Lee County

Common Treatment Guidelines

Rewrite Date: 04/2016

Section 100

Forward

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Medical Director's Credo:

The delivery of Emergency Medical Services (EMS) is, by nature, inherently dynamic. Because of this, the Lee County Common Treatment Guideline is designed to be a clinical job aid and not intended to be an educational document. The LCCTG is a standardized approach to best practice patient care that encompass evidence-based guidelines (EBG). The focus of the LCCTG is patient-centric and supports the evolution of new EMS research. The LCCTG serves as a resource to clinical medicine while maximizing patient care and ensuring patient safety and outcome regardless of existing resources or capabilities.

It is impractical to write a guideline for every condition or specific case. As such, the LCCTG outlines care for a typical case or condition. As a guideline continues, the assumption can be made that previous steps were ineffective or the patient condition changed. For example, when treating a patient in ventricular fibrillation, the AHA ACLS Pulseless Arrest Algorithm would be followed. If the patient has a return of spontaneous circulation, the AHA ACLS ROSC Algorithm would then be followed. In situations where a change is made to a different guideline during the course of care, the paramedic must determine where entry into the new guideline sequence is appropriate. The order of treatment listed may not be appropriate for all situations. In fact, not all procedure options may be indicated in every situation. The provider's clinical judgment, and ability to consult with medical control as needed, must be relied upon to determine which authorized treatment procedure is appropriate for a given condition or situation.

The Universal Care and Patient Safety Guidelines are included in each clinical guideline. This reduces the need for reiteration of basic principles, history and physical exam, and other considerations. In addition, provisions for pediatric patients and any applicable or current PEARL (Physical Evidence and Reasoned Logic) have been interwoven in the guidelines.

Pre-hospital providers are obligated to adhere to the principle of primum non nocere — *"first, do no harm."* For many providers, the notion of doing no harm can be complex. This notion can be magnified when providers or agencies repeatedly accept a lesser standard of performance until that lesser standard becomes the normal. This behavior is known as normalization of deviance. In EMS, normalization of deviance can be defined as performing de facto procedures that appear to be absent of harm or deemed safe by tradition when in fact they are not. Providers end up performing "automatic" procedures that may not be beneficial or may have undesirable patient outcomes. One fundamental goal of the LCCTG is to promote critical thinking of all pre-hospital providers; thus, developing technicians into clinicians. This development begins with framework and the most basic element in medicine – History and Physical Exam (H&P). Without this, the provider cannot reasonably determine which guideline to follow. Missed H&P opportunities can lead to harm and unfavorable patient outcome. All EMTs/Paramedics must maintain a heightened awareness as to the best course of action for optimal and compassionate patient care.

The organizations that drive the LCCTG are the American Heart Association (AHA), National Association of EMS Physicians (NAEMSP), American College of Emergency Physicians (ACEP), American College of Osteopathic Emergency Physicians (ACOEP), American College of Surgeons–Committee on Trauma (ACS-COT), Lee Memorial Health System, and neighboring county EMS agencies.

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Lee County
Southwest Florida
BOARD OF COUNTY COMMISSIONERS

01 October 2012 ***(Reaffirmed: February 2016)***

Lee County Emergency Medical Services members,
Lee County Fire District members,

The primary mission of any emergency medical service is to provide life and limb saving interventions while effecting rapid transport to definitive care. A smooth and orderly "transfer of care" between the non-transport and the transport EMT/Paramedic is essential for good patient outcome. This transition or transfer of care is largely dependent upon the ability of both parties to give and receive information to optimize patient safety. This includes the transfer of subjective (HPI) and objective (exam) information and all interventions rendered prior to the arrival of the transporting service.

From time to time the focus of the transfer of care becomes convoluted and when it does, the end result is often a less than desirable transition from the non-transport first responders to the transporting service.

This directive is to restate the position of the Medical Directors regarding transfer of care from a non-transport to the transporting service. In order to make the transfer of care consistent, effective and timely, the following inter-agency/intra-department measures should used:

- The non-transport EMT/Paramedic, if first on-scene, should:
  - ensure scene safety,
  - make patient contact,
  - obtain a history of present illness and SAMPLE history,
  - perform a physical exam,
  - provide life and limb saving interventions while preparing the patient for transport,
  - provide the transport service with a hand-off report.
- When the transport service arrives on-scene, the transporting EMT/Paramedic should:
  - confirm or ensure scene safety,
  - receive a verbal report from the non-transport service while simultaneously making patient contact,
  - confirm or obtain a history of present illness and SAMPLE history,
  - perform a physical exam,
  - continue and/or provide life and limb saving interventions, in concert with the non-transport EMT/Paramedic, while orchestrating and preparing the patient for transport,
  - execute transport while continuing/providing interventions as necessary and indicated.
  - provide a hand-off report to the Emergency Department staff.

All EMT/Paramedic providers must maintain a heightened awareness as to the best course of action for optimal and compassionate patient care. The measures or steps noted above are best practice driven and should not be considered a hierarchy but rather a continuum of care. This continuum must focus on: 1) performing a thorough patient exam, 2) providing necessary interventions/goal directed therapy based upon the exam and, 3) having a constant situational attentiveness for and movement towards definitive care.

Cooperation between all EMT/Paramedic providers, regardless of certification levels or credentials, is encouraged and expected.

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Intentionally blank pending future development

Section 200

Clinical Guidelines

Goals:

To facilitate appropriate initial assessment and management of any EMS patient and link to appropriate specific guidelines as dictated by the findings within the universal care guideline

The following represents age/weight classification:

- Adult: 8 years of age or greater than 40kg (8yo or >40kg)
  - Pediatric: 1 – 8 years of age or between 10 – 40kg (1 – 8yo or >10 but <40kg)
  - Infant: 1 month – 1 year of age or between 5 – 10kg (1mo – 1yo or >5 but <10kg)
  - Neonate: Birth – 1 month of age or less than 5kg (Birth – 1mo or <5kg)

PEARL | ***For purposes of admission criteria, the Lee Memorial Health System (LMHS) considers any patient less than 18 years-old to be "pediatric"***

General Actions:

Response

1. Review dispatch information
2. Consider need for additional resources

Scene Arrival and Size-Up

1. Use appropriate body substance isolation (BSI)
2. Use appropriate personal protective equipment (PPE)
3. Evaluate and ensure scene safety
4. Determine number and location of persons involved versus patients
5. Consider need for additional resources

Patient Approach

1. Determine mechanism of injury (MOI) and/or nature of illness (NOI)
2. If appropriate, begin triage and initiate mass casualty incident (MCI) procedures
   A. START
   B. Jump START

Primary Assessment and Life-Saving Interventions

1. General Impression – Sick versus Not Sick:
   A. Appearance
   B. Work-of-Breathing
   C. Circulation to Skin
2. Mental Status:
   A. Awake/Alert
   B. Responds to Verbal Stimuli (RVS)
   C. Responds to Painful Stimuli (RPS)
   D. Unconscious/Unresponsive

Patient Awake or Responding to Verbal Stimuli, use: *A-B-C Assessment*	Patient Responding to Physical Stimuli or Unresponsive, use: *C-A-B Assessment*

3. **A**irway Status:
• Natural
• Artificially Secured
• Compromised
  • Proceed to Airway | Ventilation | Oxygenation Management Guideline
• Obstructed
  • Proceed to Airway | Ventilation | Oxygenation Management Guideline
	3. **C**irculation Status:
	• Central and Peripheral Pulses – present, absent, rate & quality
	  • Absent, Hypotensive or Hypoperfused? Proceed to appropriate Guideline
	• Major Hemorrhage
	  • Hemorrhaging? Proceed to appropriate Trauma Guideline
	• Skin Color, Temperature and Condition

4. **B**reathing Status:
• Work-of-Breathing
• Respirations – present, absent, rate & quality
• Auscultate Lung Sounds
  • Adventitious? Proceed to appropriate Guideline
	4. **A**irway Status:
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	• Artificially Secured
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	• Auscultate Lung Sounds
	  • Adventitious? Proceed to appropriate Guideline

6. **D**isability Status:
• Defibrillation required?
• Gross Motor/Sensory Function?
  • Moves all extremities? Eyes?
• Blood Glucose?
• Cervical Motion Restriction?
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	• Gross Motor/Sensory Function?
	  • Moves all extremities? Eyes?
	• Blood Glucose?
	• Cervical Motion Restriction?

7. **E**xposure: • Evaluate illness or injury, remove clothing as necessary • Medic Alert bracelets or ID?	7. **E**xposure: • Evaluate illness or injury, remove clothing as necessary • Medic Alert bracelets or ID?

SAMPLE History and Physical Examination

1. Obtain a SAMPLE and OPQRST History
2. Conduct an Adult: Head-to-Toes exam or Pediatric: Toes-to-Head exam or
3. Conduct a focused, detailed or ongoing systems exam:
    A. Neurological
        - AVPU
        - Glasgow Coma Score
        - Stroke Assessment
        - Pupil Response
        - Pain Scale
        - Sedation Scale

    B. Pulmonary
        - Auscultate Lung Sounds

    C. Cardiovascular
    D. Gastrointestinal & Genitourinary
    E. Integumentary
    F. Musculoskeletal (Trauma Exam)
4. Assess Vital Signs:
    A. Pulse
    B. Blood Pressure
    C. Respirations
    D. Skin Color, Temperature and Condition
    E. Capillary Refill
5. Non-Invasive Monitor Assessment (as applicable or indicated):
    A. Cardiac
        - Standard monitoring
        - 12 Lead ECG

    B. Blood Pressure
    C. Capnography
    D. Pulse Oximetry
    E. Blood Glucose
    F. Temperature
6. Collect and transport documentation related to patient's history (e.g., emergency information form, medical records, Medic Alert, DNR form, etc.)

