


# HALL COUNTY FIRE SERVICES

## MEDICAL PROTOCOLS AND STANDING ORDERS



**Preston A. Ball, M. D.**  
Medical Director  
Hall County Fire Services

*Revised 01/10/2008*

	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>APPROVAL</b>			
HCFS	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1


These medical protocols and standing orders are approved by Preston A. Ball, M.D., medical director for the Hall County Fire Services. They are reviewed periodically to ensure continued compliance with the standard of care for prehospital medicine.

These protocols and standing orders are valid until such time that they may be rescinded by the medical director. Any changes, additions, or deletions will be approved by the medical director prior to publication.

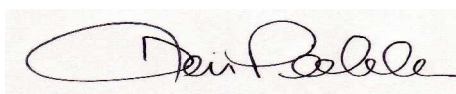


Approved: \_\_\_\_\_ Date: 04/01/2006


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Captain Tim Peebles, EMS Coordinator

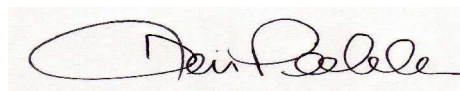
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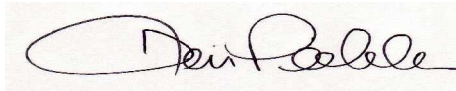
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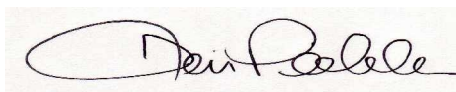
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The purpose of these medical protocols and standing orders is to provide a uniform standard of care for the treatment and transport of patients treated by the Hall County Fire Services (HCFS.) They provide a standard format of accepted therapies and interventions for the majority of routine conditions encountered during HCFD operations. Obviously not all possible scenarios can be predicted, and prior training, judgment, adaptability, and utilization of on-line medical control are to be exercised for exceptional or unusual conditions.

These protocols are templates for treatment, not education or training, and are designed and written to rely heavily on the training and good judgment of the individuals using them; there is very limited “textbook information” or “how-to” information contained within (this material is appropriately contained in educational texts and courses.)

A baseline framework for the treatment of specific conditions are outlined in the latest curriculum and recommendations published by the:

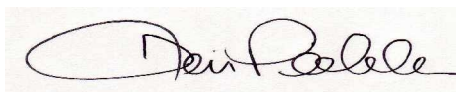
- Department of Transportation.....Paramedic
- American Heart Association.....Advanced Cardiac Life Support
- American Heart Association.....Pediatric Advanced Life Support
- American College of Emergency Physicians...Basic Trauma Life Support.

These standardized guidelines may be modified to HCFS-specific recommendations at the judgment and discretion of the medical director.


These protocols contain treatment guidelines that are appropriate and specific for the condition identified in the protocol, i.e., hypoglycemia. All treatment and interventions noted in the protocol *above the point labeled “CONTACT MEDICAL CONTROL”* are hereby designated as “standing orders” and may be performed at the discretion of authorized personnel without prior authorization or medical control contact. These standing orders are authorized by the HCFS Medical Director and are to be utilized only when on duty and acting as a duly authorized representative of the HCFS. Treatments and interventions listed beyond the point labeled *CONTACT MEDICAL CONTROL* will not be performed without on-line medical control authorization.



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## MEDICAL SCENE AUTHORITY

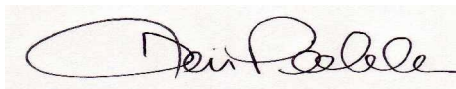
If an intervening physician (other than the patient's own private physician) gives medical treatment orders, he/she by definition becomes medical control for that encounter and must accompany the patient to the hospital and sign the PCR. If the intervening physician refused to travel with the patient, then HCFS personnel should continue to follow medical orders from the Northeast Georgia Medical Center medical control physician or continue to follow the appropriate HCFS protocol.

If a disagreement develops between the intervening physician and the medical control physician, or if the intervening physician refuses to speak to medical control, HCFS personnel should continue to follow medical orders from the medical control physician or continue to follow the appropriate protocol for patient management. When the patient's private physician is present, HCFS personnel should defer to the orders of that physician. However, HCFS personnel should seek direction from medical control if orders or rendered by the physician is inconsistent with quality medical care as outlined in this manual.


HCFS personnel shall not comply with medical orders that exceed their scope of practice.



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR DOCUMENTATION</b>			
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**PURPOSE:** To establish uniform standards of prehospital care documentation.

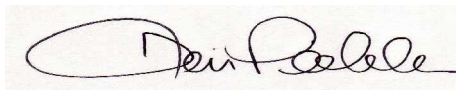
**POLICY:** The PCR will be completely filled out with all pertinent information. Be concise, neat, spell correctly, and use only approved abbreviations and terminology.

For every patient contact, the following must be documented:


1. A clear history of the present illness, including chief complaint, time of onset, associated complaints, pertinent negatives, mechanism of injury, scene details, etc.
2. A complete physical exam appropriate to the patient's complaint.
3. An exact level of consciousness using the AVPU method.
4. At least one complete set of vital signs (pulse, respiratory rate, blood pressure, and temperature if appropriate.) Vital signs should be repeated after therapeutic interventions, medication administration, and upon arrival at the hospital.
5. For medication administration, document dosage, route of administration, time of administration, and response to therapy.
6. A complete listing of treatments performed in chronological order.
7. For extremity injury or pain, document motor and sensation function and distal pulses before and after immobilization.
8. For potential spinal injuries, document motor and sensation function before and after immobilization.
9. For IV/IO administration, note the size and insertion site of the catheter, type of IV fluid, and flow rate.
10. A telemetry strip should be attached to the PCR for all patients placed on the cardiac monitor. Any significant rhythm changes should be documented. For cardiac arrests, attach the initial rhythm, ending rhythm, pre- and post-defibrillation or cardioversion, pacing attempts, etc.
11. When obtained, attach the 12-lead EKG to the PCR.
12. For ET intubation, King LT Airway, or combitube insertion, document centimeter depth mark at the teeth, methods of tube placement confirmation, size of ET tube, number of attempts, and any complications.
13. Any orders requested, whether approved or denied.
14. Any other information not related directly to patient care or treatment (i.e., crime scene observation, conflicts with family or physician, etc.) should be documented in the narrative portion of the PCR.



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	<b>TERMINOLOGY &amp; APPROVED ABBREVIATIONS</b>			
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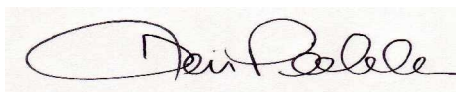
POLICY: The list of terms and abbreviations on the following pages are approved by the HCFS Medical Director for use in documentation of the prehospital care report. No other abbreviations are to be used.

A & O x 3.....Alert and oriented to person, place, and time. Any orientation less than this should be documented to the specific orientation, i.e., oriented to name only, etc.

- Abd.....Abdomen
- AED.....Automated External Defibrillator
- AIDS.....Acquired Immunodeficiency Syndrome
- ALS.....Advanced Life Support (paramedic certified procedures)
- Bicarb.....Sodium bicarbonate
- BLS.....Basic Life Support (EMT-I certified & all other procedures)
- Brady.....Bradycardia
- BVM.....Bag-Valve Mask
- CHF.....Congestive Heart Failure
- CRT.....Capillary Refill Time
- CVA.....Cerebrovascular Accident
- COPD.....Chronic Obstructive Pulmonary Disease
- DNR.....Do Not Resuscitate
- D5W.....5% Dextrose in Water
- D50.....50% Dextrose
- DM.....Diabetes Mellitus
- ED.....Emergency Department
- EMT.....Emergency Medical Technician
- Epi.....Epinephrine
- ER.....Emergency Room (used interchangeably with ED)
- ET.....Endotracheal
- ETC.....Esophatracheal Combitube
- FB.....Foreign Body
- Fx.....Fracture
- g.....gram
- GSW.....Gunshot Wound
- HBV.....Hepatitis B Virus
- HCV.....Hepatitis C Virus
- HIV.....Human Immunodeficiency Virus



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MEDICAL PROTOCOLS AND STANDING ORDERS


TERMINOLOGY & APPROVED ABBREVIATIONS

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- HTN.....Hypertension
- Hx.....History
- IM.....Intramuscular
- INT.....Intermittent Injection Cap
- IO.....Intraosseus
- IV.....Intravenous
- JVD.....Jugular Venous Distention
- kg.....kilogram
- KVO.....Keep Vein Open
- L.....Left
- Lido.....Lidocaine
- LMP.....Last Menstrual Period
- LOC.....Level of Consciousness
- LR.....Lactated Ringers
- MAST.....Medical Anti-shock Trousers
- Meds.....Medications
- Meq.....Milliequivalents
- MI.....Myocardial Infarction
- mg.....Milligram
- MgSO4.....Magnesium Sulfate
- ml.....milliliter
- N & V.....Nausea & Vomiting
- NC.....Nasal Cannula
- NKDA.....No Known Drug Allergies
- NRB.....Nonrebreather Mask
- NS.....Normal Saline
- NTG.....Nitroglycerin
- O2.....Oxygen
- PCN.....Penicillin
- PE.....Pulmonary Embolism
- PERRL.....Pupils Equal, Round, & Reactive to Light
- PRN.....As Needed or Necessary
- PPV.....Positive Pressure Ventilation
- PO.....By Mouth
- q.....Every
- R.....Right
- SaO2.....Oxygen Saturation

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SBP.....Systolic Blood Pressure  
 SL.....Sublingual  
 SQ.....Subcutaneous  
 TIA.....Transient Ischemic Attack  
 mcg.....Microgram  
 WO.....Wide Open



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>PATIENT REFUSALS &amp; NO-TRANSPORTS</b>			
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**POLICY:** To establish uniform criteria for practice and documentation for patient refusals and no-transport.

**GENERAL:** Along with airway complications and emergency vehicle operations, no-transport represent one of the three leading topics of medicolegal risk and litigation. Meticulous and detailed documentation is the key factor in avoidance of litigation; the most important document of the no-transport interaction is the written PCR narrative that thoroughly documents the encounter, not the signed refusal form.

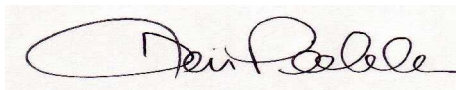
**PRACTICE:**

1. Encourage and facilitate transport if at all possible.
2. Assess competency to refuse care, noting mental status, Glasgow Coma Scale, description of the patient’s behavior, and assessment of influences that may interfere with mental capacity such as illness, injury, and stated or observed intoxication. Document this in the PCR.
3. Rude and/or unprofessional conduct is often a catalyst for complaints and legal action.
4. Patient questions about proposed care, alternatives, and risks of refusal should be answered and documented.
5. The patient should be informed of the limitations of the prehospital assessment, *especially the unreliability of the 12-lead EKG to exclude acute coronary syndrome*, the plan of treatment to be rendered, and potential complications of refusal; this should be documented in the PCR.
6. Emphasize the offer to return should the patient change their mind and document this in the PCR.
7. If “no patient contact was made”, document this in the PCR; this established that no patient-provider relationship was established.


In addition to the PCR, a signed, completed refusal or treatment and/or transport must be filled out and accompany the PCR; if the patient refuses assessment, having vital signs taken, or to sign the refusal, document this in the PCR.



