclusively identified as the patient named on the OOH DNR Order form.
- 5. There is an airway obstruction.
- 6. Unnatural or suspicious circumstances are present; including suicide attempt.

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

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

COMPLIANCE WITH OOH DNR ORDER:

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

- 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 ar
 - 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

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

Figure: 25 TAC §157.25 (h)(2)

OUT-OF-HOSPITAL DNR INSTRUCTIONS

Page 2 of 2

PURPOSE:

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

APPLICABILITY:

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

IMPLEMENTATION:

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

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

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

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

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

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

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

REVOCATION:

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

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

DEFINITIONS

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

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

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

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

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

Revised July 19, 2005 Texas Department of State Health Services

Page 2 of 2 Publications No. EF01-11421

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

03/01/2017

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

INSTRUCTIONS FOR ISSUING AN OOH-DNR ORDER

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

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

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

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

Section B - If an adult person is incompetent or otherwise mentally or physically incapable of communication and has either a legal guardian, agent in a medical power of attorney, or proxy in a directive to physicians, the guardian, agent, or proxy may execute the OOH-DNR Order by signing and dating it in Section B. Section C - If the adult person is incompetent or otherwise mentally or physically incapable of communication and does not have a guardian, agent, or proxy, then a qualified relative may execute the OOH-DNR Order by signing and dating it in Section C.

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

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

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

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

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

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

DEFINITIONS

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

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

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

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

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

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

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CARDIAC TRIAGE/TRANSPORT DECISION SCHEME

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

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

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

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

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

PCI is the preferred method of reperfusion if possible.

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

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

STROKE TRIAGE/TRANSPORT DECISION SCHEME

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

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

TRANSPORTATION SHOULD BE BASED ON THE TIME OF ONSET OF SYMPTOMS

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

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

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

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

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

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

PEDIATRIC TRAUMA TRIAGE/TRANSPORT DECISION SCHEME

Physiologic Criteria:

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

Anatomic Criteria:

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

Other Criteria:

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

TRIAGE/TRANSPORT GUIDE:

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

The full BRAC Regional Pediatric Plan can be viewed at www.spems.org

PEDIATRIC BURN TRIAGE/TRANSPORT DECISION SCHEME

American Burn Association Triage/Transfer Criteria:

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

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

TRIAGE/TRANSPORT GUIDE:

Burns in Children:

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

Burns and Trauma in Children:

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

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

Other Criteria for Transport:

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

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

The full BRAC Regional Pediatric Plan can be viewed at www.spems.org

PEDIATRIC NON-TRAUMA TRIAGE/TRANSPORT DECISION SCHEME

Physiologic Criteria

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

Other Criteria

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

TRIAGE/TRANSPORT GUIDE:

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

The full BRAC Regional Pediatric Plan can be viewed at www.spems.org

TRAUMA TRIAGE CRITERIA FOR EMS FACILITY BYPASS AND TRANSFER

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

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

CRITICAL PATIENTS

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

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

URGENT PATIENTS

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

- Central nervous system:
 - Prolonged loss of consciousness, posturing,

paralysis or lateralizing sign

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

Continued on Next Page

TRAUMA TRIAGE CRITERIA FOR EMS FACILITY BYPASS AND TRANSFER (Continued)

CATEGORY III PATIENTS

May be evaluated at a Level III Trauma Center. Patients who are physiologically and hemodynamically stable whose injuries may include:

- · Central nervous system:
 - · Transient loss of consciousness
- Chest:
 - Injuries not producing respiratory distress
 - · Rib fractures without flail segments
- Abdomen:
 - Blunt trauma without hypotension
- Specialized problems:
 - Closed fractures
 - · Soft tissue injuries with controlled hemorrhage
 - 2nd/3rd 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 RESPONSEVERBAL RESPONSEEYE RESPONSE1-No Response1-No Response1-No Response2-Abnormal Extension2-Incomprehensible Sounds2-To Pain

3-Abnormal Flexion 3-Inappropraite Words 3-To Verbal Command

4-Withdrawal 4-Confused/Disoriented 4-Spontaneous

5-Localizes Pain 5-Oriented

6-Obeys Command

GLASGOW COMA SCORE – Child & Infant

MOTOR RESPONSEVERBAL RESPONSEEYE RESPONSE1-No Response1-No Response1-No Response2-Abnormal Extension2-Moans, Grunts2-To Pain3-Abnormal Flexion3-Cries to Pain3-To Speech4-Withdraws to Pain4-Irritable Cries4-Spontaneous

5-Localizes Pain 5-Coos, Babbles

6-Spontaneous

REVISED TRAUMA SCORE - Adult & Child

| GLASGOW COMA SCORE | <u>RESPIRATORY RATE</u> | SYSTOLIC BLOOD PRESSURE |
|--------------------|-------------------------|-------------------------|
| 0=3 | 0=0 | 0=0 |
| 1=4-5 | 1=1-5 | 1=1-49 |
| 2=6-8 | 2=6-9 | 2=50-75 |
| 3=9-12 | 3=>29 | 3=76-89 |
| 4=13-15 | 4=10-29 | 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 | Open Wound | Fractures |
|-------|------------|---------------------|-----------|---------------------|-------------|-----------|
| | | | | Consciousness | | |
| +2 | >20kg | Normal | >90mmHg | Awake | None | None |
| | (44lbs) | | J | | | |
| +1 | 10-20kg | Maintainable | 50-90mmHg | Obtunded or any LOC | Minor | Closed |
| | (22-44lbs) | with O ₂ | J | , | | Fracture |
| -1 | <10kg | Intubated | <50mmHg | Comatose | Major or | Open or |
| | (22lbs) | | | | Penetrating | 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 ≤ 8, with mechanism related to trauma
- 4. Any Gun shot wound
- 5. Any penetrating trauma to the torso (chest or abdomen)
- 6. RTS ≤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