Impression

1. Develop differential impression of the case
    A. Triple Differential Impression
        - e.g., Altered Mental Status: *Hypoglycemia vs. Stroke vs. Organic Brain Syndrome*
        - e.g., Acute Coronary Syndrome: *STEMI vs. Unstable Angina vs. Pulmonary Emboli*

Treatment

- Refer to appropriate clinical guideline(s)
- General control measures and principles:
    A. Establish an airway as prescribed by the Airway | Ventilation | Oxygenation Management Guideline

B. Ensure adequate ventilation as prescribed by Airway | Ventilation | Oxygenation Management Guideline
   - Ventilation target: etCO2 40mmHg; normocapnogram

C. Administer oxygen as prescribed by Airway | Ventilation | Oxygenation Management Guideline
   - Oxygenation target: SpO2 94% – 99%; normopletysmograph

D. Correct tension pneumothorax with pleural needle decompression –
   - Primary approach: Anterior – 2nd or 3rd intercoastal space, midclavicular line
   - Secondary approach: Lateral – 4th or 5th intercoastal space, midaxillary line

E. Correct open pneumothorax with an appropriate occlusive dressing

F. Establish vascular access as appropriate and indicated for condition
   - Intravenous-certified EMTs may start IVs under the supervision of a credentialed Paramedic (upper extremity only)

G. First-line therapy for closed-system hypotension/hypoperfusion is crystalloid fluid resuscitation
   - Lactated Ringer's Solution is the preferred crystalloid for hemorrhaging patients that are operative candidates

H. Arrest compressible hemorrhages by direct pressure, pressure dressing, tourniquet use, rapid transport, and crystalloid fluid resuscitation to temporize physiology
   - BP target: permissive hypotension – restoration of peripheral pulses (unless otherwise stipulated)

I. Mitigate non-compressible hemorrhages by rapid transport and crystalloid fluid resuscitation to temporize physiology
   - BP target: permissive hypotension – restoration of peripheral pulses (unless otherwise stipulated)

J. Any patient that receives IV or IO medications must have a running crystalloid infusion

PEARL | *No medications will be administered directly via medication port or saline lock*

K. Correct hypoglycemia as prescribed by appropriate Guideline
   - Blood Glucose target: bG >60mg/dL and <300mg/dL

L. Provide Spinal Motion Restriction as prescribed by appropriate Guideline

M. Splint/immobilize suspected pelvic fractures with a commercial pelvic binder

N. Splint/immobilize fractured/dislocated limbs in a natural or functional position, above and below the fracture site, to prevent further soft tissue or neurovascular injury

O. Manipulate/realign angulated, isolated, limb fractures or dislocations with neurovascular compromise to restore distal circulation – then splint/immobilize

P. Traction splint isolated, closed, femur fractures

Q. Provide environmental protection and thermopreservation to all high acuity patients unless otherwise stipulated by specific Guideline
   - Temperature target: 98.6°F (37°C)

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and mitigates Lethal Triad*

R. Provide corneal protection to unconscious patients

(continued)

Assign Clinical Priority

1. Priority 1 — unstable advanced life support patient; requiring immediate emergent medical attention for a life and/or limb threatening illness or injury
2. Priority 2 — stable advanced life support patient; requiring medical attention but not immediately endangering patient's life
3. Priority 3 — basic life support patient; requiring non-emergent medical attention

Determine Disposition

1. Mode—Consider mode of transport (air, land, water, etc.)
2. Status—Evaluate need for emergent (lights and sirens) versus non-emergent transportation

Communications

1. Notification to the receiving hospital should be made for all patient transports
2. Medical Control contact must be made for termination of cardiopulmonary resuscitation efforts
3. Medical Control consultation is encouraged for any out-of-the-ordinary cases

Reassessment

1. Re-vital sign unstable patients every 5 minutes
2. Re-vital sign stable patients at a minimum of every 15 minutes
3. A minimum of 2 assessments are required for every patient transport

Transfer of Care

1. Relay assessment findings and care provided to providers assuming responsibility for patient(s) in accordance with the 01 October 2012 Medical Director's Transfer of Care Memorandum of Understanding (Forward Section: Introduction)

PEARL | ***Transfer of Care between the non-transport and transport providers is essential for good patient outcome***

Patient Safety | 2016

Goal(s):

To provide a consistent and standardized foundation for patient, provider, department and system safety.

General Actions:

- Maintain, at all times, a heightened situational awareness for patient and provider safety

  PEARL | *Provider safety takes precedent over patient care and apparatus*
- Providers will don Body Substance Isolation protection as appropriate/necessary
- Providers will don Respiratory Isolation protection as appropriate/necessary
- Providers will be aware of legal issues and patient rights as they pertain to and impact patient care (e.g., Patients with functional needs, Children with special needs, and Baker & Marchman Act patients)
- Providers will function within and will not exceed their defined Scope-of-Practice
- Every patient contact is to have a Patient Care Report (ePCR) unless defined otherwise in this Guideline

Basic Life Support Actions:

- Safety belts/restraints and side rails will be used during any stretcher movement in accordance with manufacturer recommendations
- Environmental protection will be provided to all patients – Hibler's Method of Thermopreservation will be provided to all patients in or potentially in hemorrhagic shock states
- Corneal protection will be provided to unconscious patients

Advanced Life Support Actions/Considerations:

- Be prepared to adjust management based on patient age and/or co-morbidities
- Ensure six (6) Medication Rights before the administration of any pharmacology agent:
  1) Right patient
  2) Right drug
  3) Right dose
  4) Right route
  5) Right time
  6) Right documentation
- Maximum weight-based dose of medication administered to pediatric patients should not exceed the maximum adult dose except where specifically stated in a patient care guideline
- Pediatric medications are administered in accordance with Length-Based Resuscitation Tape
- Reduced medication dosages may apply to patients with co-morbidities and renal disease (e.g., on dialysis, diagnosis of chronic renal insufficiency, severe cirrhosis or end-stage liver disease)
- Any medication errors, clinical misadventures, near miss events or unanticipated patient outcomes will be reported immediately to the receiving physician and respective department supervisor(s)

Medical Control Actions/Orders/Requests:

- Medical Control Physicians will provide sound medical direction in accordance with evidence-based standards

Goal(s):

To provide evidence-based and reasoned logic core principles for Progressive Airway, Ventilation and Oxygenation management.

General Actions:

AIRWAY

Airway management is a clinical mindset and a constellation of skills, tools and techniques that are deployed to establish and/or manage non-natural airways. Airway management is not one treatment modality; it is a progression of interventions ranging from least invasive (BLS) to the most invasive (ALS) as necessary to achieve sufficient ventilation and adequate oxygenation.

PEARL | ***The primary goal of progressive airway management is to start simple, work through the various levels and stop when the airway is patent***

PEARL | ***When placing an advanced airway, every effort must be made to avoid iatrogenic hyper/hypocapnea, hypotension, bradycardia and SpO2 desaturation events***

The risk versus benefit relationship of prehospital endotracheal intubation must be weighed carefully. Endotracheal intubation is associated with worse outcomes among pediatrics, closed head/traumatic brain injuries and poly-trauma patients when compared to BLS airway care. Endotracheal intubation is also is associated with interruptions in chest compressions during CPR, which is associated with worse patient outcomes.

Generally speaking, indications for prehospital endotracheal intubation can be narrowed to the following:

I. inability to ventilate and/or oxygenation with non-invasive tools and techniques,
II. inability to manage secretions with conventional methods,
III. high index of suspicion for laryngeal edema

PEARL | ***If endotracheal intubation be required, providers will adhere to the "2 and out" philosophy — 2 laryngoscopic attempts per case (direct or video) to yield a successful tracheal intubation***

PEARL | ***Airway axis alignment is a crucial to endotracheal intubation – the heads-up sniffing position substantially increases the likelihood of obtaining a better laryngeal view***

PEARL | ***Video Laryngoscopy (VL) is preferential to Direct Laryngoscopy (DL)***