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>EMT-I STANDING ORDERS SUMMARY</b>			
<b>Order# I-001</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

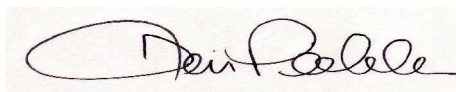
**POLICY:** This is a summary of interventions performed by providers at the EMT-I level under standing orders for patients meeting specific criteria for the indicated intervention under the appropriate treatment protocol.

**TREATMENT:**


1. Establish IV access, with INT placement, KVO infusion, or bolus infusion of NS or LR as appropriate.
2. ETC placement in adult patients in cardiac arrest, or with profound respiratory distress with absent airway reflexes.
3. Adult and pediatric IO access with approved device for patients in cardiac or respiratory arrest or significant trauma with SBP < 90 in whom IV access cannot be obtained.
4. SQ epinephrine 0.3cc of 1:1000 concentration (0.01cc/kg for pediatric patients, with maximum dose of 0.3cc) for allergic reaction/anaphylaxis with airway or oropharyngeal edema, respiratory distress with wheezing and/or stridor, or SBP < 100.
5. D50, 1 ampule IV/IO for patients with altered mental status and blood glucose level < 40.



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>UNIVERSAL TRANSPORT PROTOCOL &amp; STANDING ORDERS</b>			
<b>Order: 001</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform criteria for assessment and therapeutic modalities that may be performed by HCFS personnel under standing orders and without prior authorization by medical control.

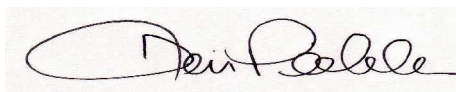
**PRACTICE:** Any patient requiring transport via HCFS ambulance may have, at the discretion of the treating paramedic:

1. Oxygen administered via administration device at the discretion of the treating paramedic.
2. Cardiac monitoring
3. 12-lead EKG obtained
4. IV access with INT or KVO infusion of NS or LR
5. Pulse oximetry obtained
6. Fingerstick glucose obtained
7. Spinal immobilization for appropriate clinical scenario
8. Extremity splinting and immobilization as appropriate


Conscious, alert patients with grossly adequate decision-making capacity may decline or refuse any of the above interventions



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	<b>GUIDELINES FOR OXYGEN ADMINISTRATION</b>			
<b>Order: 002</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

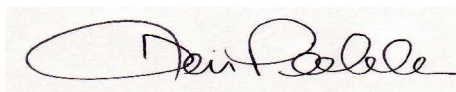
**POLICY:** To establish guidelines for flow rates and delivery devices based on severity of illness.

**PROCEDURE:**


1. Flow rates of 2-6 LPM administered by NC is appropriate for stable patients including:
  1. Chest pain without respiratory distress
  2. Stable OB/GYN patients without hemorrhage or complication
  3. Overdose patient without altered mental status or respiratory compromise
  4. Fever
  
2. Flow rates of 12-15 LPM administered by NRB is indicated for patients with severe illness or injury, and include the following patients:
  1. Respiratory distress and/or cyanosis/hypoxia
  2. Shock
  3. Overdose patient with altered mental status or respiratory compromise
  4. Smoke inhalation and/or carbon monoxide poisoning
  5. Active seizures
  6. Comatose patients with adequate ventilatory drive
  7. Major trauma
  
3. For stable COPD patients, attempt to administer only enough supplemental oxygen to alleviate their symptoms. For patients on chronic home oxygen, increase their baseline flow rate by 2 LPM initially; attempt to maintain SaO<sub>2</sub> of 90%.
  
4. For COPD patients with severe respiratory distress, immediately administer oxygen at 12-15 LPM by NRB



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	<b>GUIDELINES FOR AIRWAY MANAGEMENT &amp; VENTILATORY SUPPORT</b>			
<b>Order: 003</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 2

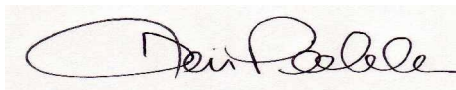
**POLICY:** To establish uniform guidelines for management of patients requiring ventilatory support and/or airway control.

**PRACTICE:**


1. Ensure open and clear airway using head-tilt chin-lift or modified jaw thrust, suction, and foreign body removal as appropriate.
2. Assist ventilations with BVM for patients with inadequate ventilatory drive or apnea.
3. Airway adjuncts should be used for all patients requiring ventilatory assistance with BVM; oropharyngeal airway if tolerated, and nasopharyngeal airways for patients intolerant of oropharyngeal airways. *A combination of oropharyngeal, one, and sometimes two nasopharyngeal airways may be necessary in patients who are difficult to ventilate.*
4. Definitive airway control with endotracheal intubation is indicated in patients in cardiac or respiratory arrest or respiratory failure from any cause with depression of airway maintenance reflexes that permit direct laryngoscopy and intubation.
5. Route and technique of intubation are performed at the discretion, experience, and preference of the treating paramedic.
6. **Confirmation of endotracheal tube placement** is of utmost and indescribable importance. At a minimum, in addition to visualized glottic tube passage and confirmation by clinical methods (see below), *every intubation will be confirmed with either an end-tidal CO2 detector or esophageal detection device*, and documented in the PCR.
7. Clinical methods for confirmation of ETT placement are inadequate to reliably confirm endotracheal placement of the ETT when used alone. However, when used in conjunction with an end-tidal CO2 detector or esophageal detection device, they provide some increased security of knowledge of endotracheal placement. Clinical methods include:
  - A) Auscultation of breath sounds over the chest with ventilation
  - B) Absence of epigastric sounds with ventilation
  - C) Condensation or fogging within the tube
  - D) Ease of ventilation (able to squeeze the ambu bag easily)
  - E) Continued acceptable or improved SaO2 readings
8. Any question of ET position should be assumed to be esophageal, the ET removed, and the patient re-intubated or have an ETC placed.



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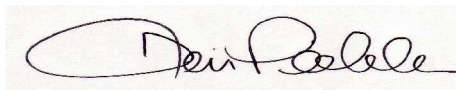
9. Intubated patients should have their tubes secured with a commercial device and a cervical collar applied to minimize ET movement and the risk of becoming dislodged. Re-verify ET position after every patient move and document on the PCR.
10. Intubated patients will have continuous pulse oximetry monitoring to assess for desaturation and complications.
11. Any patient in whom the airway cannot be secured via ET intubation or ETC placement, and in whom assisted ventilations are ineffective, should have an immediate needle cricothyrotomy performed, and oxygenation supplied via either a trans-tracheal jet ventilation system or oxygen-supplied bag-valve & size 3 ETT adapter applied to the catheter.
12. Nebulized medications may be administered via the ETT in intubated patients by interposing the nebulizer chamber between the ambu bag and the ETT adapter; ensure a separate oxygen supply to the nebulizer to power the device and nebulize the medication.
13. *Pharmacologically-assisted intubation* with the use of sedative medication is not to be routinely practiced; the decrease in preload and perfusion associated with the dose of midazolam required to facilitate intubation is physiologically much worse than the temporary inability to intubate secondary to a clenched jaw. These patients should receive assisted ventilations and supplemental oxygen and be rapidly transported to the hospital where they may undergo airway control with medications that can be tailored to their clinical scenario.

**\*\*\* ALL THE ABOVE INTERVENTIONS ARE CONSIDERED STANDING ORDERS AND MAY BE IMPLEMENTED IN THE APPROPRIATE CLINICAL SCENARIO WITHOUT PRIOR MEDICAL CONTROL AUTHORIZATION\*\*\***


**MEDICAL CONTROL MAY BE CONTACTED AT ANY TIME FOR GUIDANCE.**



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	<b>GUIDELINES FOR VASCULAR ACCESS AND FLUID ADMINISTRATION</b>			
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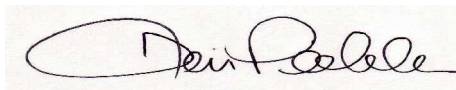
**PURPOSE:** Establish guidelines for vascular access for fluid support and medication administration, fluid administration sets, volume resuscitation, and intraosseous access in critical cases with failure to establish IV access.

**POLICY:**


1. Vascular access should be obtained in all patients who potentially may need intravenous medications, fluid support, or have significant illness or injury.
2. Normal saline and lactated ringers solution should be thought of as equivalent and interchangeable, and fluid selection based on the discretion of the treating paramedic.
3. When medications are added to a bag of IV fluid for administration as a continuous infusion, the bag should be labeled with the date, time, name & dose of medication, rate of administration, and the name of the administering paramedic.
4. The following administration sets are carried on HCFS ambulances:
  - A) Microdrip set – 60gtts/cc
  - B) Standard set – 10gtts/cc
  - C) Blood pump set – 10gtts/cc, with pressure infusion bulb
5. The type of fluid administration set should be based on the clinical scenario and reason for intravenous access:
  - A) For hypertensive or normotensive patients that would not benefit from either rapid or large-volume fluid administration, such as CHF patients, use of the microdrip set is appropriate.
  - B) For routine medication administration and volume expansion in most medical patients, the standard set is appropriate.
  - C) For rapid fluid administration in hypotensive trauma patients, patients in severe shock (ruptured aortic aneurysm, sepsis), and in those patients likely to require urgent surgery (penetrating chest or abdominal injury, open fractures, etc.), use of the blood pump set is appropriate.
6. For patients in shock that require rapid and large-volume infusion, the fluid administration set should be attached directly to the IV catheter WITHOUT an INT cap in between.
7. When IV fluid is administered for volume replacement and/or shock resuscitation, an initial fluid bolus of 500-1000cc is appropriate, with further infusion guided by the patient’s clinical response.



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR VASCULAR ACCESS AND FLUID ADMINISTRATION</b>			
<b>Order: 005</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

8. Consider multiple IV lines for patients with hypotension, shock, severe injury, and acute coronary syndromes.
9. For volume replacement in pediatric patients, an initial fluid bolus of 20cc/kg is recommended, and may be repeated based on the patient's clinical response.

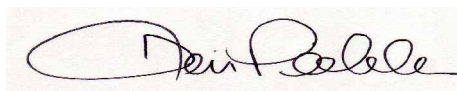
**INTRAOSSUEOUS INFUSION**

1. Adult and pediatric intraosseous infusion is to be established in UNCONSCIOUS patients with the following clinical scenarios when rapid IV access is unable to be obtained in a reasonable amount of time (90 seconds) or after 2-3 attempts:
  - A) Cardiac or respiratory arrest
  - B) Shock with SBP < 90
  - C) Near-drowning
  - D) Multi-trauma
  - E) Status epilepticus


**\*\*\*INTRAOSSUEOUS ACCESS OBTAINED UNDER THE ABOVE CONDITIONS IS A STANDING ORDER AND DOES NOT REQUIRE PRIOR AUTHORIZATION FROM MEDICAL CONTROL\*\*\***



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR UTILIZATION OF AEROMEDICAL TRANSPORT</b>			
<b>Order: 006</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines to determine which patients may benefit from air medical transport from the accident scene to a trauma center or other specialized facility (burn, replantation, trauma, pediatric, or hyperbaric.)