TRAUMA TRIAGE/TRANSFER DECISION SCHEME PRE-HOSPITAL* Asses Vitals Signs & Adult Patient (≥ 16 years of age) Pediatric Patient (< 16 years of age) Level of Consciousness · Pediatric Glasgow Coma Scale < 14, OR Pediatric trauma scale < 9, OR · Impaired respirations: OR · Glasgow Coma Scale < 14, OR • > 1 year of age: respiration rate < 10 or > 29 • Systolic BP <90mmhg, OR YES • < 1 year of age: respiration rate < 20</p> • Respiratory Rate <10 or >29, OR Systolic BP: • Revised Trauma Score <11 <60mmHg (birth to 1 year)</p> • <70mmHg (1-6 years) CRITICAL • <80mmHg (7-15 years) These patients should be transported preferentially to a designated level I or II ANATOMY OF INJURY: Trauma Center within ANATOMY OF INJURY: • Penetrating injuries to head, torso & • Penetrating injuries to head, torso & the trauma system extremities proximal to elbows or knees extremities proximal to elbows or knees Flail chest · Flail chest • Two or more proximal long bone fractures • Two or more proximal long bone fractures YES · Crushed, degloved, or mangled extremity · Crushed, degloved, or mangled extremity · Amputation proximal to wrist and ankle · Amputation proximal to wrist and ankle Pelvic fracture · Pelvic fracture · Open or depressed skull fracture · Open or depressed skull fracture · Limb paralysis · Limb paralysis BURNS: BURNS: • 2° > 20% TBSA • 2° > 20% TBSA • 3° > 5% TBSA YES • 3° > 5% TBSA · All inhalation Injuries · All inhalation Injuries • Head, face, feet, hands, or genitalia · Head, face, feet, hands, or genitalia · All electrical burns · All electrical burns **BURN CENTER** · Burns associated with other trauma · Burns associated with other trauma · Triage to appropriate trauma center If patient has no other qualifing trauma · Triage to appropriate trauma center · Burn/Trauma center preferred transport to burn center. If patient has · Burn/Trauma center preferred · Burns without trauma need to be triaged other qualifing trauma transport to • Burns without trauma need to be triaged appropriate qualified trauma center. to a burn center to a burn center MECHANISM OF INJURY: MECHANISM OF INJURY: • Ejection from vehicle (partial or complete) · Ejection from vehicle (partial or complete) • Death in same passenger compartment • Death in same passenger compartment · Extrication time > 15 minutes • Extrication time > 15 minutes • Falls > 20 feet • Falls > 10 feet · Rollovers or vehicle telemetry data consistent · Rollovers or vehicle telemetry data consistent with high risk of injury with high risk of injury YES High speed impact: High speed impact: • Intrusion ≥ 18" anywhere to the vehicle • Intrusion ≥ 18" anywhere to the vehicle • Intrusion ≥ 12" into the passenger compartment • Intrusion ≥ 12" into the passenger compartment • Auto vs pedestrian or Auto vs bicycle: Thrown, · Auto vs pedestrian or Auto vs bicycle: Thrown, run over, with significant impact (> 20mph) run over, with significant impact (> 20mph) · Motorcycle collision: · Motorcycle collision: > 20mph > 20mph · Separation of rider from motorcycle · Separation of rider from motorcycle

A == > 55

- Age > 55 years
- Pregnancy > 20 weeks
- Immunosuppressed patient
- Bleeding disorder or taking anticoagulants
- Time sensitive extremity injuries
- End stage renal disease requiring dialysis
- EMS providers judgment

YES

Transport to closest appropriate trauma center, which need not be the highest level trauma center.

 Children should be triaged preferentially to pediatric-capable trauma centers

- Pregnancy > 20 weeks
- Bleeding disorder or taking anticoagulants
 Time sensitive extremity injuries
- End stage renal disease requiring dialysis
- EMS providers judgment
- EMS providers judgment

*If the patient does not have a secured airway and/or is in cardiac arrest, transport to the nearest facility is justified

When in doubt the patient should be transported to a trauma center
 Consider use of air transport for all critical & urgent patients

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

SOUTH PLAINS EMS EQUIPMENT LIST

BLS UNITS

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

- 2- Rolls of adhesive tape
- 2- Triangular bandages
- 2- Sterile burn sheets
- 3- Vaseline gauze
- 10- Alcohol preps
- 1- Bandage shears
- 1- Pen light
- 1- Multilevel stretcher with all patient securing straps as recommended by the stretcher's manufacturer and at least 2 sets of clean sheets and blankets
- 1- 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
- 5- N-95 or greater protective Masks
- 2- Medical protective gowns or equivalent
- 2- Personal cleansing supplies
- 5- Biohazard bags
- 1- Working flashlight
- 1- Fire extinguisher
- 1- No smoking signs in the cab and patient compartment

BLS NEONATAL EQUIPMENT

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

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

BLS MEDICATIONS

- 1- Activated Charcoal, 50g
- 20- Acetaminophen, 500mg tablets
- 10- Aspirin, 325mg tablets
- 5- Duo-Neb: 0.5mg Ipratropium Bromide and 3mg of Albuterol Sulfate in 3ml
- 1- Epinephrine Auto-Injector (Adult) 0.3mg/unit
- 1- Epinephrine Auto-Injector (Pediatric) 0.15mg/unit
- 2- Epinephrine (1:1,000) 1mg/1cc (if stocked at the BLS level, appropriate training required)
- 20- Ibuprofen, 200mg tablets
- 1- Glucagon 1mg/unit (Optional)
- 2- Levalbuterol (Xopenex) 1.25mg/3ml (Optional)
- 1- Liquid Children's Motrin 100mg/5ml

- 2- Naloxone (Narcan) 2mg/2cc
- 1- bottle- Nitroglycerin 0.4mg tablet or spray
- 1- Oral Glucose 15g Tube
- Oxygen

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

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 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, 4 thru 9.0)
 - ♦ 1- ET tube holder
 - ♦ 1ea- Stylet (adult, pediatric sizes)
- 1ea- ET tube introducer (i.e. Bougie) (adult and pediatric)
- 2- Soft suction catheters for suctioning of ET tube
- 1- Carbon Dioxide monitor or detector (if a Carbon Dioxide detector (i.e. Easy Cap) is solely utilized an adult and pediatric must be stocked)
- 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 (16ga, 18ga, 20ga, 22ga)
 - ♦ 4-1000cc Lactated Ringers or equivalent volume
 - ◆ 4-1000cc Normal Saline or equivalent volume
 - ♦ 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)
- 1- EZ IO Driver with spare batteries (EZ IO Drivers with the non-replaceable battery need not have a spare)
- 1- EZ IO PD needle
- 1- Adult EZ-IO needle
- 1- EZ-IO LD needle (optional)
- 1- EZ-STABILIZER (optional)
- 2ea- Purple, Green, and Blue blood specimen tubes or their equivalent (red tube optional)
- 2- Gastric tubes
- 2- 14ga X 2" or longer IV catheters for pleural decompression
- 1- Morgan Lenses (Optional)
- 1- Copy of current, signed SPEMS treatment protocols for EMT-Intermediate

ALS NEONATAL EQUIPMENT

In addition to the BLS Neonatal Equipment list, all ALS or ALS Capable units must be equipped with:

- 1- Miller size 0 laryngoscope blade with extra bulb (extra bulb not required for fiber optic laryngoscope blade)
- 2ea- Endotracheal tubes (sizes, 2.5, 3.0, and 3.5)
- 5- 24ga IV catheters

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

ALS MEDICATIONS

- 2- Dextrose 50% (D50W), 25g/50cc
- 1- Diphenhydramine (Benadryl), 50mg/cc
- 1- Lidocaine (Xylocaine), 100mg/5cc
- 2- Ondansetron (Zofran) 4mg/2cc
- 1- Racemic Epinephrine 2.25% 11.25mg/0.5ml (optional)
- ♦ 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, vein finder, thermometer, etc.) does not require written authorization by medical direction or additions to the equipment list.
- ♦ All of the services under my medical direction must carry the minimum amount of equipment and medications listed above, and may carry more according to their run demand and patient care needs.