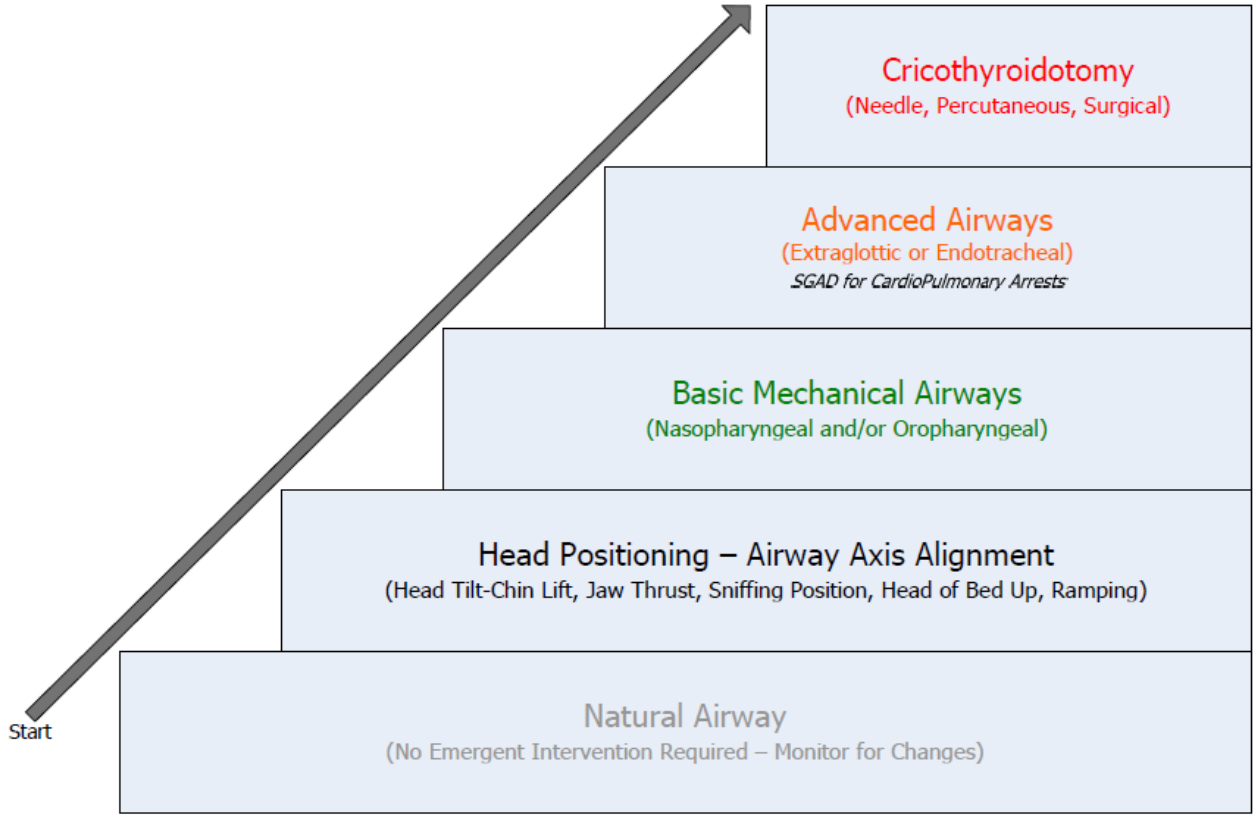
PEARL | ***An endotracheal intubation attempt is defined as passing the laryngoscope blade and/or endotracheal tube beyond the teeth with the intent to intubate the trachea***

PEARL | ***Cervical collars can help reduce the risk tube dislodgment and should be used with any advanced airway***

PEARL | ***Advanced airways will be secured with the appropriate commercial restraint or other clinically recognized technique***

PEARL | ***Gastric tubes should be inserted with all advanced airways to help reduce gastric distention and to avoid soiled or contaminated airway conditions***

The below graph illustrates the desired pathway for Progressive Airway Management:



VENTILATION AND OXYGENATION – AN IMPORTANT RELATIONSHIP

Ventilation is the mechanical aspect of breathing in which air moves into the lungs and CO2 (normal byproduct of metabolism) moves out of the lungs. Proper ventilation requires both adequate tidal volume and respiratory rate. Oxygenation is defined as, "The addition of oxygen to any system, including the human body. Oxygenation may also refer to the process of treating a patient with oxygen, or of combining a medication or other substance with oxygen."

With ventilation serving as the mechanical means of adding oxygen to the body, the patient must have sufficient oxygen, and the ability for that oxygen to be utilized (O2/CO2 exchange). While ventilatory volume and rate are the key components, other factors can affect whether or not the patient is being adequately oxygenated. Even if the ventilation volume and rate are adequate, every patient must be evaluated for the need to have supplemental oxygen delivered and the most appropriate mechanism for that to occur. Considerations in determining a patient's need for supplemental oxygen are determined from the patient's presenting condition coupled with History and Physical Exam.

Hyperventilation is condition where a patient's respiratory volume and rate can create uncertainty. The lack of adequate CO2 causes a drop in the acid levels resulting in alkalosis. Iatrogenic hyperventilation by prehospital providers is very controversial for the following reason. CO2 is a potent vasodilator. When CO2 drops as a result of iatrogenic hyperventilation (aggressive positive pressure ventilation), blood vessels constrict. When arterial vessels constrict, blood flow to vital organs is minimized. In the case of a brain injured patient, iatrogenic hyperventilation will reduce blood flow to the injury/ischemic zone (penumbra)

resulting in an increase in morbidity/mortality and poor patient outcome.

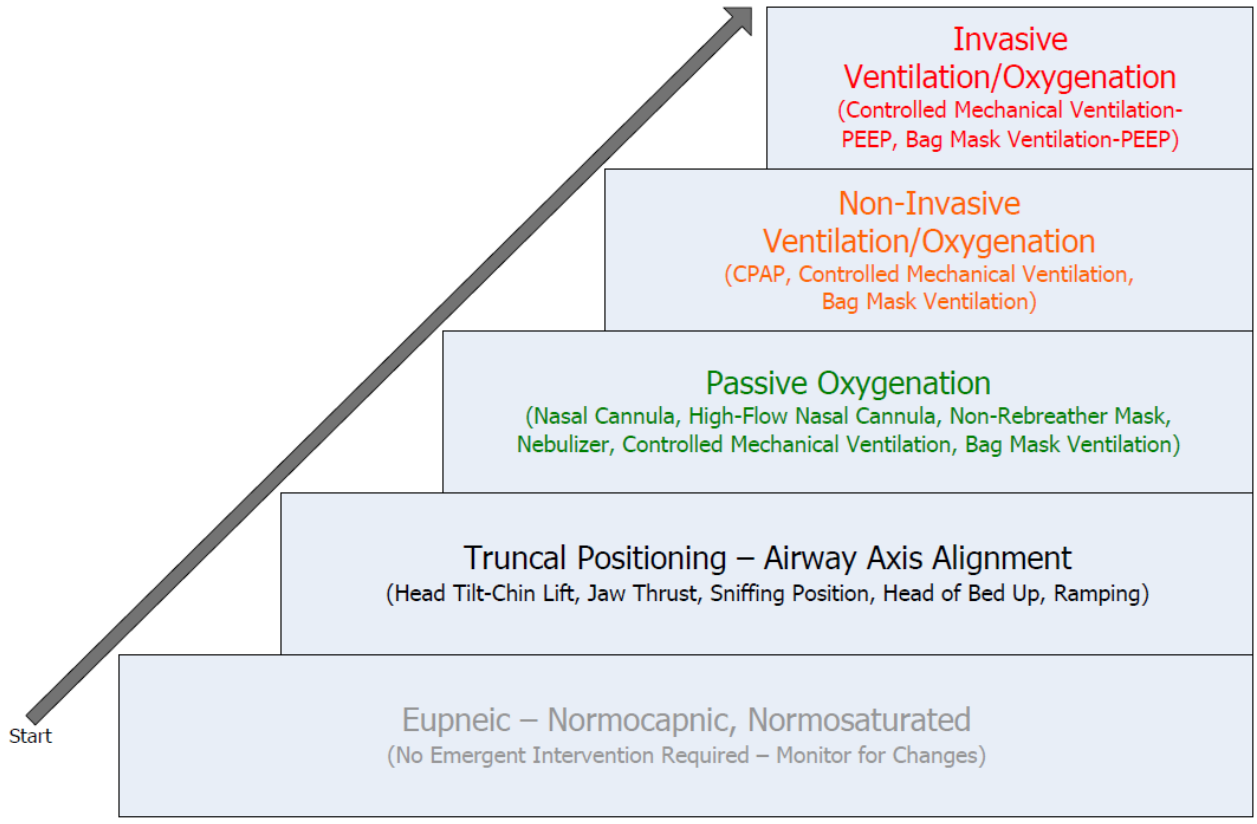
When inadequate oxygenation is recognized (SpO2 <94%), it is essential to supplement the patient's oxygen intake. Primary treatment goals for patients suffering from inadequate oxygenation include:

I. Preventing or correcting hypoxia
II. Optimizing etCO2 and SpO2
III. Minimizing the effects of secondary and/or iatrogenic injury
IV. Decreasing airway resistance

Positive End-Expiratory Pressure, or PEEP, is an effective way to improve oxygenation in patients that are non-invasively or invasively ventilated. In patients who have respiratory embarrassment and increased work-of-breathing, PEEP stents open closed alveoli and recruits lung thus increasing surface area for gas exchange. PEEP also increases functional residual capacity (FRC) which improves pulmonary reserve between breaths. In prehospital care, the range of PEEP is generally 5 – 15cmH20 (classic settings: 5, 7.5, 10, 12.5, and 15). Providers should routinely start low and titrate as needed. PEEP is not a "if a little is good, more must be better" theory. To that end, tight-lung patients (reactive airway disease) typically do better at 5cmH20 while wet-lung patients (congestive heart failure/pulmonary edema) may require 7.5 – 15cmH20. PEEP greater than 15cmH20 can result in an increase in intrathoracic pressure thus causing a decrease in venous return and cardiac output.