**POLICY:** While mechanism of injury is an important predictor of possible injury patterns, anatomic and physiologic criteria more reliably relate to actual injury. Therefore, mechanism of injury alone, without accompanying anatomic or physiologic manifestations of severe injury, should not be used as the sole determinant of air medical transport.

**Anatomic criteria** – demonstratable injuries noted by exam (flail chest, spinal cord injury with paralysis, etc.)

**Physiologic criteria** – abnormalities of vital signs

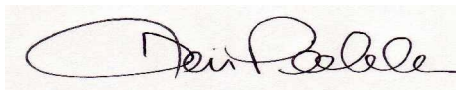
Conditions favoring utilization of air medical transport:

1. Prolonged entrapment/extrication of patients with severe injuries
2. Environmental or traffic conditions or scene location resulting in prolonged transport of > 40 minutes
3. Diving injury with symptoms suggestive of decompression illness or air embolism requiring transport to a hyperbaric center
4. Major burn involving the face, airway, or large body surface area requiring transport to a burn center
5. Extremity amputation or near-amputation


A balance exists between delaying transport while waiting on helicopter arrival and local transport for hospital care. All possible scenarios cannot be predicted, and ongoing good judgment on the part of the scene paramedic with decisions made in the best interest of the patient is important for appropriate utilization and continued success.



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR MULTISYSTEM TRAUMA</b>			
<b>Order: 007</b>	Approved: 4/1/06	Revised: 09/12/06	Effective: 4/1/06	Page 1 of 2

**PURPOSE:** To establish uniform guidelines for field management of patients with severe multisystem trauma.

**POLICY:**

1. Minimize scene time and focus importance on rapid stabilization and transportation to the hospital for definitive management. On-scene time should be limited to initial assessment, spinal packaging, management of uncontrolled airways, and other immediately life-threatening conditions. Note specifics of the accident scene, blood loss, and CRT.
2. Minimize heat loss; in cold environments IV fluids should be warmed if possible; hot packs attached to fluid bags will warm them to some degree.

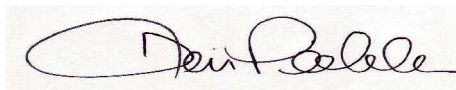
**PRACTICE:**

1. Oxygen administered via NRB
2. Airway control with ET intubation or ETC placement as necessary
3. Spinal immobilization
4. For patients with suspected TENSION PNEUMOTHORAX, assess using hard signs and possible signs.  
**Hard signs** – hypotension, severe respiratory distress, and absent lung sounds  
**Possible signs** – jugular venous distention, tracheal deviation, subcutaneous emphysema, and probable altered mental status  
 For patients with signs of tension pneumothorax as above, with respiratory distress, SBP > 100, and altered or decreasing level of consciousness:
  - A) Attempt to “burp” a sealed open pneumothorax
  - B) Perform needle decompression; consider using a finger cut from a non-powdered glove to serve as a one-way valve
  - C) If clinical improvement occurs, may repeat decompression as necessary if clinical condition deteriorates
5. Large bore IV access with two IV lines if possible, with IV fluid bolus if SBP > 90; decrease fluid infusion rate if SBP increases to > 100 and maintain SBP around 100
6. Splint fractures if time and stability allow, with traction splint use for unilateral femur fractures
7. Obtain blood glucose level if altered mental status is present
8. Control external hemorrhage
9. Rapid transport


**\*\* CONTACT MEDICAL CONTROL \*\*\***



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR HEAD INJURY</b>			
HCFS	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 2 of 2

**PURPOSE:** To establish uniform treatment guidelines for patients with severe head injury

**PRACTICE:**

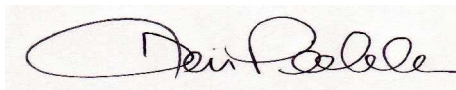
1. Note level of consciousness using AVPU method
2. Assess ventilatory adequacy & assist ventilations as needed
3. Maintain secure airway with ET intubation or ETC placement as need
4. Spinal immobilization
5. Obtain blood glucose level & administer D50 1 ampule if blood glucose < 40
6. Obtain IV access: administer IV fluid bolus if SBP < 100; maintain SBP > 100
7. Rapid transport
8. Assess for other injuries

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9. Consider sedation of combative patients with versed 1-2 mg IV



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR BURNS</b>			
<b>Order: 008</b>	Approved: 4/1/06	Revised: 12/01/07	Effective: 12/01/07	Page 1 of 1

**PURPOSE:** To establish uniform treatment for patients with burns

**POLICY:** Assess for aeromedical transport utilization for patients with airway or facial burns, severe concomitant injuries, and extensive body surface area involvement

**PRACTICE:**

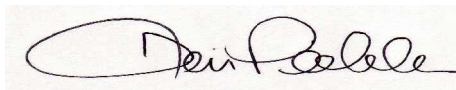
1. Remove/stop the burning process
2. Assess for probable carbon monoxide exposure/closed space exposure or confined space environment, heat inhalation injury/airway burns, and estimate body surface area and depth (partial or full-thickness) of burn
3. Cool burn area with water irrigation for 1 minute only; avoid hypothermia
4. Remove wet and/or burned clothing
5. Supplemental oxygen per clinical severity
6. Cardiac monitoring for significant burns
7. Obtain IV access; administer IV fluid bolus if SBP < 100 & titrate to maintain SBP > 100
8. May administer morphine 2-10mg IV (or fentanyl 25mcg q 4-5 minutes until a maximum of 100 mcg administered IV for morphine allergic patients) titrated for pain control **IF** SBP > 100 and no sign of airway burn/compromise or altered mental status is present
9. May administer ondasteron 4 mg IV as needed for nausea
10. For patients with HEAT INHALATION INJURY or AIRWAY BURNS with respiratory distress, airway edema, wheezing, or stridor:
  - A) Administer nebulized albuterol treatment
  - B) Administer solumedrol 125mg IV
11. Secure airway with ET intubation, ETC placement, or needle cricothyrotomy as clinically indicated

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


12. Consider nebulized epinephrine 5cc of 1:1000 concentration for patients with heat inhalation injury or airway burns with severe respiratory distress, airway edema, wheezing, or stridor not relieved by albuterol and solumedrol
13. Additional morphine or fentanyl is required for pain control



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR ISOLATED EXTREMITY INJURY</b>			
<b>Order: 009</b>	Approved: 4/1/06	Revised: 8/7/06	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for treatment and analgesia for patients with isolated extremity injury in the absence of severe multi-system trauma; the goal is to reduce pain to a tolerable level and avoid oversedation

**POLICY:** This protocol is indicated for patients with *isolated extremity injury* including suspected fracture with deformity, significant burn, or significant soft tissue injury (laceration or avulsion) with:

1. No suspicion/sign/symptom of head or spinal injury
2. Normal mental status, alert, and conscious
3. SBP > 100
4. Severe pain

**PRACTICE:**

1. Immobilize/splint/control hemorrhage/apply dressing as appropriate
2. Establish IV access
3. Administer morphine 2-10mg IV titrated for pain control. If allergic to morphine, administer fentanyl 25mcg q 4-5 minutes until a maximum of 100 mcg administered.
4. Monitor patient response to therapy using 1-10 pain scale
5. Document neurovascular status/distal pulses of injured extremity

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***

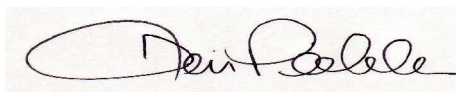
6. Contact medical control for patients requiring doses of greater than 10mg morphine or 100 mcg fentanyl

Pediatric Patients (CONTACT MEDICAL CONTROL)


1. Consider morphine 0.1 mg/kg slow IVP



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR TRAUMATIC CARDIAC ARREST</b>			
<b>Order: 010</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for management of patients with traumatic cardiac arrest in the field

**POLICY:** Mortality for patients suffering cardiac arrest in the field from trauma is exceptionally high and approaches 100%. Any hope for survival rests with rapid identification and correction of a reversible cause (airway obstruction, hypovolemia, tension pneumothorax, or pericardial tamponade.) Patients who fail to improve with these interventions are unlikely to survive; resuscitation medications possibly add some adjunctive benefit, but trauma arrest patients seldom respond to traditional ACLS therapy alone.

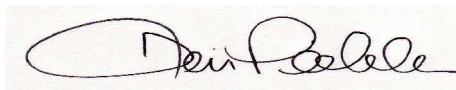
**PRACTICE:** Patients in cardiac arrest resulting from trauma

1. Airway control with ET intubation or ETC placement
2. Provide ventilations with a rate of 8-10 breaths per minute with supplemental oxygen
3. IV access with bilateral large-bore IVs with wide-open IV fluid bolus
4. CPR
5. Spinal immobilization
6. Bilateral chest decompressions
7. Epinephrine and atropine per ACLS arrhythmia protocol
8. Rapid transport
9. Notify receiving facility ASAP via radio


**NOTE:** Resuscitation may be withheld or not initiated in trauma arrest patients who are apneic, pulseless, and have a PEA rhythm of < 30 or are in asystole at the discretion of the treating paramedic. If resuscitation has been initiated by ALS providers, continue resuscitative efforts and transport.



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR RESPIRATORY DISTRESS</b>			
<b>Order: 011</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

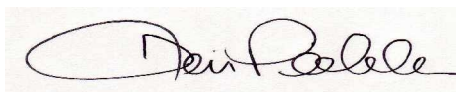
**PURPOSE:** To establish uniform criteria for the assessment and management of patients with respiratory difficulty and attempt to categorize them into the appropriate protocol for their specific clinical condition, if possible.

**PRACTICE:**


1. Assess for abnormalities and assess ventilatory adequacy, with supplemental oxygen and ventilatory assistance per appropriate protocol.
2. Obtain pulse oximeter reading
3. Attach cardiac monitor
4. Obtain IV access
5. Attempt to categorize patients into the appropriate protocol for their clinical scenario, if possible:
  - A) Congestive Heart Failure/Pulmonary Edema
  - B) Chronic Obstructive Pulmonary Disease
  - C) Asthma and Croup
  - D) Pneumonia
6. Not all patients will be able to be categorized as above or exhibit a mixed clinical picture; in these instances, supplemental oxygen, ventilatory assistance as needed, and further guidance from medical control should be utilized.



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE</b>			
<b>Order: 012</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for management of patients presenting with worsening or exacerbation of underlying COPD.

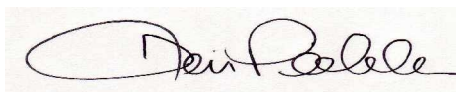
**PRACTICE:** For patients with COPD, respiratory difficulty, and wheezing (or absent breath sounds in patients with severe exacerbations):

1. Attempt to calm and reassure patient
2. Assess for ventilatory adequacy and intervene with ventilatory assistance and/or airway control as needed
3. For patients on home oxygen not in severe distress or extremis, initially increase their flow rate by 2 liters per minute and reassess
4. For patients in severe respiratory distress or those who fail to improve with increased flow rates as in #3 above, move to non-rebreather mask
5. Establish IV access
6. Attach cardiac monitor
7. Administer nebulized albuterol treatment
8. Reassess
9. If dyspnea and/or wheezing persist after first albuterol treatment:
  - A) Administer solumedrol 125mg IV (or IM if IV access is unable to be obtained)
  - B) Repeat nebulized albuterol treatment


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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR CONGESTIVE HEART FAILURE</b>			
<b>Order: 013</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform treatment guidelines for patients with decompensated congestive heart failure

**POLICY:** Patients eligible for this protocol should have a strong clinical suspicion to have CHF/pulmonary edema, as some of the following therapies can be detrimental or dangerous if applied to other conditions such as pneumonia, COPD, and asthma. An existing diagnosis of CHF and chronic medications such as lasix and digoxin are helpful. Other clinical indicators suggestive of CHF include renal failure having recently missed dialysis, worsening of dyspnea while lying flat, hypertension, lower extremity swelling, neck vein distention, rales and/or wheezing heard in the lung fields, pink frothy sputum, and absence of fever and green or yellow productive cough.