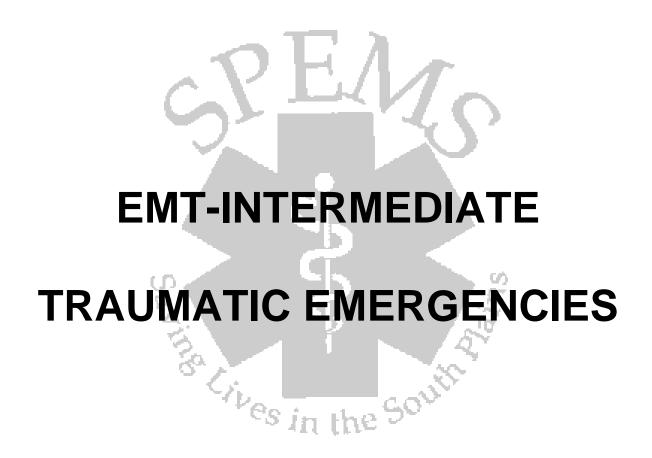
Ca-8

SPEMS Medical Director

Date 03/01/2017

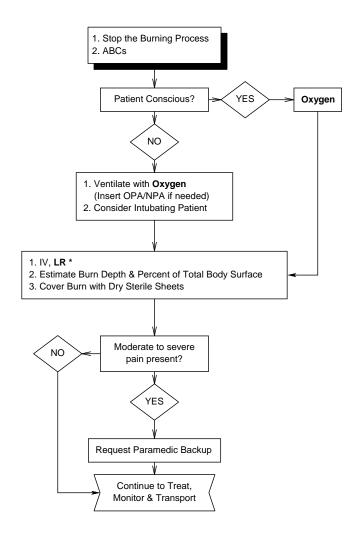
Service Director

Date 03/01/2017

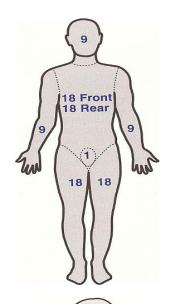


BURNS (Moderate to Critical)





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



18 From 18 Rear

*FLUID RESUSCITATION FOR BURNS

- < 25% TBSA, LR, TKO rate
- > 25% TBSA;

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- ^o ≤ 5yoa, **LR**, 125 ml/hr
- ^o 6-13 yoa, **LR**, 250 ml/hr
- ^o ≥ 14yoa, **LR**, 500 ml/hr

For pediatric burns Refer to the Pediatric Burn Triage/Transport Scheme (P-38)

MODERATE BURNS

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

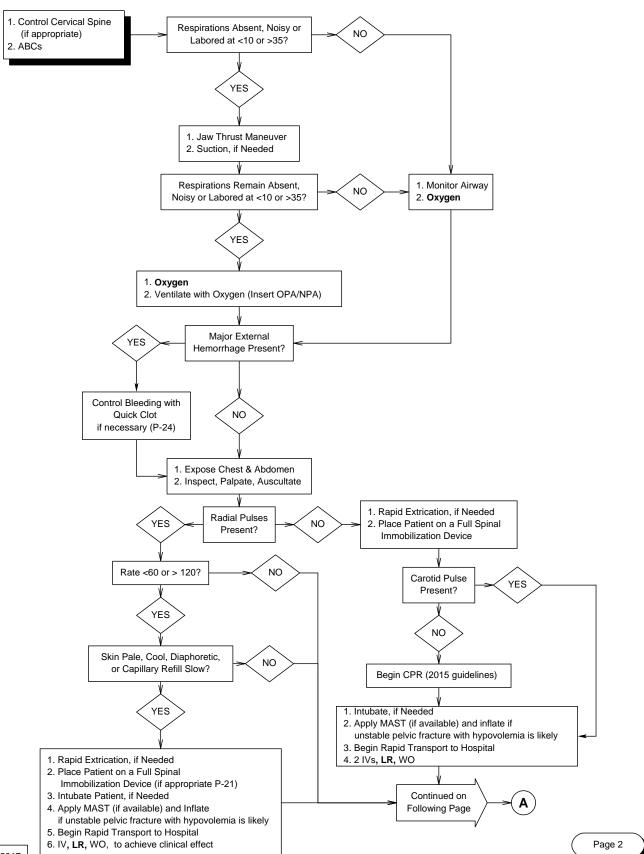
CRITICAL BURNS

- 1. All inhalation injuries
- $2.2^{\circ} > 20\%$ TBSA
- $3.3^{\circ} > 5\%$ TBSA
- 4. Head, face, feet, hands, or
- 5. All electrical injuries
- 6. Burns associated with other trauma

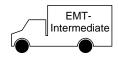
IF PATIENT'S CONDITION IS UNSTABLE OR DETERIORATES DURING TRANSPORT, REQUEST ASSISTANCE FROM RECEIVING AREA'S ADVANCED LIFE SUPPORT SERVICE.