PEARL | *PEEP is contraindicated in cardiopulmonary arrest & grossly hypotensive patients*

The below graph illustrates the desired pathway for Progressive Ventilation/Oxygenation Management:



PEARL | ***Apneic Nasal Oxygenation (nasal cannula at 15lpm) has been shown to improve oxygen saturation in apneic patients during advanced airway management placement***

VENTILATION/PERFUSION – YET ANOTHER CRITICAL RELATIONSHIP

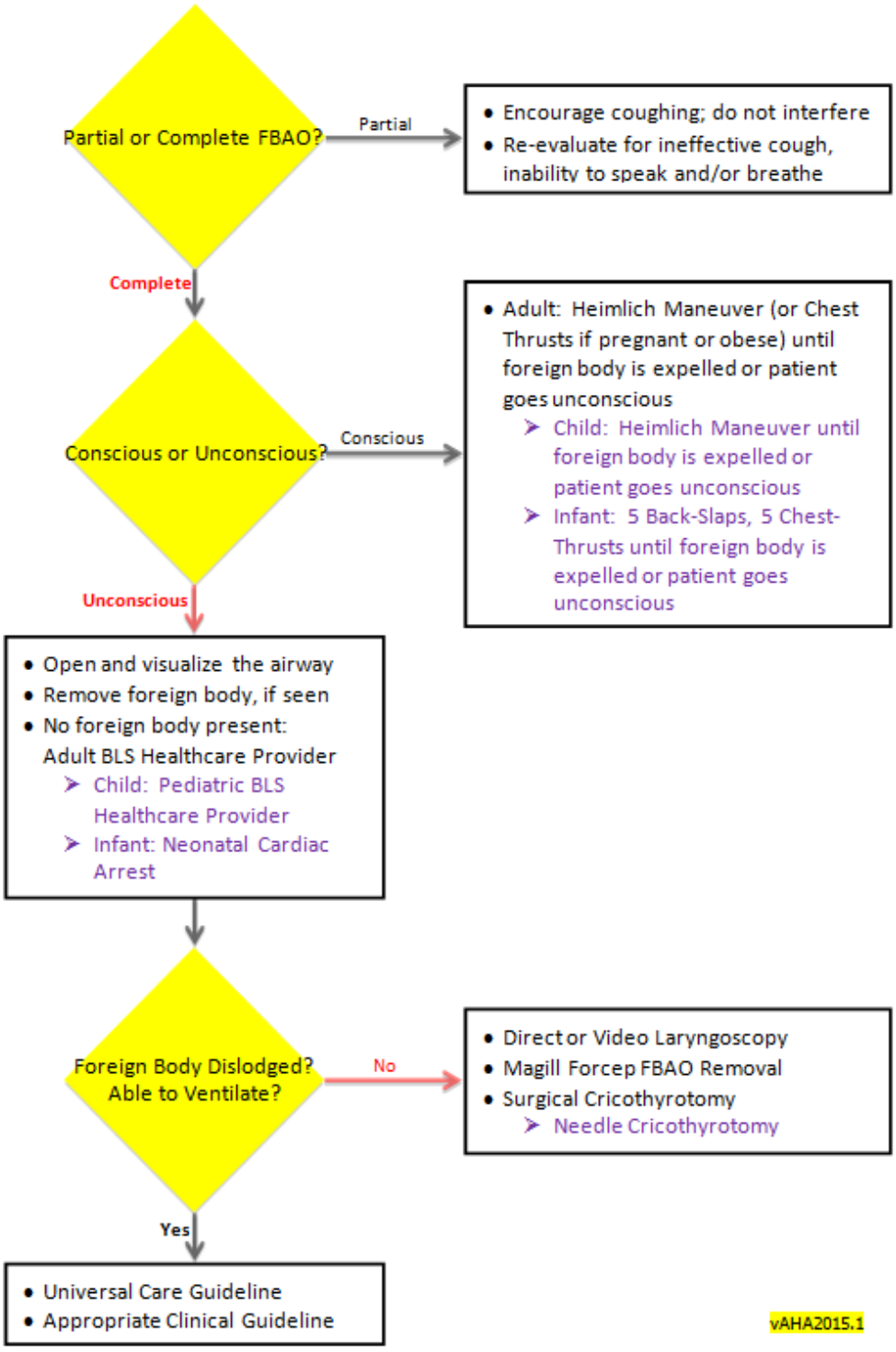
A common pitfall in ventilation is to over-ventilate patients by providing too much tidal volume (Vt) or too fast a minute rate (Vf)**.** The physics that allow mammals to move air in and out of the lungs can also have a major impact on blood circulation. When a normally breathing patient takes a breath, intrathoracic pressure decreases allowing air to be drawn into the lungs as a result of the pressure gradient. In patients that receive positive pressure ventilation (PPV), intrathoracic pressure is increased as the lungs are inflated. This increase can squeeze the heart and impair filling and forward blood movement. Unregulated PPV will have a dramatic adverse effect on circulation/perfusion. When attention is not paid to PPV volume and rate, the patient can be harmed as a result of an imbalance between alveolar ventilation and pulmonary capillary blood flow. This imbalance is known as ventilation/perfusion (V/Q) mismatching. Iatrogenic V/Q mismatching can be mitigated by the use of controlled mechanical ventilation (CMV) devices or automated transport ventilators (ATVs). Ventilation volume and rate should be guided by the use of waveform capnography or etCO2 in concert with American Heart Association Guidelines.

PEARL | ***Supine positioning can result in a marked reduction in functional residual capacity – Airway/Pulmonary patients should be transported in semi-Fowler's position whenever possible***

PEARL | ***Controlled Mechanical Ventilation (CMV) or the use of an Automated Transport Ventilator (ATV) is preferential to Bag Mask Ventilation (BMV)***

PEARL | ***Waveform capnography (etCO2) and pulse oximetry are required for all advanced airway/ventilation cases – colormetric etCO2 device may be used for initial CO2 detection when continuous waveform capnography is not immediately available***

Foreign Body Airway Obstruction



Pain | Anxiety | Procedural Sedation Management 2016

Differential Impressions:

- Musculoskeletal Pain (Fractures, Crush Injuries, Burns, Chronic Back/Vertebral or Inflammation Disease Process)
- Skin/Integumentary Pain (Burns, Soft Tissue Injuries)
- Ischemic Cardiac Pain (Acute Coronary Syndromes)
- Abdominal Pain (Renal Colic/Inflammation Disease, Cholecystitis, Diverticulitis, Bowel Obstruction)
- Neurogenic Pain (Herpes/Varicellla Zoster)
- Sickle Cell Crisis
- Peridontal Pain
- Severe Anxiety
- Procedural Sedation (Cardioversion, Splinting, Airway/Pulmonary Management)

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Cryotherapy (for simple Musculoskeletal & Skin/Integumentary Trauma Pain)
  - Pediatric: Cryotherapy (for simple Musculoskeletal & Skin/Integumentary Trauma Pain)

Advanced Life Support Actions/Considerations:

- *Acute Pain Conditions:*
  Fentanyl 1mcg/kg IV, IO, IM, IN; repeat q 10minutes PRN
  - Pediatric: Fentanyl 0.5mcg/kg IV, IO, IM, IN; repeat q 10minutes PRN

- *Severe Anxiety:*
  Midazolam 2mg IV, IO, IM, IN; repeat q 10minutes PRN
  - Pediatric: Midazolam 0.1mg/kg IV, IO, IM, IN; may q 10minutes PRN

  PEARL | *For severe anxiety and/or muscle spasm without evidence of hypoperfusion*

- *Procedural Sedation – Option #1:*
  Ketamine 2mg/kg IV, IO; repeat q 10minutes PRN
  - Pediatric: Ketamine 1mg/kg IV, IO; repeat q 10minutes PRN

    PEARL | *IV/IO Ketamine must be diluted with an equal volume of Normal Saline*

  or

  Ketamine 5mg/kg IM
  - Pediatric: Ketamine 5mg/kg IM
- *Procedural Sedation – Option #2:*
  Fentanyl 1mcg/kg IV, IO, IM, IN; repeat q 10minutes PRN
  - Pediatric: Fentanyl 0.5mcg/kg IV, IO, IM, IN; may repeat q 10minutes PRN

  and

  Midazolam 5mg IV, IO, IM, IN; repeat q 10minutes PRN
  - Pediatric: Midazolam 0.1mg/kg IV, IO, IM, IN; may repeat q 10minutes PRN

    PEARL | *Analgesia and sedation are administered concurrently*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Nausea | Vomiting Management

2016

Differential Impressions:

- Central Nervous System origins
- Digestive Tract disorder
- Food poisoning/Alcohol use
- Gastrointestinal distress
- Genitourinary origins
- Infectious origins
- Metabolic origins
- Medication/Toxin induced
- Neurological origins
- Oncology origins
- Pregnancy
- Psychological disorders
- Sepsis
- Stroke
- Traumatic Brain Injury
- Viral origins

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Place in cool, well ventilated environment
- Reduce outside stimulus (lights, noise, motion, etc.)