**PRACTICE:** Patients with dyspnea and clinical suspicion of CHF:

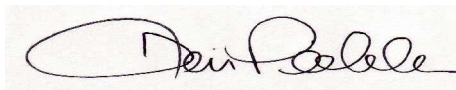
1. Assist patient to sitting or upright position
2. Administer oxygen via nasal cannula, non-rebreather mask, or ventilatory assistance with BVM as necessary based on clinical severity
3. Attach cardiac monitor
4. Establish IV access
5. Administer nebulized albuterol if wheezing is present
6. Administer sublingual nitroglycerin if SBP > 110; may repeat every 5 minutes to a total of 3 doses as long as SBP remains > 110; avoid NTG if Viagra, Levitra, or Cialis has been taken within the past 12 hours
7. Administer lasix if SBP > 110:
  - A) Lasix 80mg IV for patients maintained on chronic lasix
  - B) Lasix 40mg IV for patients not maintained on chronic lasix
8. Assess response to therapy

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


9. Consider morphine 2-6mg IV in titrated doses of 2mg administered every 5 minutes as long as SBP remains > 110
10. If SBP is < 100, refer to shock protocol and consider dopamine



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR ASTHMA AND CROUP</b>			
<b>Order: 014</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for treatments of patients with exacerbations of asthma and/or croup


**POLICY:** Almost all truly asthmatic patients with have a previous diagnosis of asthma. Conversely, croup is an episodic respiratory infection seen in young children characterized by fever, respiratory congestion, respiratory distress, a “croupy” barky cough, wheezing, and often respiratory stridor.

**PRACTICE:** Patients with respiratory distress and clinical suspicion of asthma or croup:

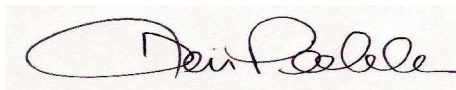
1. Administer oxygen via nasal cannula or non-rebreather mask, based on clinical severity, while preparing medications for use
2. Attach cardiac monitor
3. Obtain pulse oximetry monitoring
4. Administer nebulized albuterol treatment
5. Obtain IV access
6. If dyspnea and/or wheezing persist after first albuterol treatment:
  - A) Repeat nebulized albuterol treatment
  - B) Administer solumedrol 125mg IV (2mg/kg for pediatric patients) (or IM if IV access is unable to be obtained)
7. For patients with *severe respiratory distress* (altered LOC, inability to cooperate with nebulizer treatment, marked accessory muscle use, minimal or absent lung sounds, and/or pulse oximetry readings of < 90% despite supplemental oxygen:
  - A) Administer epinephrine 1:1000 0.3cc IM or SQ if:
    1. Patient age < 50 years
    2. No history or cardiac disease
    3. SBP < 160

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


8. For patients with severe respiratory distress as in # 7 above, consider magnesium sulfate 2g IV diluted in 10cc NS over 3-5 minutes as tolerated (may cause flushing, localized burning at infusion site, and nausea). Slow the infusion rate as necessary.
9. For patients with *croup* in severe respiratory distress (marked tachypnea, accessory muscle use, nasal flaring, and INSPIRATORY STRIDOR, consider nebulized epinephrine 5cc of 1:1000 concentration administered via nebulizer.



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR PNEUMONIA</b>			
<b>Order: 015</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for patients with respiratory distress and clinical suspicion of pneumonia.

**POLICY:** Pneumonia is commonly encountered in the prehospital arena, especially in elderly and nursing home patients. While sometimes clinically similar to CHF, distinction between CHF and pneumonia is important, as some therapies for CHF are detrimental to patients with pneumonia. This distinction is sometimes difficult, and the two conditions can coexist at times. Pneumonia patients will often have fever, respiratory congestion, wheezing, rales, hypotension, and a recent history of respiratory congestion and cough productive of colored sputum or hemoptysis.

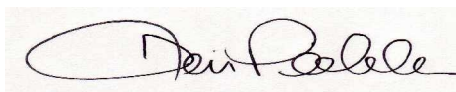
**PRACTICE:**

1. Patient assessment, noting respiratory distress, skin temperature, rales, respiratory congestion, and/or wheezing
2. Obtain pulse oximetry
3. Oxygen administration via nasal cannula or non-rebreather mask based on the patient's clinical severity
4. Secure airway with ETT or ETC placement as necessary
5. Obtain temperature if clinical condition permits
6. Obtain IV access; administer 250-500cc bolus of NS or LR if SBP < 100
7. Administer nebulized albuterol treatment if wheezing is present
8. Avoid nitroglycerin and lasix if pneumonia is clinically suspected


**\*\*\*CONTACT MEDICAL CONTROL\*\*\***



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR NONTRAUMATIC SHOCK</b>			
<b>Order: 016</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To develop treatment guidelines for patients exhibiting signs of nontraumatic shock

**POLICY:** Shock can result from many causes or syndromes, including cardiogenic, anaphylactic, neurogenic, hypovolemic, and drug overdose. Identification of a precipitating cause, if possible, is important because some syndromes (i.e. anaphylactic) have specific therapies. Whatever the cause, patients will exhibit signs of inadequate end-organ perfusion such as alterations in level of consciousness, thready or absent peripheral pulses, skin pallor and diaphoresis, and tachycardia.

**POLICY:**

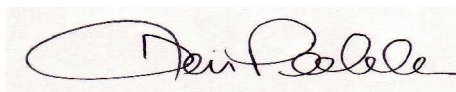
1. For anaphylactic shock follow the appropriate protocol
2. Assess patient for probable cause
3. Assess ventilatory adequacy and support as needed with assisted ventilations and/or airway control with ETT or ETC placement
4. Administer supplemental oxygen via non-rebreather mask if ventilatory drive is adequate
5. Lie patient supine if tolerated and keep warm
6. Attach cardiac monitor; obtain 12-lead EKG if ischemia is suspected
7. Obtain fingerstick glucose if any alteration in mental status is present
8. Obtain IV access with one or two IV lines and administer 500-1000cc fluid bolus of NS or LR if SBP < 100
9. Rapid transport

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


10. If SBP < 100 persists despite 1000cc fluid bolus, consider dopamine infusion at 10-20mcg/kg/min and titrate to keep SBP > 100



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR CARDIAC ARREST</b>			
<b>Order: 017</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for resuscitation of patients in cardiac arrest, non-initiation of resuscitation in appropriate scenarios, and termination of futile resuscitation in the field

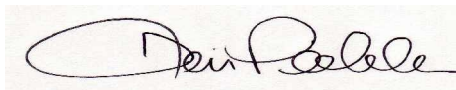
**POLICY:** In general, in the absence of signs of irreversible death (rigor mortis, lividity, cold body temperature, tissue decomposition, signs of injury incompatible with life such as decapitation, incineration, or massive crush injury) or the presence of a valid signed DNR order, all arrested patients should have resuscitation initiated. Patients with suspected hypothermia, barbiturate overdose, or electrocution should have full resuscitation unless signs of irreversible death, as noted above, are present. Patients should be resuscitated to completion (either return of spontaneous circulation or decision to terminate resuscitation) *in the field*, with emergency transport with CPR in progress only undertaken for rare clinical conditions (see GUIDELINES FOR TERMINATION OF RESUSCITATION).

**PRACTICE:**


1. Determine history from relatives or bystanders when possible and estimate down-time
2. Initiate CPR with focus on current AHA guidelines for effective compressions with minimization of interruptions in compressions
3. Administer ventilations with 100% oxygen via BVM with ventilatory rate of 8-10 breaths per minute, utilizing airway adjuncts as needed, while determining cardiac rhythm and preparations for definitive airway control are undertaken
4. Attach cardiac monitor or AED and interpret rhythm; follow appropriate dysrhythmia Protocol
5. Obtain IV access; if IV access is unable to be established quickly, establish IO access using approved device
6. Obtain definitive airway control with ET or ETC placement
7. If return of spontaneous circulation (ROSC) is achieved, assess condition and follow appropriate protocol for the patient's post-arrest condition (i.e., bradycardia, hypotension, etc.)
8. If resuscitation efforts continue to be unsuccessful, contact medical control for termination of resuscitation (see GUIDELINES FOR TERMINATION OF RESUSCITATION)



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR TERMINATION OF RESUSCITATION</b>			
<b>Order: 018</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 2

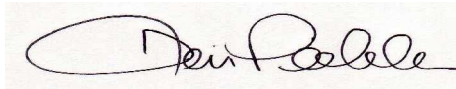
**PURPOSE:** To define criteria to define medical futility and when to terminate field resuscitative efforts when resuscitation has not been effective

**POLICY:**


1. Multiple studies demonstrate that in cases of adult normothermic non-traumatic cardiac arrest, the inability to restore a spontaneous pulse within 20-30 minutes of ACLS is uniformly a determinant of mortality.
2. In-hospital resuscitation provides no benefit for patients who have failed ACLS resuscitation in the field.
3. Continued resuscitation of dead patients is medically futile.
4. Resuscitation attempts performed during emergency transport are predominantly ineffective, as compared to resuscitative attempts provided on-scene
5. Emergency transport is dangerous to the transporting ambulance & crew, surrounding vehicles, and the public at large, and is associated with an alarming number of traffic accidents.
6. Therefore, limiting continued resuscitation and emergency transport of patients that have failed appropriate resuscitative efforts in the field is ethically equivalent with respect to medical futility, and limits futile emergency transports which are dangerous to providers and the general public alike.
7. Notable exceptions are patients with hypothermia, barbiturate overdose, and electrocution, which should be transported with full resuscitative measures unless there are signs of irreversible death or injuries present which are incompatible with life.
8. Attempts at transport should be delayed until signs of response to resuscitation appear (recovery of pulse and/or blood pressure, or persistent or recurrent VF/VT.) Otherwise, resuscitate patients to completion on-scene.
9. Consider early transport in crowded public places, scene situations that place personnel in jeopardy, family member conflict and/or inability to communicate, persistent VF/VT, or patients that display neurologic signs of life.
10. Consider family's wishes; if family strongly wishes resuscitative efforts to continue, non-emergency transport is to be used.
11. Emergency transportation that places the crew and public at risk will not be performed for continued futile resuscitation of patients who have failed to respond to the measures below.



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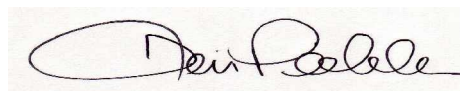
12. Patients who have had resuscitation terminated should be considered unattended deaths, and law enforcement notified. Once the body has been released from the scene, non-emergency transport to the hospital (as in routine signal 12 transports) for pronouncement should follow. Airways, IV catheters, and other resuscitative devices should be left in place.