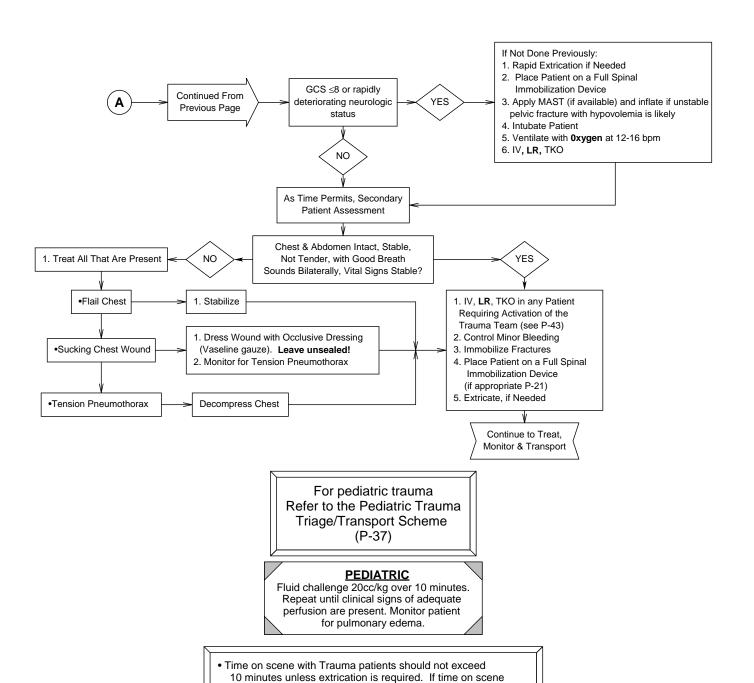
TRAUMA



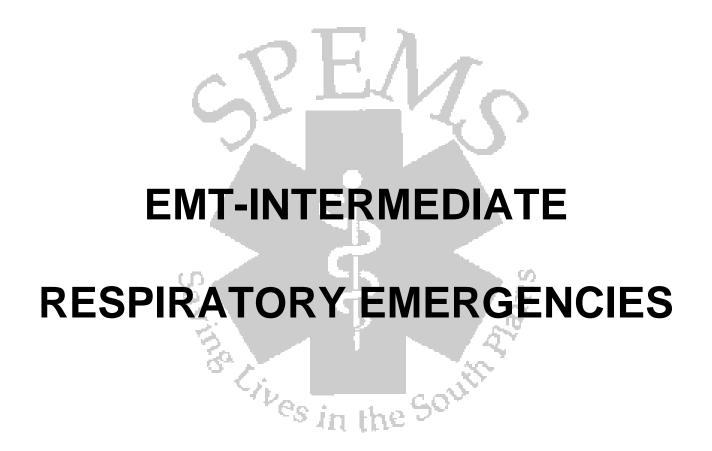


TRAUMA (Continued)



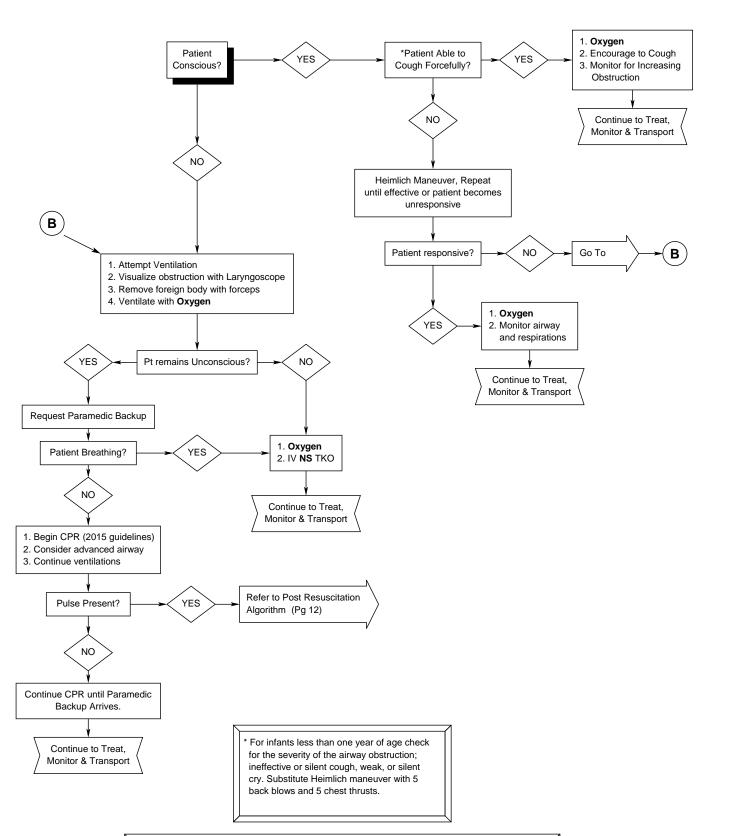


exceeds 10 minutes, reasons for delay should be documented.
If extrication >15 minutes is required, or if time to definitive care is likely to exceed 25 minutes, consider air transport.

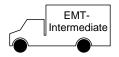


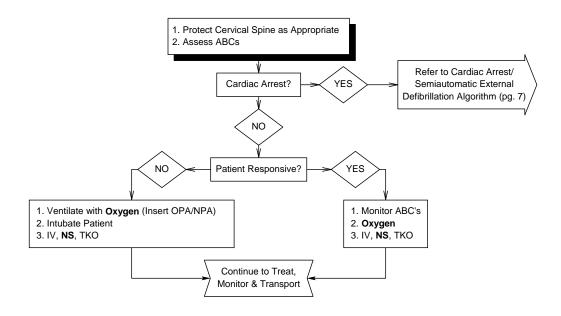
FOREIGN BODY AIRWAY OBSTRUCTION





NEAR DROWNING



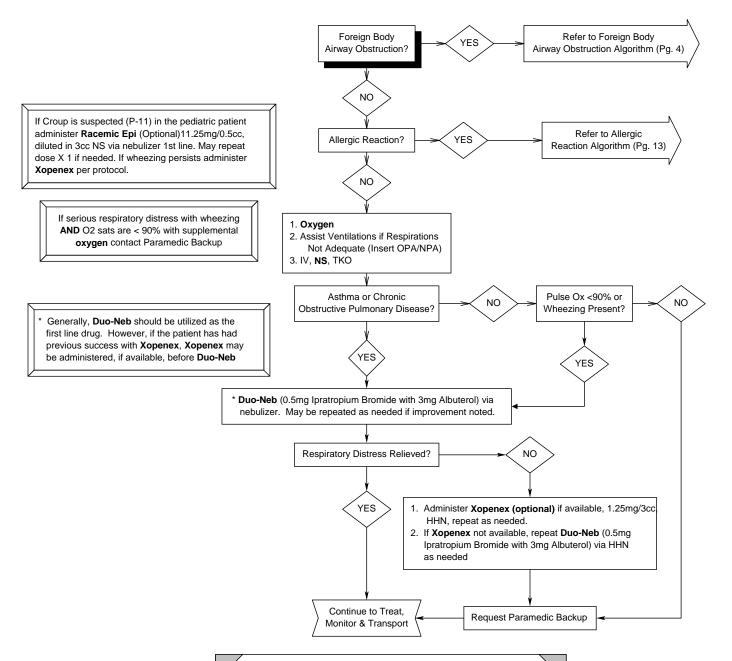


If wheezing noted go to Respiratory Distress Protocol (Page 6)