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg as necessary/indicated

PEARL | *Maintain strict NPO status*

- Ondansetron 4mg IV
  - Pediatric: Ondansetron 0.1mg/kg IV

PEARL | *First-line therapy for nausea and vomiting*

- Diphenhydramine 50mg IV/IM
  - Pediatric: Diphenhydramine 1mg/kg IV/IM

PEARL | *First-line therapy for motion sickness*

PEARL | *Second-line therapy for nausea and vomiting*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Goal(s):

- To provide evidence-based and reasoned logic core principles for spinal motion restriction in patients that have sustained injury/trauma
- Rigid Spine Devices are extrication/transfer tools – not a therapeutic intervention

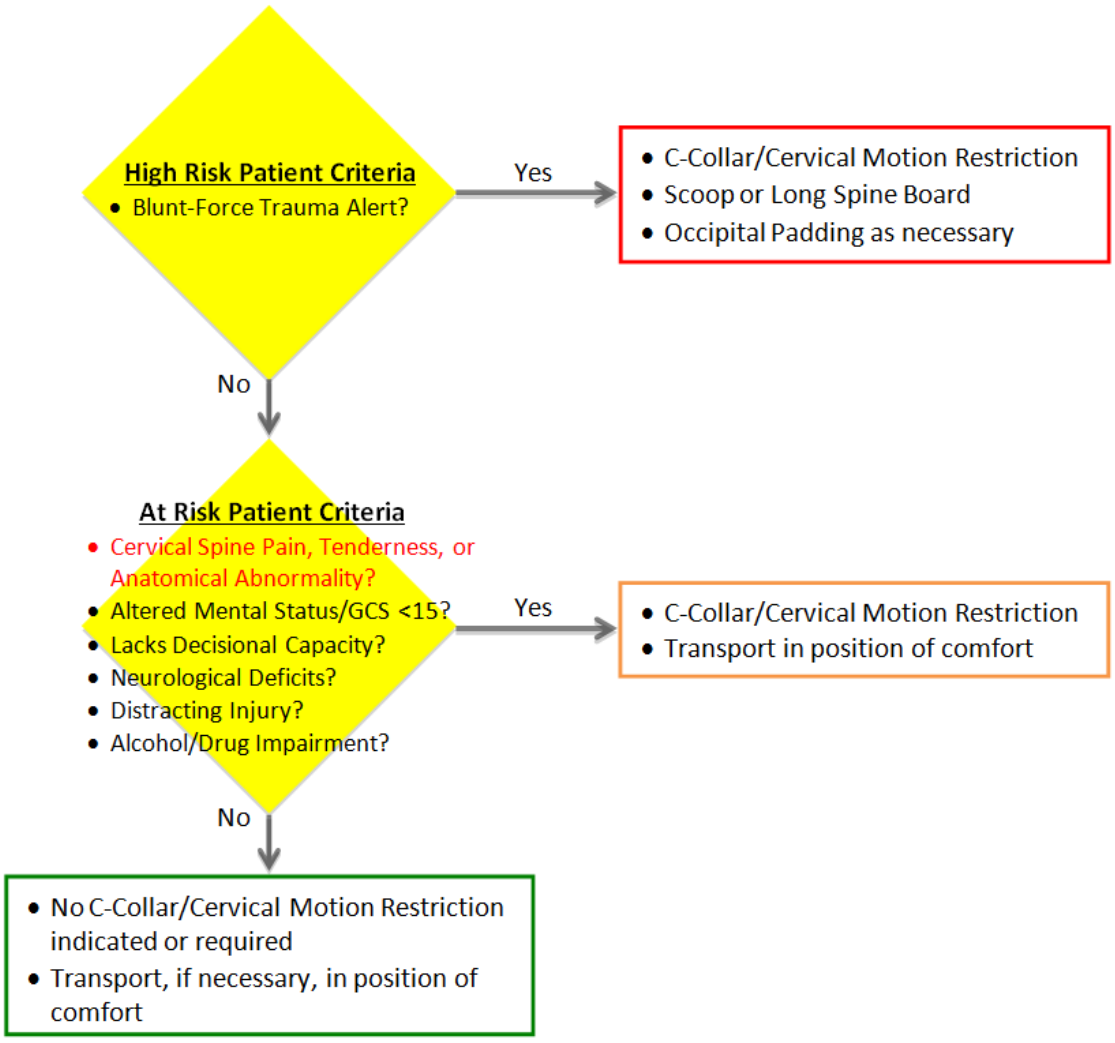
PEARL | *Blunt-Force Trauma Alerts require a rigid spine device for ease of transfer and patient safety*

PEARL | *Scoop stretchers are preferential to long spine boards*

PEARL | *Penetrating Trauma Alerts do not benefit from or require a rigid spine device*

PEARL | *Precautionary spinal immobilization offers no patient value; may result in iatrogenic injury*

Basic Life Support Actions:



Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Patient Restraint | 2016

Goal(s):

- To establish a guideline for the management and documentation of restraining patients
- Primary consideration: The use of patient restraints is authorized in all instances where a patient's behavior may jeopardize the safety of the patient or crew
- Secondary consideration: Restraints may be used when a patient lacks decisional capacity to make rational decisions and exhibits behavior that may disallow necessary medical treatment

PEARL | *This is implied consent*

General Actions:

- Crew safety – Escaping Violent Encounters (EVE)
- Request law enforcement

PEARL | *Carefully evaluate the risk-benefit of mechanical patient restraint versus chemical/pharmacological restraint*

- When appropriate, attempt less restrictive means of management including, verbal de-escalation
- Excited Delirium Syndrome Guideline as necessary/indicated

Patient Positioning

- Patients will be restrained in the supine, head-up position
- Patients may be restrained in a lateral recovery, head-up position as an alternative
- Patients will be mechanically restrained using a commercial soft restraint system or, if in custody, hand-cuffs or shackles as deemed appropriate by law enforcement
- Patients will not be restrained in the prone position

Assessment and Documentation

- When a patient is restrained, the restraints shall be placed only tight enough to secure the extremity without compromising neurovascular function. Distal neurovascular function shall be checked and documented after application and every 10 minutes thereafter using the following test procedures:
  - ❖ Grip strength – should be equal and strong on most patients
  - ❖ Sensations – upper and lower extremities must have good sensations and absence of numbness
  - ❖ Capillary refill – upper and lower extremities must result in a capillary refill time of less than 2 seconds
- The reason for restraining a patient and the results of all the above tests shall be documented in the patient care report
- Grip strength, sensation and capillary refill tests are to be performed and the results documented every 10 minutes
- In the event of a short transport time, the results of a minimum of 2 sets are to be documented with one set to be completed upon arrival at the receiving facility

Hospital Notification

- The receiving facility shall be notified prior to arrival that a patient is in restraints and security should be available upon arrival

Transport Destinations 2016

Goal(s):

- First consideration: patients shall be transported to a local facility of their choice
  PEARL | *Informed consent is key to delivering the right patient, to the right facility… the first time*
- Second consideration: patients should be transported to the closest appropriate facility for treatment of their primary illness and/or injury

General Actions:

- Mode of transport (ground, air or water) is determined by the highest medical authority providing direct patient care; it should not be determined by any other emergency responder(s), bystander(s), or family member(s)
  Refer to Air Medical Transport Guideline when considering air mode of transport
- Status of transport (lights and siren use) is determined by the EMS Transport Provider with the highest medical authority providing direct patient care. The decision to run lights and sirens should be justified by the need for time sensitive medical intervention that is beyond the capabilities of the transport unit.
  PEARL | *Provider and public safety takes precedent over patient care and apparatus health*
- The Lee County DPS/EMS Destination Coordinator facilitates the optimal delivery of patients to the most appropriate facility and can make recommendations on the most appropriate destination, off-load times, specialty care center availability/capability and facility problems. Prior to transporting a patient to the hospital, the transport unit shall contact and provide the Destination Coordinator with the, gender, chief complaint/condition, patient priority and desired transport destination.
- Regionalized systems of care and/or specialty care centers (e.g., STEMI {ST Elevation Myocardial Infarction}, Stroke, Trauma, etc.) may necessitate transport to a hospital beyond the nearest facility
  Refer to Specialty Care Center table

  - **CardioPulmonary Arrest:** *Patients, regardless of age, who are transported in CardioPulmonary Arrest or deteriorate to CardioPulmonary Arrest in transit, shall be transported to the closest facility*
  - **Cardiac:** *STEMI Alert, Acute Coronary Syndrome (ACS), and Return of Spontaneous Circulation (ROSC) patients should be transported to the closest STEMI/Percutaneous Coronary Intervention (PCI) facility*
  - **Stroke:** *Stroke Alert patients should be transported to the most appropriate Stroke facility based upon the clinical differential (Primary versus Comprehensive Stroke Center) as determined by the Lee County Stroke Triage Checklist*
  - **Trauma:** *Trauma Alert patients, regardless of age, shall be transported to the closest trauma center*
  - **Adult Orthopedic:** *Adults with simple extremity fractures (SEFx) or dislocations may be transported to any facility*
    - **Pediatric Orthopedic:** *Children with simple extremity fractures (SEFx) or dislocations, excluding the elbow, may be transported to any facility*

    PEARL | *SEFx = isolated, closed, distal extremity (below the elbow or knee) fracture or dislocation without neurovascular compromise or need for surgical intervention*
    PEARL | *Elbow fractures/dislocations in children are not considered SEFx*