**PRACTICE:** A paramedic may terminate resuscitation in the field provided the following criteria are met:


1. CPR with ALS measures have been performed for at least 20 minutes without a return of spontaneous pulse or respiration, AND
2. Airway control with ET intubation (with confirmation of placement) or ETC placement has been obtained, AND
3. IV or IO access has been obtained, with rhythm-appropriate medications and countershocks for VF/VT administered according to appropriate protocols, AND
4. Persistent asystole or agonal PEA persists without apparent reversible cause, AND
5. Termination order is received from on-line medical control physician. Termination decision should be a consensus agreement between the treating paramedic and the medical control physician.



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR BRADYCARDIA</b>			
<b>Order: 019</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for treatment of patients with bradycardia

**POLICY:** Indicated patients with a heart rate < 60

**PRACTICE:**

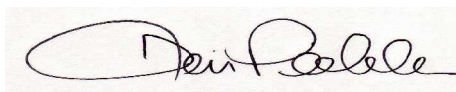
1. Assess for signs and/or symptoms relative to the bradycardia (hypotension, dyspnea, altered mental status, chest pain, other signs of shock)
2. Attach cardiac monitor
3. Administer oxygen via nasal cannula or non-rebreather mask based on patient's clinical severity
4. If perfusion is adequate and signs/symptoms of shock are not present, continue to monitor and transport
5. For symptomatic patients with SBP < 100, proceed with the following interventions:
  - A) Atropine 0.5-1mg IV; may be repeated in 5 minute intervals to a total of 3mg
  - B) Initiate transcutaneous pacing for severe clinical instability

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


6. Consider dopamine infusion at 5-20mcg/kg/min for severe symptoms unresponsive to atropine and/or transcutaneous pacing
7. Consider epinephrine infusion 2-10mcg/min for severe symptoms unresponsive to atropine, dopamine, and/or transcutaneous pacing
8. **NOTE** – Severely symptomatic patients nearing cardiac arrest may benefit from a “kitchen sink” approach in which all the above therapies are administered simultaneously. Contact medical control for guidance.



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA</b>			
<b>Order: 020</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for treatment of patients with PSVT

**POLICY:** SVT is a nonspecific term used to describe tachycardia arising from the AV node or above, and may include sinus tachycardia, reentry PSVT, and uncontrolled atrial fibrillation and flutter. Distinguishing between these rhythms can be difficult at high heart rates. In the presence of symptoms, differentiation between rhythms is relatively unimportant.

**PRACTICE:** Indicated patients with narrow-complex tachycardia with heart rate > 160

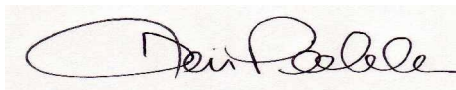
1. Administer oxygen via nasal cannula or non-rebreather mask based on patient's clinical severity
2. Attach cardiac monitor
3. Obtain IV access
4. Obtain pulse oximetry reading
5. Obtain 12-lead EKG if clinical stability permits (will assist in detailed rhythm analysis and rate-associated ischemic change)
6. If patient exhibits signs of instability at any time during assessment and treatment (altered mental status, severe chest pain, hypotension, or other signs of shock,) go immediately to #10 below
7. If patient is stable, attempt vagal maneuver with Valsalva
8. If unsuccessful, administer adenosine 6mg rapid IV push & monitor for effect; record monitor strip
9. If unsuccessful, administer adenosine 12mg rapid IV push & monitor for effect; record monitor strip
10. Perform synchronized cardioversion at manufacturer's recommended energy level IF clinically unstable as in #6 above

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


11. Consider sedation and analgesia with versed 1-2mg IV and morphine 2-4mg IV if SBP>100 and clinical situation allow
12. Consider repeat synchronized cardioversion with escalating energy level as recommended by manufacturer if initial cardioversion(s) are unsuccessful
13. If cardiac arrest develops, follow appropriate protocol



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	<b>GUIDELINES FOR VENTRICULAR TACHYCARDIA AND ECTOPY</b>			
<b>Order: 021</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for the treatment of patients with ventricular tachycardia, ventricular ectopy, and wide-complex tachycardia of unknown etiology

**PRACTICE:** Indicated patients presenting with ventricular tachycardia with a pulse, wide-complex tachycardia of unknown etiology, polymorphic ventricular tachycardia, or *symptomatic ventricular ectopy* (frequent PVCs, couplets, or runs of nonsustained VT associated with chest pain, dyspnea, altered mental status, or hypotension)

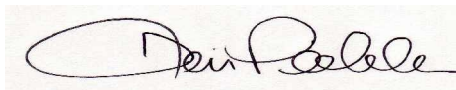
1. Rapid assessment; if patient develops unstable symptoms at any time during assessment or treatment (hypotension, altered mental status, severe chest pain, or other signs of shock), proceed immediately to # 7 below
2. Administer oxygen via non-rebreather mask
3. Obtain pulse oximetry reading
4. Obtain IV access, with IV fluid bolus or NS or LR 250-500cc if SBP<100
5. Attach cardiac monitor; obtain 12-lead EKG if clinical stability permits
6. Obtain fingerstick glucose level if any alteration in mental status is present
7. If clinical instability is present (SBP<100, severe chest pain, altered mental status, or other signs of shock), perform synchronized cardioversion at manufacturer's recommended energy level

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


8. If patient is clinically stable, consider amiodarone 150mg IV infusion over 10 minutes; may repeat once if patient remains clinically stable and first infusion has been ineffective
9. Consider analgesia and sedation with morphine 2-4mg IV and versed 1-2mg IV for synchronized cardioversion as SBP and clinical condition allow
10. Patients with *POLYMORPHIC VT (Torsades de Pointes)*: if clinically stable as above, administer magnesium sulfate 2g IV over 5 minutes. If clinically unstable, move to immediate *unsynchronized* cardioversion at manufacturer's recommended energy level
11. If cardiac arrest occurs, follow appropriate protocol



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	<b>GUIDELINES FOR ASYSTOLE</b>			
<b>Order: 022</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To develop uniform guidelines for attempted resuscitation for patients suffering asystolic cardiac arrest.

**POLICY:** The survival rate for asystolic cardiac arrest is dismal, and asystole most often represents a confirmation of death rather than a dysrhythmia to be treated. Any hope for resuscitation rests with high-quality CPR and rapid identification and treatment of a reversible precipitating cause.

**PRACTICE:** For patients in asystolic cardiac arrest:

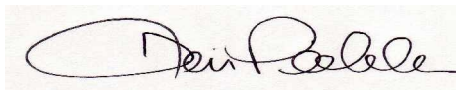
1. CPR with focus on minimization of interruption of compressions; note time of initiation of resuscitation
2. Confirm asystole in an additional telemetry lead
3. Secure airway with ET or ETC placement and ventilate at a rate of 8-10 breaths per Minute
4. Obtain IV or IO access
5. Consider BRIEF trial of pacing EARLY; if no mechanical capture do not delay compressions further and continue CPR
6. Administer epinephrine 1mg IV or IO or vasopressin 40units IV or IO (single dose of vasopressin); administer epinephrine 1mg IV or IO at 3-5 minute intervals for persistent asystole
7. Administer atropine 1mg IV or IO; repeat at 3-5 minute intervals for a total dose of 3mg for persistent asystole
8. Consider sodium bicarbonate 1 ampule IV or IO

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


9. Consider termination of resuscitation if asystole or agonal PEA persists



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	<b>GUIDELINES FOR PULSELESS ELECTRICAL ACTIVITY</b>			
<b>Order: 023</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for treatment of patients in PEA cardiac arrest

**POLICY:** PEA represents a potentially salvageable condition, especially if the rhythm is narrow and/or rapid. Focus assessment on rapid identification of a precipitating and potentially reversible cause such as hypoxia, hypovolemia, hypothermia, acidosis, overdose, or tension pneumothorax.

**PRACTICE:** For patients in PEA cardiac arrest:

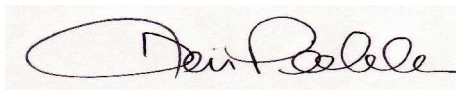
1. Rapid assessment for precipitating cause; note time of initiation of resuscitation
2. CPR with focus on minimization of interruption of compressions
3. Airway control with ET or ETC placement and provide ventilations at a rate of 8-10 breaths per minute
4. IV or IO access with 500-1000cc fluid bolus with NS or LR
5. Obtain fingerstick glucose level and administer D50 1 ampule IV or IO if glucose level is < 40
6. Administer epinephrine 1mg IV or IO **or** vasopressin 40 units IV or IO (single dose of vasopressin); administer epinephrine 1mg IV or IO at 3-5 minute intervals for persistent PEA
7. Administer atropine 1mg IV or IO if PEA rhythm rate is < 60; repeat at 3-5 minute intervals to a total dose of 3mg if rhythm persists < 60 or asystole develops
8. For suspicion of tension pneumothorax (absent breath sounds despite adequate airway placement), perform needle decompression

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


9. Consider sodium bicarbonate 1 ampule IV or IO
10. Consider termination of resuscitation if asystole or agonal (<40) PEA persists



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA</b>			
<b>Order: 024</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 2

**PURPOSE:** To establish guidelines for resuscitation of patients with ventricular fibrillation and pulseless ventricular tachycardia cardiac arrest

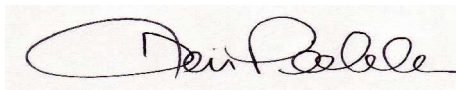
**POLICY:** The most crucial interventions during VF arrest are bystander CPR with minimal interruption of compressions and defibrillation as soon as it can be accomplished. In the prehospital setting, unless the arrest is witnessed by the EMS crew, defibrillation is more likely to reestablish a perfusing rhythm if it is preceded by several cycles of CPR. Current recommendations are to provide 5 cycles of compressions before attempting defibrillation (unless the arrest is witnessed), minimize interruptions in compressions by limiting pulse & rhythm checks between shocks, and delivering a single defibrillation followed immediately by resuming compressions for an additional 5 cycles before re-checking rhythm and pulse.