- 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

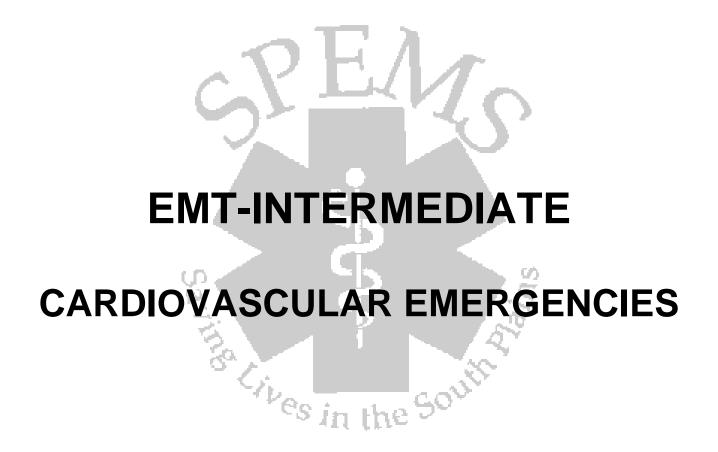




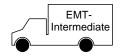
PEDIATRIC DOSE

- Duo-Neb (0.5mg Ipratropium Bromide with 3mg Albuterol), by nebulizer, dose and frequency same as adult
- Xopenex (optional), 1.25mg by Nebulizer, dose and frequency same as adult
- •Racemic Epinephrine 11.25mg/0.5cc, dilute with 3cc of NS, administer by Nebulizer for Croup. (optional) (P-11)

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



CARDIAC ARREST/SEMIAUTOMATIC EXTERNAL DEFIBRILLATION*



Do Not defibrillate a hypothermic patient more than once

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

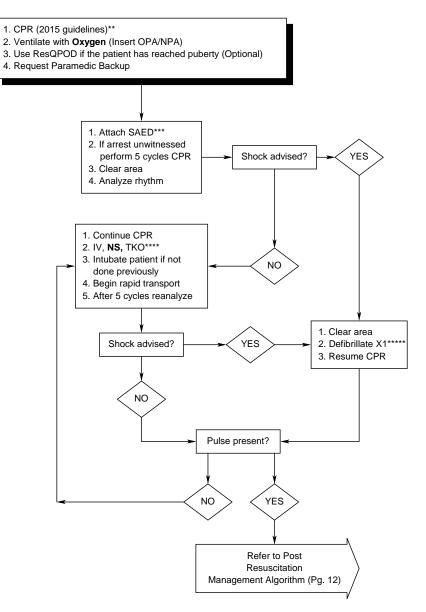
In all other arrest situations where defibrillation is indicated the provider should perform 5 cycles (2 minutes) of CPR prior to defibrillation.

<u>PEDIATRIC</u>

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

- **** 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

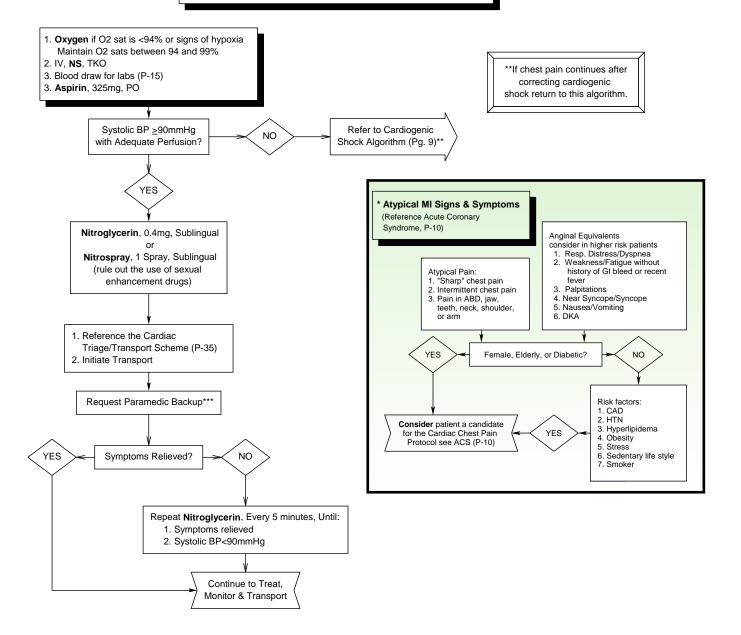
*****If AED is not updated to the AHA 2015 Guidelines. Follow manufacturers recommendations



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





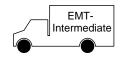
Consider Zofran, 4mg, IVP, in a patient with profound nausea and/or vomiting.

*** 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/12 lead.

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

CARDIOGENIC SHOCK



1. Oxygen if O2 sat is <94% or signs of hypoxia.
Maintain O2 sats between 94 and 99%
2. Assist Ventilations if Respirations Inadequate (Insert OPA/NPA)
3. Intubate Patient, if Necessary
4. IV, NS
5. Fluid Challenge, NS, 250cc may repeat if needed for clinical effect

1. Infuse NS as Needed to Maintain Systolic BP 90-110mmHg, with Adequate Perfusion
2. Reassess Lungs Sounds and Adequacy of Ventilation Frequently

Continue to Treat, Monitor & Transport

PEDIATRIC

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





History

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

Signs and Symptoms

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

Differential Diagnosis

-Stroke

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

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

1. Request Paramedic Backup

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

Is the patient conscious?

NO

5. IV, NS TKO

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

Spare battery should be on-site

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

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

Notify the LVAD Coordinator

IV/IO Fluid Bolus 250 to 500mLfluid bolus of NS if indicated

YES

- 1. Begin Rapid Transport
- 2. Notify ED as soon as possible

Obtain Blood Glucose reading. If < 70mg/dL, refer to Decreased LOC protocol

Treat According to Presentation and Complaint

Begin Rapid Transport
 Notify ED as soon as possible

IV/IO Fluid Bolus 250 to 500mLfluid bolus of NS if indicated

Obtain Blood Glucose reading. If < 70mg/dL, refer to Decreased LOC protocol

YES Respirations 8 or above?

Respiratory (if wheezing present)

DuoNeb via HHN. Maximum of one dose

Chest Pain:

Fluid bolus only. Do NOT administer Aspirin or Nitroglycerin.

Nausea:

Zofran (Ondansetron) 4mg SIVP/IM

Other Chief Complaints:

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

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

Follow protocols as indicated.

Any medications that reduce cardiac preload, vasoconstrict, vasodilate, or otherwise will cause a drop in systolic blood pressure must be avoided in the non-cardiac arrest patient.