- **Adult Orthopedic Surgery:** *Adults that may require orthopedic surgery or have a neurovascular injury should be transported to the closest adult orthopedic admit facility*
  - **Pediatric Orthopedic Surgery:** *Children that may require orthopedic surgery should be transported to the closest pediatric orthopedic admit facility*
- **Adult Medical-Surgical:** *Adults that have a high probability for general medical-surgical admission (GMSA) can be transported to any facility*
  - **Pediatric Medical-Surgical:** *Children that have a high probability for general medical-surgical admission (GMSA) should be transported to the closest pediatric admit facility*

PEARL | *Pediatric GMSA = possible appendicitis, bowel obstruction and/or any signs of peritoneal irritation*

- **Obstetrical/Gynecology:** *High-risk obstetrical patients shall be transported to a neonatal intensive care facility*

PEARL | *Patients with an imminent obstetrical emergency shall be transported to the closest OB/GYN facility*

- **Oncology:** *Oncology Alert patients (on or receiving chemotherapy with a fever 100.4 or greater) shall be transported to an oncology admit facility*
- **Hazmat:** *Patients exposed to hazardous materials can be transported to any facility following appropriate prehospital decontamination*
- **Hyperbaric:** *In Lee County, patients with a high probability for hyperbaric oxygen therapy should be transported to Gulf Coast Medical Center*
- **Envenomation:** *Venomous snake and spider bites/stings can be transported to Lee Memorial Hospital and all Collier County facilities. Mammal and marine bites/stings can be transported to any facility.*

- Freestanding Emergency Departments are becoming more prevalent in the community. Freestanding EDs are licensed through the Florida Department of Health but their ambulance reception capabilities can vary from facility to facility.

Refer to Freestanding Emergency Department table

- The EMS Transport Provider shall advise the receiving facility, as early as possible, of a patient en-route to that facility. The typical receiving facility notification should include the following patient information in a clear and concise manner:
  - Priority
  - Age and gender
  - Chief complaint
  - Current condition
  - Vital signs; including AVPU/GCS, ECG, Temp, SpO2 and etCO2 values
  - Pertinent assessment findings
  - Any prehospital diagnostic test results and pertinent treatment rendered

Specialty Care Centers

Lee County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
Lee Memorial Hospital D1 | ED Phone: 239.343.2329		P	✓ L2				✓		✓	✓
Lehigh Regional Medical Center D3 | ED Phone: 239.368.4410							✓			✓
Cape Coral Hospital D4 | ED Phone: 239.424.2222		P			✓		✓			✓
Gulf Coast Medical Center D5 | ED Phone: 239.343.0434	✓	C			✓		✓			✓
HealthPark Medical Center D7 | ED Phone: 239.343.6279	✓			✓	✓	✓		✓		✓

Collier County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
Naples Community Hospital - DT D6 | ED Phone: 239.624.2611	✓	C					✓		✓	✓
Physicians Regional Medical Center - PR D13 | ED Phone: 239.304.4737	✓	P					✓			✓
Naples Community Hospital - North D14 | ED Phone: 239.552.7709		P		✓	✓	✓	✓	✓		✓
Physicians Regional Medical Center - CB D15 | ED Phone: 239.354.6191		P					✓			✓

Charlotte County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
Englewood Hospital D8 | ED Phone: 941.473.5810	✓	P					✓			✓
Fawcett Memorial Hospital D9 | ED Phone: 941.627.6131	✓	P					✓		✓	No
Bayfront Health Punta Gorda D10 | ED Phone: 941.637.2529		P							✓	✓
Bayfront Health Port Charlotte D11 | ED Phone: 941.766.4255	✓	P		✓	✓	✓	✓	✓		✓

Sarasota County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
Venice Regional Bayfront Health D12 | ED Phone: 941.483.4177	✓	P								No
Sarasota Memorial Hospital D16 | ED Phone: 941.364.5591	✓	C	✓ L2	✓	✓	✓	✓	✓	✓	✓

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Freestanding Emergency Departments

Collier County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
NCH Northeast (Naples Community Hospital) 15420 Collier Blvd, Naples, FL 34120 D17 | ED Phone: 239.624.8728										**No**

Sarasota County	STEMI Alert/PCI	Stroke Alert	Trauma Alert	Pediatric Admit	OB/GYN	Neonate	Adult Ortho Admit	Pedi Ortho Admit	Oncology Alert/ Admit	Helipad
North Port ER (Sarasota Memorial Hospital) 2345 Bobcat Village Center Road, North Port, FL D18 | ED Phone: 941.257.2800				✓	✓		✓	✓	✓	✓

vDecember2015

Air Medical Transport | 2016

Goal(s):

- To provide a guideline for the use of air medical transport
- Primary consideration: Air medical transport should be used when a critically ill and/or injured patient will benefit from faster transport and reduced out-of-hospital time

General Actions:

Procedure & Criteria

- Place "air medical transport" on standby when:
  - ❖ Call information obtained by Dispatch suggests the need for air medical transport
- Request "air medical transport" within the first 2 minutes of patient contact for:
  - ❖ Priority 1 patients that exceed a ground transport time of 30 minutes or,
  - ❖ Priority 2 patients that are inaccessible by roads (e.g., remote wilderness areas and bridgeless barrier islands)

Notes

1. Any on-scene first responder may request air medical transport
2. Any LCEMS Supervisor, on-scene or not, may request air medical transport based on available information at that time
3. Lee Control may provide information to air medical transport and request an auto-launch
4. Air medical crews may request information from Lee Control and decide to auto-launch
5. After initial assessment, the highest medical authority providing direct patient care should cancel air medical transport if the patient's condition does not warrant the service or meet the criteria

   PEARL | *The following patients are not appropriate for air medical transport:*
   - **Cardiopulmonary Arrest patients (CPR in-progress)**
   - **Haz-Mat patients (Regardless of Decontamination Status)**
   - **Priority 3 patients**
6. Lee Control must be notified if more than one patient requires air medical transport (if available, additional air medical resources will be dispatched for additional patients)
7. Ground crews should not attempt to determine if the weather is "good enough" for the aircraft to fly – simply request the aircraft and the pilot will determine if the mission can be accepted

Landing Zones (LZ)

1. Fire department personnel are responsible for preparing/securing LZs and assuming the LZ Controller role
2. It is necessary for fire personnel to separate themselves from the EMS operation as soon as possible in order to begin LZ preparations
   A. All LZs should be a minimum of 100' x 100' (day or night)
      - LZs must be illuminated at the corners with strobe and/or a steady-burn light source
      - Hard surface LZs (highway, parking lots, etc) are preferential to soft surface LZs
   B. Once established, the LZ Controller will ensure LZ security the duration of the event
   C. When requested by the pilot, the LZ Controller will provide a LZ report. This report should include the type of LZ (hard versus soft surface), wind direction and speed and any potential hazards that may be identified from the ground (wires, fences, signs, etc.).

PEARL | *Ground to air radio traffic should be limited to LZ information only – no patient information*

D. After the patient has been loaded in the aircraft, the pilot will advise the LZ Controller that the aircraft is ready to depart. The LZ Controller should clear the aircraft for take-off by looking around the LZ and to the sky for any other aircraft traffic in the vicinity.
E. If at any time the LZ becomes unsafe for takeoff or landing, the LZ Controller will transmit "ABORT, ABORT, ABORT" over the radio and halt the operation until the unsafe condition is corrected.

Transfer of Care

- Prepare patient in treatment area or, preferably, in the ambulance
- Complete the Lee County Transfer of Care Worksheet with as much information as conditions allow (top two copies of the worksheet shall be given to the Air Crew Members)
- Relay assessment findings and care provided to the Air Crew Members (ACM)
- The primary ACM will immediately assume team leader role and assume and/or direct the remaining patient care issues and treatment modalities
- The ACM will perform an appropriate patient assessment and determine the need for further emergent treatments based upon flight physiology
- The ground crew will follow directions from the flight team regarding the transfer and loading of the patient from the scene

PEARL | ***Transfer of Care between the non-transport and the transport providers is essential for good patient outcome***

Refusal of Care

2016

Goal(s):

- To establish a guideline for the management and documentation of situations in where patients or potential patients refuses evaluation, treatment, and/or transportation to a hospital in accordance with state and local statute

General Actions:

Definitions

- ***Patient***: a patient shall be defined as an individual who meets one of more of the following criteria:
  - ❖ Any individual with a medical or traumatic complaint
  - ❖ Any individual with an illness or injury
  - ❖ Any individual with a new altered mental status
  - ❖ Any individual in the same event as a significantly ill and/or injured party (e.g., motor vehicle crash, structural collapse, explosion, toxic fume environment, etc.)
  - ❖ Any individual who, at the discretion of the highest medical authority providing direct patient care, demonstrates a high index of suspicion for illness or injury (EMT or Paramedic judgment)
- ***Responsible Party***: a designated decision maker (DDM) when a patient is not of decisional capacity or has legally transferred their healthcare decision making to another party (legal guardian, power of attorney, healthcare surrogate, etc.)
- ***Unable to Locate or No Patient Found***: unit arrives in the vicinity of a given location but no event or Person Involved (PI) could be found could be located
- ***No Care Required***: unit arrives on-scene and the Person Involved (PI) does not meet "patient" criteria
- ***Treated, No Transport***: unit arrives on-scene, makes contact with the Person Involved (PI), the PI is determined to be a Patient, an evaluation and/or intervention is performed and the Patient ultimately declines to be transported to a hospital (Patient Refusal Form required)
- ***Treatment and Transport Refused***: unit arrives on-scene, makes contact with the Person Involved (PI), the PI is determined to be a Patient ultimately refuses evaluation, treatment and declines to be transported to a hospital (Patient Refusal Form required)