**PRACTICE:** For patients in VF or VT cardiac arrest (protocol assumes patient remains in VF or pulseless VT):


1. Immediate CPR with focus on minimization of interruptions in compressions; deliver 5 cycles of compressions (about 2 minutes) while attaching monitor/AED; note time of initiation of resuscitation
2. Defibrillate ONCE at manufacturer’s recommended energy level for biphasic defibrillators or 360 joules for monophasic defibrillators) and resume CPR immediately for 5 cycles
3. Secure airway with ET or ETC placement and provide ventilations at a rate of 8-10 breaths per minute
4. Obtain IV or IO access
5. Defibrillate once at energy level noted above and immediately resume CPR for 5 cycles
6. Administer epinephrine 1mg IV or IO or vasopressin 40 units IV or IO (single dose of vasopressin); repeat epinephrine 1mg IV or IO at 3-5 minute intervals
7. Defibrillate once at energy level noted above and immediately resume CPR for 5 cycles
8. Administer amiodarone 300mg IV or IO; may give additional dose of 150mg IV or IO in 3-5 minutes if VF/VT persists
9. Defibrillate once as above
10. Administer lidocaine 1.5mg/kg (150mg standard dose) IV or IO; may repeat same dose once in 3-5 minutes if VF/VT persists
11. Defibrillate once as above



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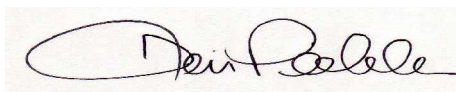
	<i>HALL COUNTY FIRE SERVICES</i>			
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	<b>GUIDELINES FOR VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA</b>			
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**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


- 12. Consider magnesium sulfate 2g IV or IO
- 13 Consider sodium bicarbonate 1 ampule IV or IO
- 14. Consider transport for refractory VF/VT



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR CHEST PAIN</b>			
<b>Order: 025</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for the assessment and treatment of patients with chest pain of suspected myocardial ischemic origin

**POLICY:** Chest pain may be a symptom of cardiac ischemia or infarction, or may result from a myriad of other causes. Other important conditions that may present with chest pain are pulmonary embolism, pneumonia, thoracic aortic dissection, pneumothorax, dysrhythmias, and gastrointestinal disorders. The patient’s history, character of symptoms, physical exam findings, EKG findings, and risk factors (i.e., recent surgery) are important assessment points to guide therapy.

**PRACTICE:** For patients with *chest pain of suspected cardiac origin:*

1. Targeted assessment
2. Administer supplemental oxygen via nasal cannula or non-rebreather mask based on the patient’s clinical severity
3. Attach cardiac monitor
4. Obtain IV access
5. Obtain pulse oximetry reading
6. Obtain 12-lead EKG
  - A) If EKG suggests MI (ST segment elevation in 2 contiguous leads) or ST segments depression and/or T wave inversion, transmit EKG to the hospital early
  - B) If EKG suggests MI with ST segment elevation, initiate transport immediately and perform other interventions during transport
7. Administer two 81mg chewable aspirins by mouth if not contraindicated by allergy or current coumadin (warfarin) therapy
8. If SBP > 110 administer nitroglycerin 0.4 sublingual tablet; may repeat at 5 minute intervals for a total of 3 doses while maintaining SBP > 110. Recheck SBP before each additional dose and withhold if SBP < 110
 

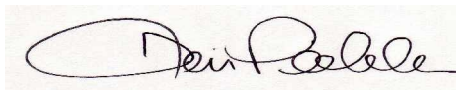
**NOTE:** Administration of nitroglycerin is contraindicated if the patient has taken Viagra, cialis, or levitra within the previous 12 hours.
9. Transport.

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


10. Consider morphine 2-10mg IV in 2mg increments every 5 minutes for patients with persistent chest pain despite nitroglycerin or in those patients in whom nitroglycerin is contraindicated



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR ALTERED MENTAL STATUS</b>			
<b>Order: 026</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for assessment and treatment of patients with altered mental status

**POLICY:** Alterations in mental status can be a primary disorder, but is frequently seen in association with other disorders such as trauma, overdose or intoxication, respiratory disorders, renal failure, infection, diabetic emergencies, hypertensive crises, metabolic abnormalities, shock, and post-seizure states. Assessment should focus on a likely cause.

**PRACTICE:** The approach to the patient with altered mental status:

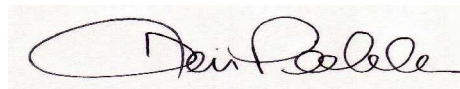
1. Evaluate level of consciousness using the AVPU method; note pupillary and extremity motor strength/sensation findings
2. If assessment reveals a specific cause, (i.e. head injury, overdose, hypoglycemia, shock, hypertensive crisis, etc.) follow the appropriate protocol
3. Evaluate ventilatory adequacy and assist ventilations as needed
4. Administer oxygen by nasal cannula or non-rebreather based on the patient's clinical Severity
5. Obtain IV access; administer 250-500cc fluid bolus of NS or LR if SBP<100
6. Obtain fingerstick blood glucose level
7. Obtain pulse oximetry reading
8. Attach cardiac monitor

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


9. Consider narcan 0.2-2mg IV or IM; start with low doses and titrate to reversal of respiratory depression and avoid complete reversal/awakening as this may precipitate acute narcotic withdrawal and combativeness
10. Consider thiamine 100mg IV or IM if suspect chronic alcoholism or intoxication with hypoglycemia



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR SEIZURES</b>			
<b>Order: 027</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish treatment guidelines for patients with seizures

**PRACTICE:** For patients with active seizures/convulsions:

1. Assess, protect patient from harm or injury
2. Monitor airway patency with positioning, modified jaw thrust, nasal airway placement, and suctioning as appropriate
3. Administer oxygen via non-rebreather mask
4. Attach cardiac monitor
5. Obtain IV access
6. Obtain fingerstick blood glucose level; administer D50 1 ampule if < 40
7. Administer valium 5mg IV (0.1mg/kg for pediatric patients up to 5mg); may repeat at 5 minute intervals to total dose of 20mg if patient continues to seize

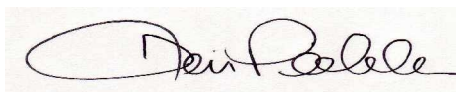
**\*\*\*CONTACT MEDICAL CONTROL\*\*\***

For patients that continue to seize/convulse despite the above interventions:


8. Consider versed 2.5mg IV (0.05mg/kg for pediatric patients up to 2.5mg); may repeat in 5 minutes if ineffective
9. Consider versed 5mg IM (0.2mg/kg for pediatric patients up to 5mg) for patients in whom IV access is unable to be obtained; may repeat in 10 minutes if ineffective
10. Continue to monitor ventilatory adequacy and support with assisted ventilations as necessary



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR ACUTE STROKE</b>			
<b>Order: 028</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for evaluation and management of patients suspected of having acute ischemic stroke

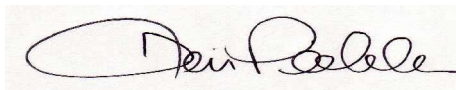
**POLICY:** Prehospital focus of importance in acute stroke is rapid identification and transport, while minimizing complications of hypotension and airway compromise. For ischemic stroke, definitive treatment with fibrinolytic medication (if eligible) must be initiated within three hours of symptom onset; no definitive treatment can be initiated in the field. Symptoms suggestive of stroke include extremity weakness or paralysis, numbness or tingling, visual deficits, difficulty speaking, facial drooping, acute headache, and alterations in mental status.

**PRACTICE:** For patients suspected of having acute stroke:


1. Initial assessment – focused neurologic examination to assess level of consciousness using AVPU method, facial asymmetry, motor strength of upper (grip) and lower extremities, sensation of upper and lower extremities
2. *Identify exact time of symptom onset and when the patient was last known to be normal*
3. If time of symptom onset is less than three hours, initiate immediate emergency transport and perform other interventions during transport. If symptom onset time is greater than three hours, proceed with evaluation
4. Assess ventilatory adequacy and support as needed
5. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
6. Obtain fingerstick glucose level
7. Obtain IV access
8. Attach cardiac monitor
9. If blood pressure is 240/130 or greater, refer to hypertensive crisis protocol  
     Notify receiving facility early if symptom onset is less than three hours



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR ENVENOMATIONS, ALLERGIC REACTIONS, AND ANAPHYLAXIS</b>			
<b>Order: 029</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for management of patients with insect envenomations, allergic reactions, and anaphylaxis

**POLICY:** Allergic reactions vary in severity from mild urticarial rash to fatal anaphylaxis; treatment is based on severity, with epinephrine indicated in cases of respiratory distress, wheezing and/or stridor, orofacial edema, or hypotension.

**PRACTICE:** For patients with insect envenomation or generalized allergic reaction with urticaria (hives)

1. Assess for ventilatory adequacy and support with assisted ventilations as needed
2. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
3. Attach cardiac monitor
4. Obtain IV access, with 500-1000cc fluid bolus of NS or LR if SBP<100; initiate 2<sup>nd</sup> IV line with fluid bolus if severe shock/hypotension is present
5. Administer benadryl 50mg IV (1mg/kg for pediatric patients)
6. Administer solumedrol 125mg IV (2mg/kg for pediatric patients)
7. Administer nebulized albuterol treatment if respiratory distress, wheezing, or inspiratory stridor is present
8. For patients with SEVERE REACTIONS including respiratory distress, wheezing and/or inspiratory stridor, orofacial edema, or hypotension:
  - A) Administer epinephrine (1:1000) 0.3cc IM (0.1cc/kg for pediatric patients up to 0.3cc)

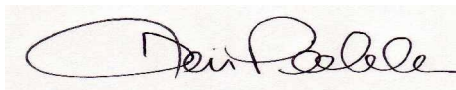
**\*\*\*CONTACT MEDICAL CONTROL\*\*\***

The following interventions are reserved for extremely critical patients with ongoing anaphylactic shock unresponsive to the above measures:


9. Consider epinephrine (1:10,000) 0.1-0.5mg slow IV for persistent hypotension and imminent airway compromise
10. Consider repeat benadryl 50 mg IV
11. Consider glucagon 2mg IV
12. Consider epinephrine continuous infusion at 1-4 mcg/min and titrated to maintain SBP>100



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR HYPOGLYCEMIA</b>			
<b>Order: 030</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish uniform guidelines for the assessment and management of patients with hypoglycemia

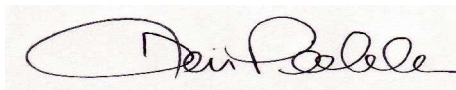
**POLICY:** Hypoglycemia should be suspected in diabetic patients, any patient with an altered mental status, patients with seizures, and ill-appearing infants and children. Assessment of blood glucose level is quick, easy, very important, and should be done liberally.

**PRACTICE:** For patients suspected to have hypoglycemia:


1. Assess/support ventilation as necessary
2. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
3. Attach cardiac monitor
4. Obtain fingerstick glucose level
5. Obtain pulse oximetry reading
6. Obtain IV access
7. For mildly symptomatic patients with blood glucose < 60 who have no airway or respiratory compromise and are able to swallow effectively:
  - A) Administer 1-2 vials of oral glucose solution (Instant Glucose)
  - B) Assess clinical response to treatment; if patient deteriorates or does not tolerate the oral solution, proceed to #8
8. For symptomatic patients with blood glucose < 40:
  - A) Administer thiamine 100mg IV or IM is suspect chronic alcoholism or intoxication
  - B) Administer 1 ampule D50 (for adults)
  - C) Assess clinical response & repeat blood glucose level
  - D) May establish infusion of D5W at discretion of treating paramedic
9. For symptomatic PEDIATRIC patients with blood glucose < 60:
  - A) Infants < 6 months: 5cc/kg of D10 (2cc D50 in 10cc NS)
  - B) Children 6 months – 2 years: 2cc/kg of D25 (10cc D50 in 10cc NS)
  - C) Children > 2 years: 1cc/kg of D50 up to 1 ampule
  - D) Assess clinical response & repeat blood glucose level
  - E) May establish infusion of D5W at discretion of treating paramedic
10. For symptomatic patients with blood glucose < 40 in whom IV access is unable to be obtained:
  - A) Administer glucagon 1mg IM (0.1mg/kg up to 1mg IM for pediatric patients)
  - B) Assess clinical response & repeat blood glucose level
11. Transport



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR OVERDOSE &amp; TOXIC EXPOSURES</b>			
<b>Order: 031</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for assessment and management of patients with therapeutic or illicit substance overdose & exposure to toxic substances

**POLICY:** Overdose patients often have behavioral and/or psychiatric issues and may attempt to refuse treatment and/or transport. Patients with attempts at self harm and/or suicide or who are under the influence of mind-altering medications are not in possession of faculties that allow them to refuse care; once the HCFD has arrived on scene, *we are responsible for their well-being and care*, and patients must be transported to the hospital for care. Utilize law enforcement, physical restraints, and medical control as necessary.