See notes (on following page) and consult Medical Control, as needed.

- Assist ventilations (Insert OPA/NPA, ETT or King Airway if needed)
- 2. Narcan 2mg IV/IO/IN
- 3. Do NOT perform Chest Compressions unless pump is not humming**

NO

- If pump is humming, follow cardiac arrest protocol, as indicated, WITHOUT chest compressions
- Apply AED and shock as indicated every 2 minutes

Continue to Treat,
Monitor & Transport

See Additional Information on Next Page

LVAD (Continued)



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

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

Key Notes for caring for LVAD Patients:

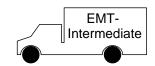
- Always talk to family/caregivers since they will have specialized training and knowledge about the device. An appropriate knowledgeable/trained family member should accompany the patient to the hospital.
- CALL THE VAD COORDINATOR EARLY per patient/family instructions or as listed on the device. The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

Prehospital Medications to Avoid with LVAD Patients:

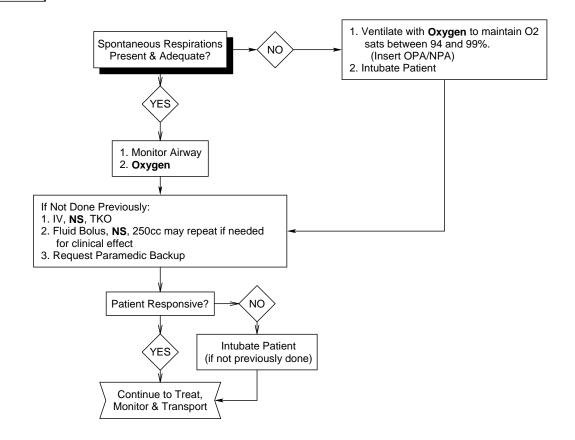
| Anti-arrhythmics May be used only if patient is in cardiac arrest | | | | |
|--|---|--|--|--|
| Amiodarone | Amiodarone and Lidocaine may be used in cardiac | | | |
| Diltiazem (Cardizem) and other calcium channel | arrest. Calcium channel blockers should not be | | | |
| blockers | administered due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

03/01/2017

*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.

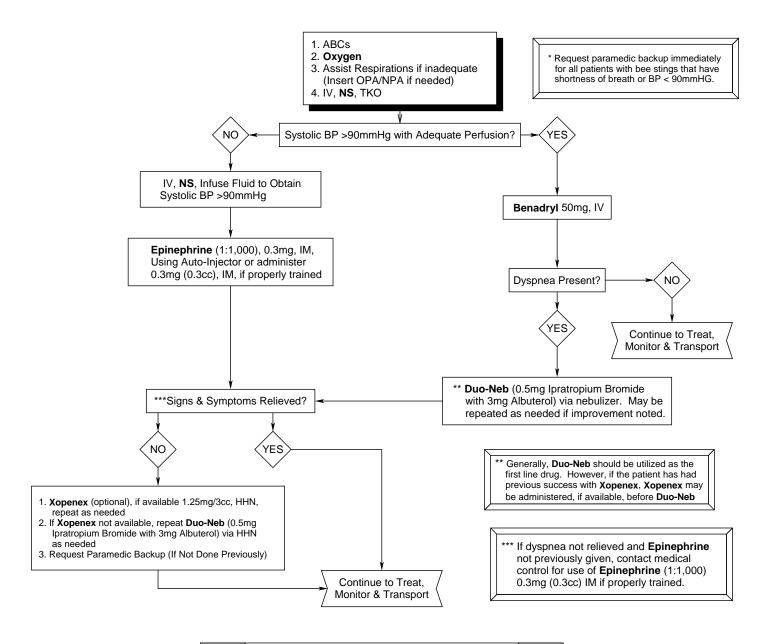
03/01/2017

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



ALLERGIC REACTION*





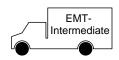
PEDIATRIC DOSE

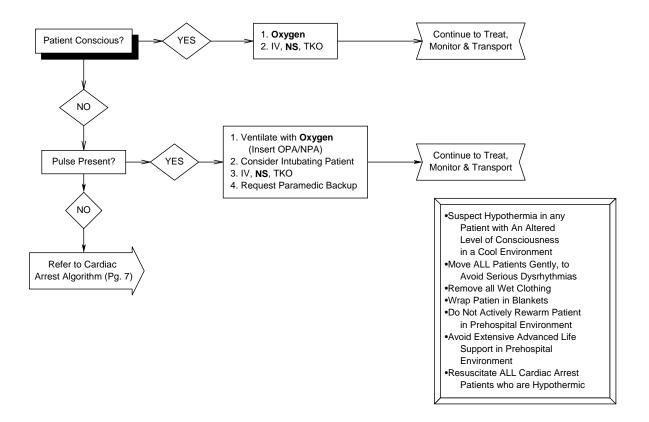
- •Epinephrine, 0.15mg, IM, Using Auto-Injector or
- •**Epinephrine**, (1:1,000), 0.01mg/kg to a max of 0.15mg (0.15cc), IM, if properly trained
- Duo-Neb (0.5mg Ipratropium Bromide with 3mg Albuterol), by nebulizer, dose and frequency same as adult
- •Benadryl 1mg/kg, IV to max of 50mg
- •Xopenex (optional), 1.25mg via nebulizer, dose and frequency same as adult