Refusal of Care

- There are three components to a valid refusal of care. In the absence of any of these components, the refusal can be deemed legally invalid; thus, resulting in high liability for the providers, their respective department and their respective medical director. The three components are:
  - ❖ Competence: 1) Any patient who is of adult age (18 years of age or older) or legally emancipated is competent to refuse care. 2) A parent or legal guardian (responsible party) who refuses care on behalf of their minor child (or children).
  - ❖ Decisional Capacity: Any patient who is Alert & Oriented x4 (person, place, time and situation) with the ability to understand the nature and consequences of their actions by refusing evaluation, treatment, and/or transportation
  - ❖ Informed Refusal: Patients must be fully informed about his/her medical condition, the risks and benefits associated with the proposed treatment and the risks associated with refusing evaluation, treatment, and/or transportation

Emancipation

- ❖ Medical: A female less than 18 years of age who is unmarried, pregnant and/or has a minor child

may consent to medical care relating to her pregnancy and can make medical decision on behalf of the unborn or born child.

- Legal: A person less than 18 years of age but at least 16 years of age who is married, enlisted in military service or has been declared emancipated by court order

PEARL | *No minor less than 16 years of age can be emancipated in Florida*

Patients able to refuse care

1) Must be competent
2) Must have decisional capacity
3) Must be informed of the risks associated with refusing evaluation, treatment, and/or transportation

Patients not able to refuse care

1) Incompetent – less than eighteen (18) years of age or not legally emancipated
2) Lacks Decisional Capacity – not acting as a "reasonable person would do, given the same circumstances"
3) Altered mental status (e.g., head injury or under the influence of alcohol and/or drugs)
4) Suicidal ideations or gestures
5) Mental defect, disability or deficiency (e.g., mental retardation)
6) Severely altered or impaired vital signs

Implied Consent

1) If a patient is determined to be incompetent and/or lacks decisional capacity, they may be evaluated, treated and transported under "implied consent" (what the reasonable individual would consent to under the same circumstances)
2) If the patient is evaluated, treated and transported on the basis of implied consent, providers should use reasonable measures to ensure safe transport to the closest appropriate facility

Refusal of Care Procedure

1) Perform a Primary Assessment, History and Physical Examination; including a complete Vital Sign Assessment
2) Fully inform the patient or responsible party about his/her medical condition, the risks and benefits associated with the proposed treatment and the risks associated with refusing evaluation, treatment, and/or transportation
3) Ensure the patient or responsible party fully understands the potential consequences of their decision
4) Attempt to convince the patient or responsible party to consent; including enlisting the help of family or friends
5) Reattempt to convince the patient or responsible party to consent; including enlisting the help of family or friends
6) If the patient or responsible party continues to refuse:
    a. complete a Refusal of Care in its entirety,
    b. obtain the patient's or responsible party signature
    c. obtain a witness name and signature
7) Where it is possible, patients will be left in the care of family, friends, or responsible parties

PEARL | *All patient contact results in either a transport or a completed Refusal of Care*

Goal(s):

This **protocol** is divided into three separate sections that cover the different situations involving death in the field that the paramedic will encounter. All patients found in cardiac arrest will receive cardiopulmonary resuscitation unless an exception is met as outlined in the following sections:

I. Advanced Directives/Do Not Resuscitate Orders (DNRO)
II. Determination of Death
III. Discontinuance of CPR

General Actions:

ADVANCED DIRECTIVES/DO NOT RESUSCITATE ORDERS (DNRO)

Legislative authority. Under Florida Administrative Code (FAC) 64J-2.018. Do Not Resuscitate Order (DNRO) Form and Patient Identification Device.

1. An EMT or paramedic shall withhold or withdraw cardiopulmonary resuscitation:
    a. Upon the presentation of an original or a completed copy of DH Form 1896, Florida Do Not Resuscitate Order Form, December 2004, which is incorporated by reference and available from DOH at no cost, or, any previous edition of DH Form 1896; or
    b. Upon the presentation or observation, on the patient, of a Do Not Resuscitate Order patient identification device.
2. The Do Not Resuscitate Order:
    a. Form shall be printed on yellow paper and have the words "DO NOT RESUSCITATE ORDER" printed in black and displayed across the top of the form. DH Form 1896 may be duplicated, provided that the content of the form is unaltered, the reproduction is of good quality, and it is duplicated on yellow paper. The shade of yellow does not have to be an exact duplicate;
    b. Patient identification device is a miniature version of DH Form 1896 and is incorporated by reference as part of the DNRO form. Use of the patient identification device is voluntary and is intended to provide a convenient and portable DNRO which travels with the patient. The device is perforated so that it can be separated from the DNRO form. It can also be hole-punched, attached to a chain in some fashion and visibly displayed on the patient. In order to protect this device from hazardous conditions, it shall be laminated after completing it. Failure to laminate the device shall not be grounds for not honoring a patient's DNRO order, if the device is otherwise properly completed.
3. The DNRO form and patient identification device must be signed by the patient's physician. In addition, the patient, or, if the patient is incapable of providing informed consent, the patient's health care surrogate or proxy as defined in Section 765.101, F.S., or court appointed guardian or person acting pursuant to a durable power of attorney established pursuant to Section 709.08, F.S., must sign the form and the patient identification device in order for them to be valid. The form does not need to be notarized, once signed the form does not expire.
4. An EMT or paramedic shall verify the identity of the patient who is the subject of the DNRO form or patient identification device. Verification shall be obtained from the patient's driver license, other photo identification, or from a witness in the presence of the patient. If a witness is used to identify the patient, this fact shall be documented in the EMS Run Report, which must include the following information:
    a. The full name of the witness

b. The address and telephone number of the witness
c. The relationship of the witness to the patient

5. During each transport, the Providers shall ensure that a copy of the DNRO form or the patient identification device accompanies the live patient. The Providers shall provide comforting, pain-relieving and any other medically indicated care, short of respiratory or cardiac resuscitation.
6. A DNRO may be revoked at any time by the patient, if signed by the patient, or the patient's health care surrogate, or proxy or court appointed guardian or person acting pursuant to a durable power of attorney established pursuant to Section 709.08, F.S. Pursuant to Section 765.104, F.S., the revocation may be in writing, by physical destruction, by failure to present it, or by orally expressing a contrary intent.
7. Oral orders from non-physician staff members or telephoned requests from an absent physician do not adequately assure EMT/paramedics that the proper decision-making process has been followed and are NOT acceptable.

Specific Authority 381.0011, 401.45(3) FS. Law Implemented 381.0205, 401.45, 765.401 FS. History–New 11-30-93, Amended 3-19-95, 1-26-97, Formerly 10D-66.325, Amended 2-20-00, 11-3-02, 6-9-05, Formerly 64E-2.031.5.

DETERMINATION OF DEATH

The EMT or paramedic may determine that the patient is dead/non-salvageable and decide not to resuscitate the patient under the following guidelines.

A. The patient may be determined to be dead/non-salvageable and will not be resuscitated or transported if all four (4) presumptive signs of death and at least one (1) conclusive sign of death are identified.
    1. The four presumptive signs of death that MUST be present are:
        a. Unresponsiveness
        b. Apnea
        c. Pulseless
        d. Fixed dilated pupils
    2. In addition to the four presumptive signs of deaths, at least one (1) of the following conclusive signs of death MUST be present:
        a. Injuries incompatible with life (e.g., decapitation, massive crush injury, incineration)
        b. Tissue decomposition
        c. Rigor mortis of any degree with warm air temperature. (Hardening of the muscles of the body, making the joints rigid)
        d. Liver mortis (lividity) of any degree (venous pooling of blood in dependent body parts causing purple discoloration of the skin, which does blanch with pressure)
    3. Patients with suspected hypothermia, barbiturate overdose, or electrocution require full ALS resuscitation unless they have injuries incompatible with life or tissue decomposition.
    4. Providers may contact medical direction for a "determination of death" whenever support in the field is desired. Clearly state the purpose for the contact as part of the initial hailing.
    5. Children are excluded from this protocol unless EMS personnel make contact with medical direction for consultation. Only in cases of obvious, prolonged death should CPR not be started or discontinued on infants, children, or young adults, or in cases in which an unexpected death has occurred.
B. A trauma victim who does not meet the "Determination of Death" criteria listed above may be determined to be dead/non-salvageable based on the following criteria:

1. Pulselessness and apnea associated with asystole (confirmed in two leads) and
    a. Blunt trauma arrest
    b. Prolonged extrication time (more than 15 minutes) where no resuscitative measures can be initiated prior to extrication
        - An additional rhythm assessment is required, followed by at least one reassessment after 15 minutes
    c. Arrest from primary brain injury or with no brain stem reflexes; arrest from blunt multiple injuries
2. If there is any concern regarding leaving the patient at the scene, begin resuscitation and transport.
3. Consideration should be given for the possibility of organ harvest; however, this should not be the sole reason for resuscitation.