**PRACTICE:**

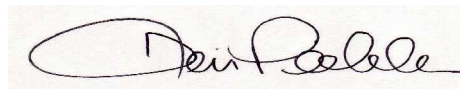
1. Remove patient from toxic environment and assess; obtain history from family and/or bystanders and attempt to determine what medication/drug/toxin was taken
2. Assess ventilatory adequacy & assist as needed
3. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
4. Obtain IV access
5. Obtain pulse oximetry reading
6. Obtain fingerstick blood glucose level if any alteration in mental status is present
7. If patient is unconscious, refer to Altered Mental Status protocol
8. Do not induce vomiting

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


9. Consider activated charcoal 50g (1g/kg for pediatric patients up to 50g) orally for patients with ingested medication overdose in cooperative patients without respiratory depression or compromise
10. Consider sodium bicarbonate 1-2 ampules IV for patients with tricyclic antidepressant overdose who are tachycardic, hypotensive, seizing, or have depressed mental status
11. Consider atropine 1-2mg IV for patients with insecticide exposure with symptomatic bradycardia, seizures, or pulmonary congestion



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR HYPERTENSIVE CRISIS</b>			
<b>Order: 032</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To develop treatment guidelines for patients with hypertensive crisis


**POLICY:** A hypertensive crisis is defined as a systolic blood pressure of 240 or greater and/or a diastolic blood pressure of 130 or higher. Signs and symptoms of hypertensive crisis include headache, nausea and/or vomiting, altered mental status, chest pain, severe dyspnea, stroke symptoms, seizures, and coma. Treatment involves a controlled reduction in blood pressure WITHOUT a precipitous drop, which can worsen end-organ damage.

**PRACTICE:** Patients with SBP 240 or greater, DBP 130 or greater, with any symptoms as noted above.

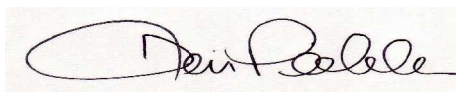
1. Assess ventilatory adequacy and support as needed.
2. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
3. Attach cardiac monitor
4. Obtain IV access
5. Obtain 12-lead EKG if chest pain is present
6. Obtain fingerstick blood glucose level if any alteration in mental status is present

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


7. Consider labetalol 10-20mg slow IV push; assess response
8. Consider aspirin and nitroglycerin per chest pain protocol IF no stroke symptoms or alteration in mental status is present
9. Consider morphine 2-5mg IV if hypertension is accompanied by severe headache



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR NEAR-DROWNING &amp; SUBMERSION INJURY</b>			
<b>Order: 033</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To develop treatment for victims of submersion injury

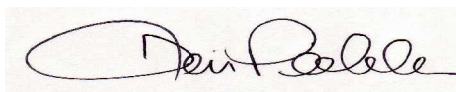
**POLICY:** All patients with submersion injury should be transported for evaluation as deterioration can occur despite a benign initial appearance. Important history to be gathered at the scene includes the length of submersion, any period of unconsciousness, any associated trauma, whether SCUBA equipment was being used, and any drug or alcohol use.

**PRACTICE:** For all victims of significant submersion incident

1. Assess ventilatory adequacy and support as needed
2. Suction solid and/or particulate matter from the airway but avoid attempts to clear all water from the airway; this delays definitive airway control and subsequent oxygenation and ventilation
3. Administer oxygen by nasal cannula or non-rebreather mask based on the clinical severity of the patient
4. Obtain IV access
5. Obtain pulse oximetry reading
6. Attach cardiac monitor
7. Obtain fingerstick blood glucose level if any alteration in mental status is present
8. Cardiac arrest and/or arrhythmia management per appropriate protocol



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR HEAT EXHAUSTION &amp; HEAT STROKE</b>			
<b>Order: 034</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish treatment guidelines for patients with heat exhaustion and/or heat stroke

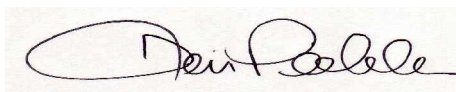
**PRACTICE:** For patients suffering from heat exhaustion (weakness, diaphoresis, muscle cramps) or heat stroke (altered mental status, hot & dry skin):

1. Assess ventilatory adequacy and support as needed
2. Remove patient from hot environment
3. May irrigate skin with tepid or cool water; avoid chilling
4. Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
5. Obtain temperature
6. Attach cardiac monitor
7. Obtain fingerstick glucose level if any alteration in mental status is present
8. Obtain IV access and administer IV fluid bolus 500-1000cc of NS or LR
9. Transport


**\*\*\*CONTACT MEDICAL CONTROL\*\*\***



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR HYPOTHERMIA</b>			
<b>Order: 035</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for treatment of patients with hypothermia and hypothermic cardiac arrest

**POLICY:** Hypothermia is defined as body temperature < 95 degrees, & may result from exposure to a cold environment, metabolic illness, or infection. Resuscitation from cardiac arrest is sometimes possible even with profound hypothermia, and resuscitation should be initiated except in the following circumstances: cold water submersion of greater than one hour, obvious fatal injuries, frozen patients (i.e. with ice formation in the airway), and chest wall rigidity which impairs CPR

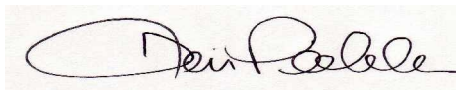
**PRACTICE:** For patients with suspected hypothermia:

1. Prolonged initial assessment for pulse and/or signs of life
2. Handle gently and remove patient from cold environment, prevent further heat loss, remove wet clothing, and cover with blankets
3. Administer heated oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
4. Assess ventilatory adequacy and support as needed
5. Obtain IV access
6. Attach cardiac monitor
7. Obtain pulse oximetry reading
8. Obtain fingerstick blood glucose level
9. Apply warm packs to groin and axilla; may wrap to prevent skin burns
10. If *cardiac arrest* is present:
  - A) Handle gently
  - B) Gentle airway control with ET or ETC placement
  - C) CPR
  - D) If VF/VT is present, a single defibrillation at manufacturer's recommended energy level (360 joules for monophasic defibrillators) should be given
  - E) Administer a single dose of epinephrine 1mg IV/IO **or** vasopressin 40 units IV/IO
  - F) If VF/VT is present and persists following defibrillation, administer a single dose of amiodarone 300mg IV/IO
11. Transport


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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR NONTRAUMATIC ABDOMINAL, BACK, &amp; EXTREMITY PAIN</b>			
<b>Order: 036</b>	Approved: 4/1/06	Revised: 12/01/07	Effective: 12/01/07	Page 1 of 1

**PURPOSE:** To establish treatment guidelines for patients with abdominal, back, or extremity pain NOT associated with trauma or injury

**POLICY:** Often this group of patients will not require emergent pre-hospital intervention. However, several severe disease processes can present as abdominal, back, and/or extremity pain; these include gastrointestinal surgical emergencies, myocardial infarction, ruptured or leaking abdominal aortic aneurysm, extremity ischemia, ectopic pregnancy, and kidney stones.

**PRACTICE:**

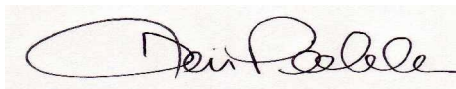
1. Assess & consider underlying causes as noted above
2. May establish IV access at discretion of the treating paramedic
3. Administer ondansetron 4 mg mixed in 50 ml of NS, IV as needed for nausea and/or vomiting
4. Document distal extremity pulses

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


5. Consider toradol 30mg IV (15mg IV if age > 60) for extremity pain or strong suspicion for kidney stone
6. Consider morphine 2-10mg IV for *rare* causes of severe pain that impedes movement and transport of the patient



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR OB-GYN EMERGENCIES</b>			
<b>Order: 037</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish treatment standards for routine delivery and complications of OB-GYN patients

**PRACTICE:**

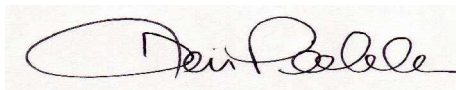
1. For routine delivery: note time of delivery, allow placenta to deliver spontaneously without pulling; transport placenta with patient for OB inspection
2. For *prolapsed cord*:
  - A) Administer oxygen via non-rebreather mask
  - B) Place mother in trendelenburg or knee-chest position
  - C) Release pressure on cord by inserting a gloved hand into the vagina and apply gentle pressure to the infant's head; transport rapidly in this position
3. For *breech presentation*:
  - A) Facilitate routine breech delivery if possible
  - B) Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
  - C) If the head fails to deliver, create infant airway by inserting a gloved hand into the vagina & forming a "V" with index & long finger over the infant's mouth and nose; transport rapidly in this position
4. For *extremity presentation*:
  - A) Transport rapidly & contact medical control
5. For *vaginal bleeding/placental abruption*:
  - A) Administer oxygen via nasal cannula or non-rebreather mask based on the clinical severity of the patient
  - B) Establish IV access with 500-1000cc fluid bolus of NS or LR if SBP < 100
6. For *preeclampsia* (edema, confusion, abdominal pain, BP > 140/90) or *eclampsia* (presence of seizures in setting of preeclampsia):
  - A) Obtain fingerstick glucose level
  - B) Administer oxygen via non-rebreather
  - C) Obtain IV access

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


- D) Consider valium 5mg IV for seizures; may repeat in 5 minutes if ineffective
- E) Consider magnesium sulfate 2g IV
- F) Rapid transport



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR AED USE IN CARDIAC ARREST</b>			
<b>Order: 038</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish guidelines for AED use in cardiac arrest when no conventional monitor/defibrillator is not immediately available

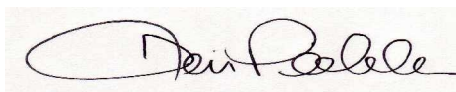
**POLICY:** AED use for cardiac arrest should be used if an AED is present and no conventional monitor/defibrillator is immediately available

**PRACTICE:**


1. Patients must be at least one year of age for AED use
2. Confirm cardiac arrest (absence of a pulse)
3. Perform CPR with focus on minimization of interruption of compressions until AED can be attached
4. Attach AED appropriately
5. Do not touch patient while AED analyzes rhythm
6. If “no shock advised” continue CPR for 5 cycles and re-analyze rhythm
  - A) Secure airway with ET or ETC placement
7. If “shock advised”:
  - A) Verbally command “all clear”
  - B) Press “shock” and administer a *single* defibrillation
  - C) Immediately resume 5 cycles of CPR
  - D) Re-analyze rhythm; go to # 6 above
8. Continue steps 6 - 8 until monitor arrives
9. Maintain crew and bystander safety around AED
10. Do not use AED in standing water