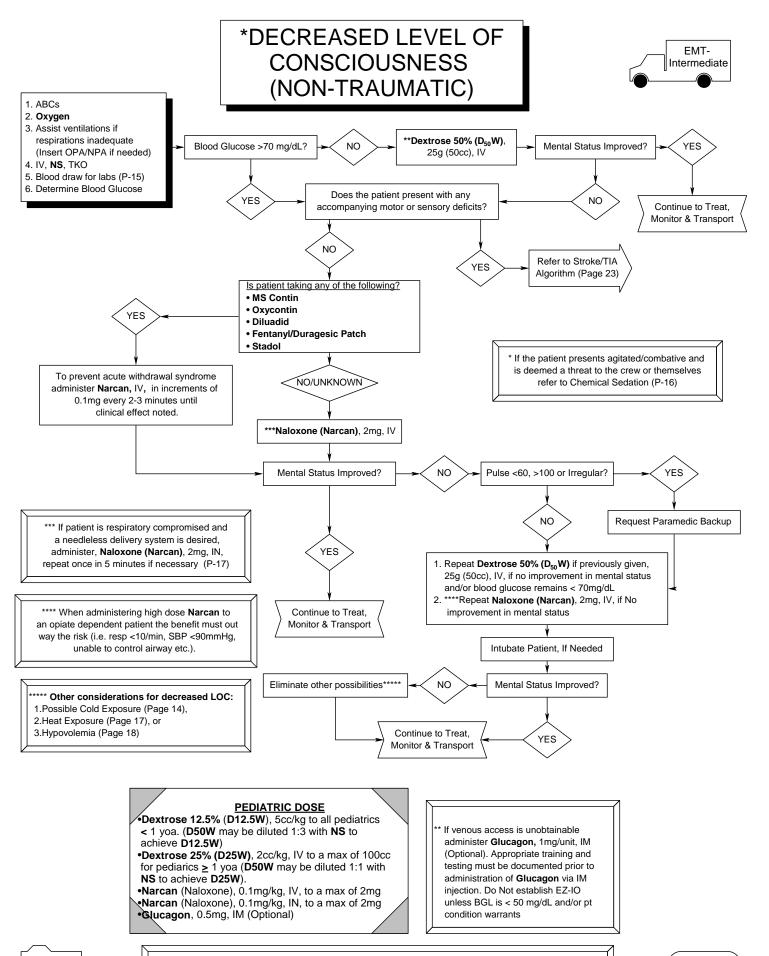
03/01/2017

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

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

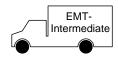




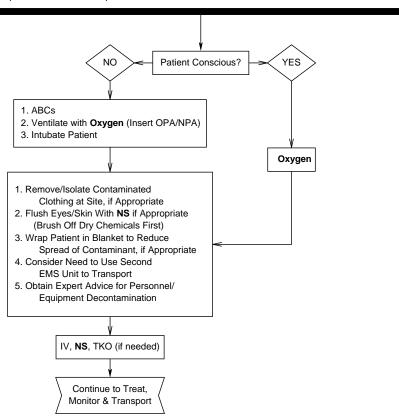


IF PATIENT'S CONDITION IS UNSTABLE OR DETERIORATES DURING TRANSPORT, REQUEST ASSISTANCE FROM RECEIVING AREA'S ADVANCED LIFE SUPPORT SERVICE.

HAZARDOUS/TOXIC MATERIAL EXPOSURE



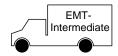
- 1. Observe Hazmat Precautions*
- 2. Do Not Enter Incident Area Without Appropriate Protective Clothing/Respiratory Equipment
- 3. Evacuate Patients From Exposure Without Risking EMS Personnel Safety
- 4. In Cooperation With Police/Fire Authorities, Evacuate/Isolate Scene
- 5. Attempt to Identify Nature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

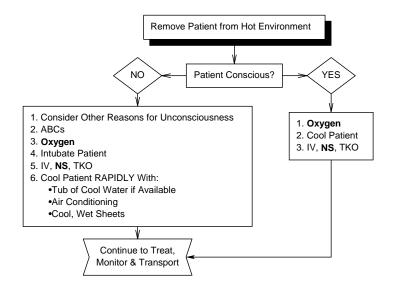


* HAZMAT PRECAUTIONS

- 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

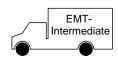
HEAT EXPOSURE (HEAT STROKE)

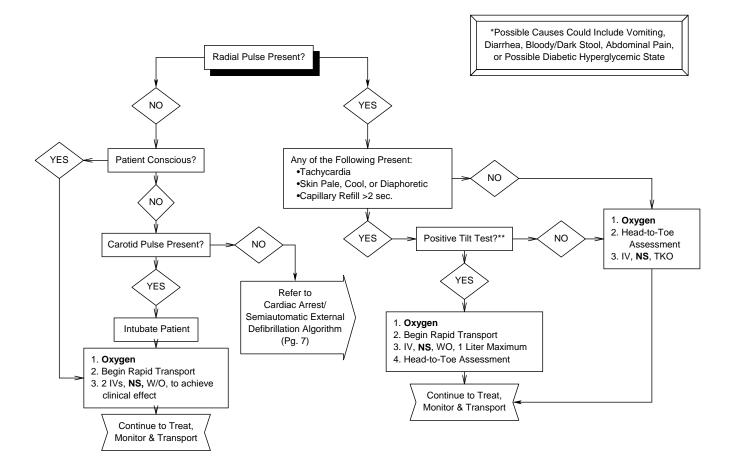




Suspect Heat Stroke in any Patient with an Altered Level of Consciousness in a Hot Environment

HYPOVOLEMIA* (NON-TRAUMATIC)





PEDIATRIC

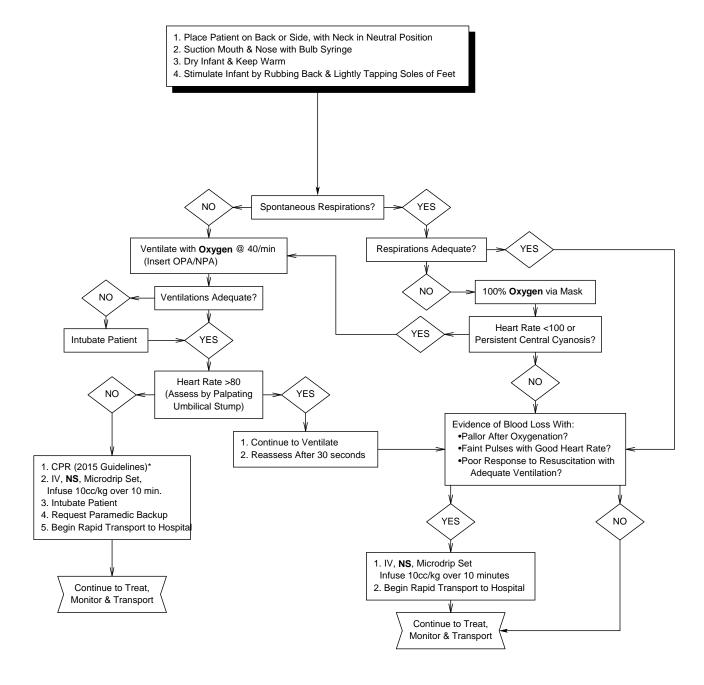
Fluid challenge 20cc/kg over 10 minutes. Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema.

**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.

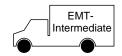
NEONATAL RESUSCITATION

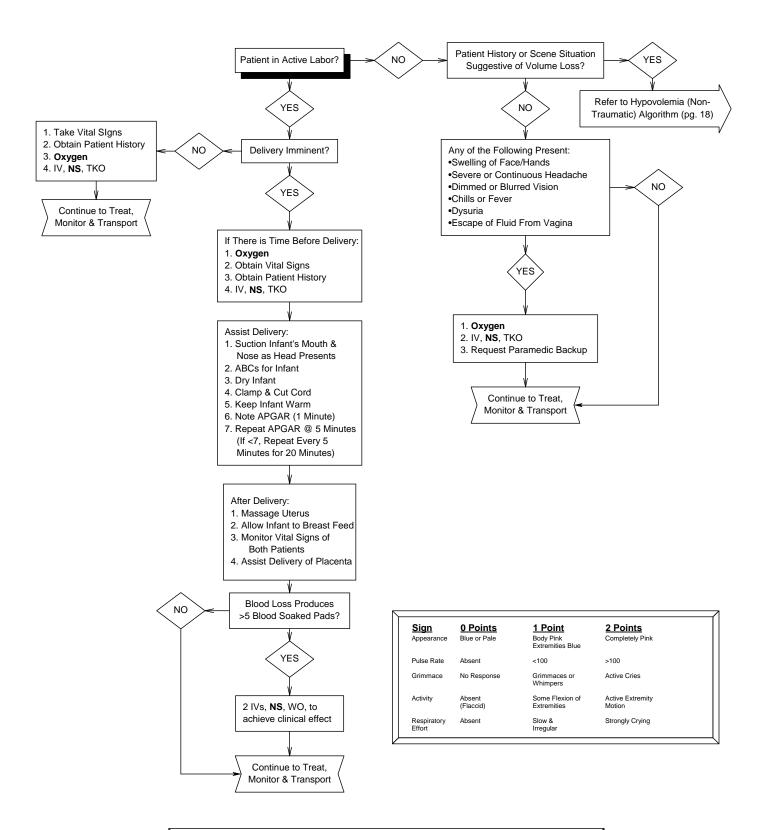




^{*} Ideally chest compressions should be interrupted only for rhythm checks and actual defibrillations. The 2015 guidelines state that when CPR is indicated the provider should perform 5 cycles (2 Minutes) of chest compressions. Continue CPR while the defibrillator is charging. Providers must organize 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

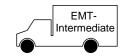


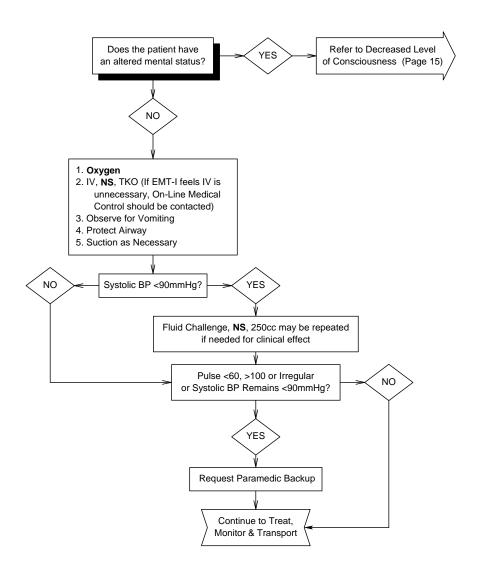


03/01/2017

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

POISONING/OVERDOSE





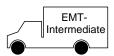
PEDIATRIC

Fluid challenge 20cc/kg over 10 minutes. Repeat until clinical signs of adequate perfusion are present. Monitor patient for pulmonary edema. Paraquat Poisoning
Do Not Give Supplemental Oxygen

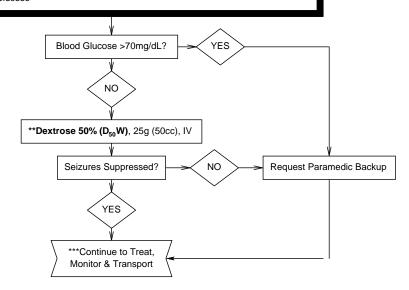
Bring ALL Potential Agent Containers and/or Samples of Agents, if Possible, to the Emergency Department

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

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 venous access is
unobtainable administer Glucagon,
1mg/unit, IM (Optional). Appropriate
training and testing must be
documented prior to administration
of Glucagon via IM injection.
Do Not establish EZ-IO unless BGL is
< 50 mg/dL, pt actively seizing,
and/or patient condition warrants

PEDIATRIC DOSE

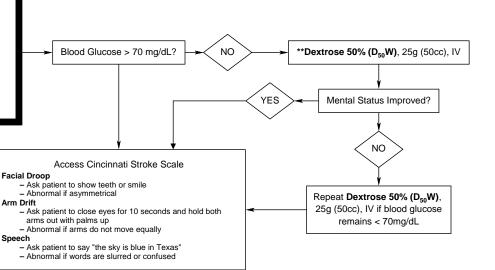
- Dextrose 12.5% (D12.5W), 5cc/kg to all pediatrics
 1 yoa. (D50W may be diluted 1:3 with NS to achieve D12.5W)
- •Dextrose 25% (D25W), 2cc/kg, IV to a max of 100cc for pediarics ≥ 1 yoa (D50W may be diluted 1:1 with NS to achieve D25W).
- ****•Liquid Motrin (Ibuprofen), 10mg/kg, PO, to a max of 800mg per single dose Post seizures with temperature > 100.4 and adequate LOC.
 - •Glucagon, 0.5mg, IM (Optional)

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

STROKE / TIA or NEUROLOGICAL DEFICIT*



- ABCs
 Oxygen, if O2 sat is <94%
- or signs of hypoxia. Maintain O2 sats between 94 and 99%
- 3. Assist Ventilations if Respirations Inadequate (Insert OPA/NPA if needed)
- 4. IV, **NS**, TKO
- 5. Blood draw for labs (P-15)
- 6. Determine Blood Glucose



Consider other possibilities

•Drug overdose (Page 21)

•Seizure (Page 22)

If needed request paramedic backup

Reference the Stroke Triage Scheme (P-36)

Continue to Treat, Monitor & Transport

Monitor & Transport

• Minimize scene time and consider rapid transport to the appropriate

** If venous access is unobtainable administer **Glucagon,** 1mg/unit, IM (Optional) Do Not establish EZ IO unless BGL is < 50 mg/dL and/or patient condition warrants

- rapid transport to the appropriate receiving facility
 Elevate the patients head 30° if not
- Elevate the patients nead 30° if not contraindicated
- Report all positive findings to receiving hospital from the scene if possible, if not report ASAP.

If needed request paramedic backup

Continue to Treat, Monitor & Transport

*NEUROLOGICAL DEFICIT

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

If possible inquire about the patients baseline neurological state.

Chronic neurological deficits do not warrant rapid transport to a

Stroke Center. ALWAYS err on the side of caution if questionable.