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	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR USE OF PHYSICAL RESTRAINT</b>			
<b>Order: 039</b>	Approved: 4/1/06	Revised:	Effective: 4/1/06	Page 1 of 1

**PURPOSE:** To establish criteria and guidelines for use of physical restraints

**POLICY:** Physical restraint use is permissible for use in patients that pose a threat or danger to himself or others. Only soft restraints are to be used. If law enforcement personnel apply handcuffs, they will be asked to accompany the patient during transport and monitor their use

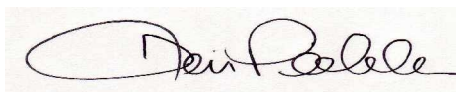
**PRACTICE:**

**\*\*\*CONTACT MEDICAL CONTROL\*\*\***


1. Physical restraints are indicated for patients with medical or mental conditions that warrant immediate ambulance transport and who are exhibiting behavior that the treating paramedic feels will or may endanger the patient or others
2. Hostile, unwilling patients with good decision-making capacity can refuse treatment, except if suicidal
3. Assess for medical causes of agitation or combativeness, such as head injury, hypoxia, hypoglycemia, stroke, intoxication, or drug ingestion
4. Obtain pulse oximetry reading and fingerstick glucose level if any alteration in mental status is present
5. Document distal neurovascular function after restraints are applied
6. *No patient with restraints is to be transported prone for any reason*
7. Monitor closely during transport



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR INTRAOSSEOUS INFUSION (EZ IO®)</b>			
<b>Order: 040</b>	Approved: 12/01/06	Revised:	Effective: 12/21/06	Page 1 of 3

**TRAINING:** Intraosseous Infusion and the use of the EZ IO® infusion system require specific training prior to use.

**INDICATIONS:**

- EZ-IO AD® (40 kg and over) & EZ-IO PD® (3 – 39 kg)
1. Intravenous fluids or medications are needed and a peripheral IV cannot be established in 2 attempts or 90 seconds  
**AND** the patient exhibits one or more of the following:
    - a. An altered mental status (GCS of 8 or less)
    - b. Respiratory compromise (SaO2 80% after appropriate oxygen therapy, respiratory rate < 10 or > 40 min)
    - c. Hemodynamic instability (Systolic BP of < 90).
  2. EZ-IO AD® & EZ-IO PD® may be considered PRIOR to peripheral IV attempts in the following situations:
    - a. Cardiac arrest (medical or traumatic)
    - b. Profound hypovolemia with alteration of mental status
    - c. Patient in extremes with immediate need for delivery of medications and or fluids.

**CONTRAINDICATIONS:**

1. Fracture of the bone selected for IO infusion (*consider alternate site*)
2. Excessive tissue at insertion site with the absence of anatomical landmarks (*consider alternate site*)
3. Previous significant orthopedic procedures (*IO within 24 hours, prosthesis - consider alternate tibia*)
4. Infection at the site selected for insertion (*consider alternate site*)

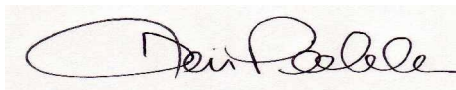
**CONSIDERATIONS:**

**Flow rate:** Due to the anatomy of the IO space you will note flow rates to be slower than those achieved with IV catheters.

- Ensure the administration of an appropriate rapid syringe bolus (flush) prior to infusion **NO FLUSH = NO FLOW**
  - Rapid syringe bolus (flush) the EZ-IO AD® with 10 ml of normal saline
  - Rapid syringe bolus (flush) the EZ-IO PD® with 5 ml of normal saline
  - Repeat syringe bolus (flush) as needed




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- To improve continuous infusion flow rates always use a syringe, pressure bag or infusion pump

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	<b>GUIDELINES FOR INTRAOSSEOUS INFUSION (EZ IO®)</b>			
HCFS	Approved: 12/01/06	Revised:	Effective: 12/21/06	Page 2 of 3

**PAIN:** Insertion of the EZ-IO AD® & EZ-IO PD® in conscious patients has been noted to cause mild to moderate discomfort (usually no more painful than a large bore IV). However, IO Infusion for conscious patients has been noted to cause severe discomfort

- Prior to IO syringe bolus (flush) or continuous infusion in alert patients, SLOWLY administer Lidocaine 2% (Preservative Free) through the EZ-IO hub.
  - EZ-IO AD® Slowly administer 20 – 40 mg Lidocaine 2% (Preservative Free)
  - EZ-IO PD® Slowly administer .5 mg /kg Lidocaine 2% (Preservative Free)

**PRECAUTIONS:** The EZ-IO AD® & EZ-IO PD® are not intended prophylactic use

**EQUIPMENT:**

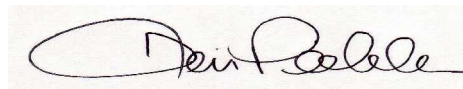
1. EZ-IO® Driver
2. EZ-IO AD® or EZ-IO PD® Needle Set
3. Alcohol or Betadine Swab
4. EZ-Connect® or Standard Extension Set
5. 10 ml Syringe
6. Normal Saline (or suitable sterile fluid) Pressure Bag or Infusion Pump
7. 2 % Lidocaine (preservative free) EZ-IO®
8. Yellow wristband

**PROCEDURE:**

1. Wear approved Body Substance Isolation Equipment (BSI)
2. Determine EZ-IO AD® or EZ-IO PD® Indications
3. Rule out Contraindications
4. Locate appropriate insertion site
5. Prepare insertion site using aseptic technique
6. Prepare the EZ-IO® driver and appropriate needle set
8. Stabilize site and insert appropriate needle set
9. Remove EZ-IO® driver from needle set while stabilizing catheter hub
10. Remove stylet from catheter, place stylet in shuttle or approved sharps container
11. Confirm placement
12. Connect primed EZ-Connect®
13. Slowly administer appropriate dose of Lidocaine 2% (Preservative Free) IO to conscious patients




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14. Syringe bolus (flush) the EZ-IO® catheter with the appropriate amount of NS

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15. Utilize pressure (pressure bag or infusion pump) for continuous infusions where applicable

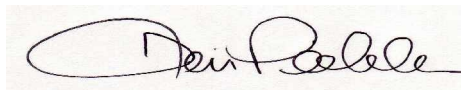
16. Begin infusion

17. Dress site, secure tubing and apply wristband as directed


18. Monitor EZ-IO® site and patient condition



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR PICC LINE ACCESS</b>			
<b>Order: 041</b>	Approved: 2/1/07	Revised:	Effective: 12/1/07	Page 1 of 1

**PURPOSE:** To establish guidelines for emergency access of PICC (peripherally-inserted central catheter) lines for fluid and/or medication administration by HCFS personnel.

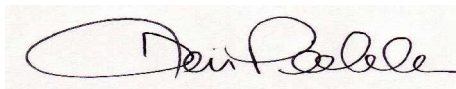
**POLICY:** PICC lines are placed in patients in whom routine IV access is difficult, and/or in patients receiving intravenous medications at home or chemotherapy. While slightly more prone to complications than a virgin peripheral IV line, they can be used in emergency cases for administration of intravenous fluids and/or medications when standard peripheral IV access cannot be rapidly established.

**PRACTICE:** For patients *with pre-existing PICC lines* requiring urgent administration of intravenous fluids and/or medications *in whom standard peripheral intravenous access cannot be rapidly established:*


1. Explain procedure to the patient.
2. Prep port by vigorously rubbing with alcohol prep for a minimum of 30 seconds.
3. Flush PICC line with 10cc normal saline before administration of IV fluids or medications.
4. If unable to flush the PICC line or if resistance is felt, abort further attempts at use.
5. Administer IV fluids and/or medications as you normally would with a peripheral IV catheter.
6. Unless a continuous infusion of IV fluid is infusing, flush the PICC line with 10cc normal saline before, between, and after any medication administration.



Preston A. Ball, M.D., Medical Director



Captain Tim Peebles, EMS Coordinator

	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR CPAP USE</b>			
<b>Order: 042</b>	Approved: 11/13/07	Revised:	Effective: 12/1/07	Page 1 of 1

**PURPOSE:** To establish guidelines for the administration of continuous positive airway pressure support for patients in respiratory distress and incipient respiratory failure from congestive heart failure or COPD

**PRACTICE:**

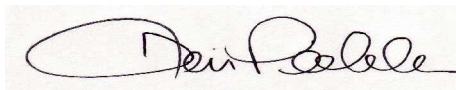
1. Consider CPAP for patients either in severe respiratory distress or moderate respiratory distress failing to improve with appropriate therapy for CHF or COPD
2. Patients ***must be alert and able to maintain and protect a patent airway***
3. Respiratory support via CPAP is administered ***in addition to medications***, which are the mainstay of therapy
4. Contraindications to CPAP:
  1. Age less than 8 years
  2. Unable to maintain & protect a patent airway
  3. Decreased level of consciousness
  4. Systolic BP < 90
  5. Facial trauma/burns/surgery prohibiting airtight mask seal
  6. Suspicion of pneumothorax
  7. Patients with a tracheostomy
  8. Inability to tolerate CPAP
5. Initial CPAP setting for patients with CHF and COPD is **5cmH<sub>2</sub>O (15 LPM)**; this may be titrated up to a maximum of **10cm H<sub>2</sub>O (25LPM)** at 5LPM increments every 5 minutes if tolerated and lower settings are poorly efficacious
6. Improvement should be noted within minutes; frequent monitoring of BP, respiratory rate, and level of consciousness are crucial
7. Do not discontinue CPAP once initiated unless the patient clinically worsens or is not tolerated by the patient; be prepared for BVM assistance and/or intubation in these cases

**Oxygen flow rate/pressure support conversions:**


- 15 LPM = 5cm H<sub>2</sub>O**
- 20 LPM = 7.5cm H<sub>2</sub>O**
- 25 LPM = 10cm H<sub>2</sub>O**



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	<i>HALL COUNTY FIRE SERVICES</i>			
	<i>MEDICAL PROTOCOLS AND STANDING ORDERS</i>			
	<b>GUIDELINES FOR PEDIATRIC FEVER</b>			
<b>Order: 043</b>	Approved: 11/13/07	Revised:	Effective: 12/1/07	Page 1 of 1

**PURPOSE:** To establish guidelines for evaluation and management of pediatric patients exhibiting non-environmental hyperthermia (fever)

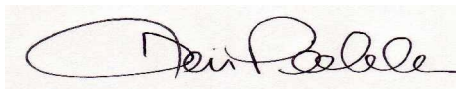
**POLICY:** Prehospital providers should focus special attention to the pediatric patient with high grade fever (>102<sup>0</sup> F) and to the rate of temperature rise.

**PRACTICE:** For pediatric (< 8 yoa) patients with a measured tympanic, oral, or rectal temperature > 102<sup>0</sup> F and have not received Acetaminophen within the past four (4) hours.

10. Initial assessment – document all assessment and history findings
11. Place on low flow oxygen if tolerated
12. Sponge patient with tepid water- CAUTION: DO NOT CREATE CHILL (Shivering)
13. Administer 10mg/kg Acetaminophen PO, not to exceed 1 gram total dose\*.
14. Check blood glucose level
15. Prepare for suction
16. Be alert for seizure activity, nausea, and vomiting
17. Transport ASAP
  - \* *EMT-I/EMT-P Skill*



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