C. Absence of pulse or spontaneous respiration in a multiple-casualty situation where EMS resources are required for stabilization of living patients.

PEARL | *The local law enforcement agency that has jurisdiction will be responsible for the body once death has been determined. The body is to be left at the scene until a disposition has been made by the Medical Examiner's Office or the local jurisdiction.*

DISCONTINUANCE OF CPR

A. Resuscitation that is started in the field by EMS personnel cannot be discontinued without an order from medical direction. EMS personnel are not obligated to continue resuscitation efforts that were started inappropriately by others at the scene. However, contact with medical control is necessary to cease resuscitative efforts in ALL situations.

PEARL | *Resuscitations involving pediatrics and emergency services personnel are highly charged and emotional – careful consideration must be made when contemplating field termination*

B. When there is a delay in presenting a DNRO to EMS personnel, resuscitation must be started. However, once the DNRO is presented to EMS personnel, the EMT or paramedic with an order from medical direction may terminate resuscitation.

C. A paramedic with an order from medical control may terminate resuscitation provided the following criteria are met:
    1. Appropriate BLS and ALS have been attempted without restoration of circulation and breathing.
    2. Advanced airway has been successfully accomplished.
    3. Intravenous (IV, IO, ET) medication and countershocks for ventricular fibrillation have been administered according to the appropriate treatment protocol(s) (see Adult Protocols or Pediatric Protocols).
    4. Persistent asystole or agonal ECG rhythm patterns are present and no reversible causes are identified.
    5. Patients with suspected hypothermia, barbiturate overdose, or electrocution require full ALS resuscitation, unless they have injuries incompatible with life or tissue decomposition.

PEARL | *Unless deemed a crime scene, place of business resuscitations will not be terminated in the field*
(e.g., retail stores, restaurants, places of worship, etc.)

PEARL | *Maternal resuscitations (pregnancy >24weeks) will not be terminated in the field*

D. Provide appropriate grief counseling or support to the patient's immediate family, bystanders, or others at the scene.
    1. Provide family members with appropriate referral information, if available.

E. Deceased patient preparation:

1. Once death has been determined and resuscitation will not continue, cover the body with a sheet or other suitable item. If the death is a suspected homicide (crime scene), do not cover the body. Do not remove any property from the body or the scene for any purpose.
2. Immediately notify the appropriate law enforcement agency (if not done already), and remain on scene until their arrival.

PEARL | *The local law enforcement agency that has jurisdiction will be responsible for the body once death has been determined. The body is to be left at the scene until a disposition has been made by the Medical Examiner's Office or the local jurisdiction.*

3. Contact the Medical Examiner's office:

   State of Florida, Office of the District 21 Medical Examiner (Serving: Lee, Hendry, and Glades Counties)
   Telephone: 239.277.5020 – Primary contact number
   Telephone: 239.931.3748 – Secondary/After Hours contact number
4. Complete an electronic patient care report (ePCR) as soon as possible, documenting the previously mentioned criteria, and post or upload the ePCR for retrieval by the Medical Examiner's Office.
5. In the absence of an ePCR program linked to the Medical Examiner's Office, the ePCR can be faxed or emailed to the Medical Examiner's Office at:
   Contact the Medical Examiner's office:

   State of Florida, Office of the District 21 Medical Examiner (Serving: Lee, Hendry, and Glades Counties)
   Fax: 239.277.5017
   email: me21@leegov.com
6. ECG rhythm strips or ECG electronic file must be attached to the ePCR.
7. Advanced airway placement may be verified by two paramedics for patients who are determined to be dead in the field or for whom resuscitation measures have ceased. The advanced airway should be left in place and its confirmation should be recorded on the ePCR. Improperly placed advanced airway tubes should be left in place and reported to the appropriate personnel (proper advanced airway tube placement must be confirmed prior to terminating resuscitation).
8. Consult the patient's family for "organ donor" information, if appropriate.

Mass Casualty Triage

2016

Goal(s):

To provide a consistent and standardized foundation for triage and treatment of mass casualty incidents.

General Actions:

- If first on-scene, ensure radio transmitted scene size-up prior to exiting vehicle
- Establish Incident/Unified Command
- Establish TAC Communications
- Perform a Needs Assessment based upon:
  - Level 1 MCI: 6 – 10 Patient Transports
  - Level 2 MCI: 11 – 20 Patient Transports
  - Level 3 MCI: 21 – 100 Victims
  - Level 4 MCI: 101 – 1000 Victims
  - Level 5 MCI: 1000+ Victims

Basic Life Support Actions:

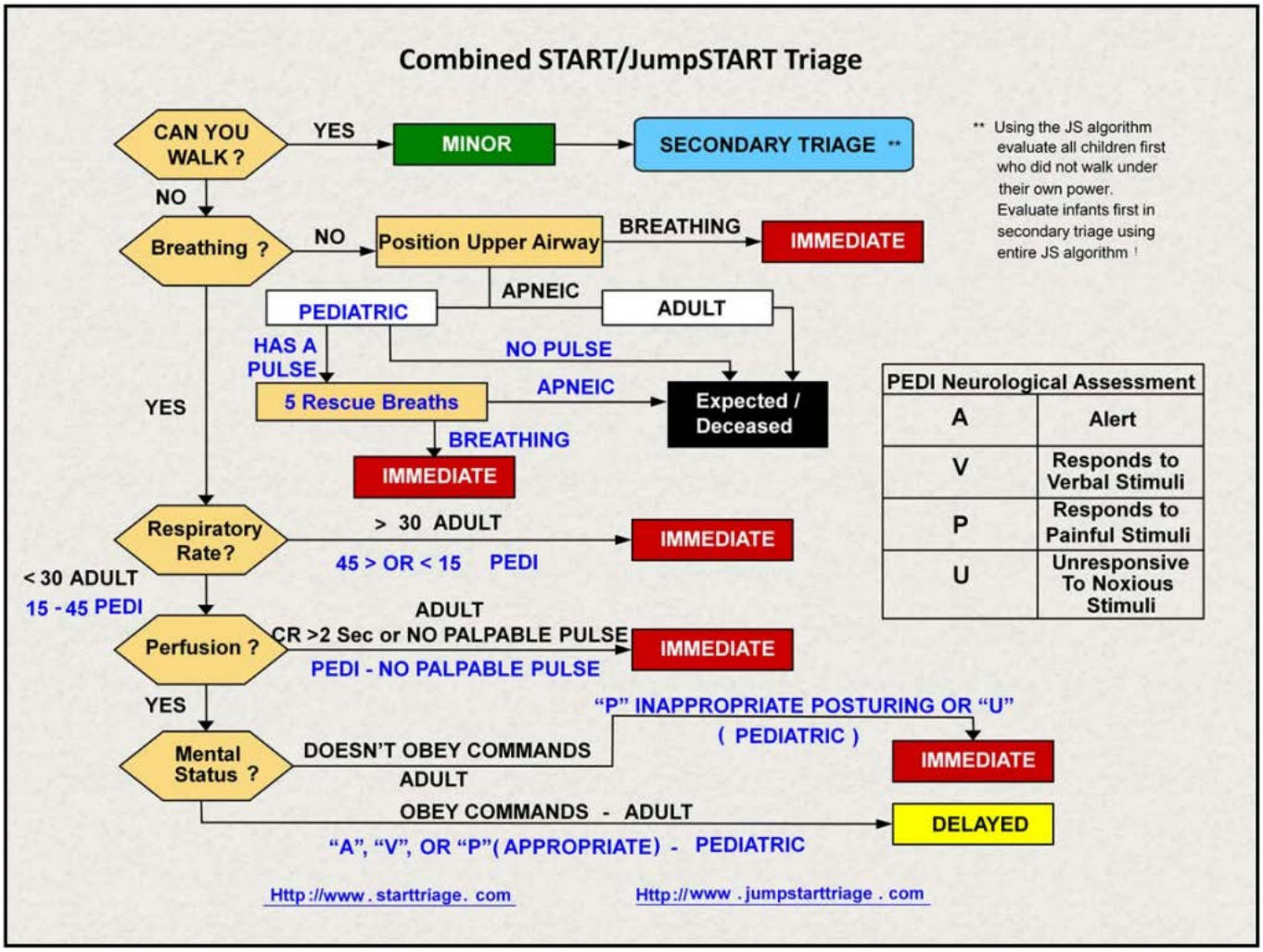
- Universal Care Guideline
- Patient Safety Guideline
- Perform START or JumpSTART
  - R – Respirations
  - P – Perfusion
  - M – Mental Status

Advanced Life Support Actions/Considerations:

- None

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated


Combined START/JumpSTART Triage
CAN YOU WALK ?
YES
MINOR
SECONDARY TRIAGE **
NO
Breathing ?
NO
Position Upper Airway
BREATHING
IMMEDIATE
APNEIC
PEDIATRIC
ADULT
HAS A PULSE
NO PULSE
YES
5 Rescue Breaths
APNEIC
Expected / Deceased
BREATHING
IMMEDIATE
Respiratory Rate?
> 30 ADULT
IMMEDIATE
45 > OR < 15 PEDI
< 30 ADULT
15 - 45 PEDI
ADULT
Perfusion ?
CR >2 Sec or NO PALPABLE PULSE
IMMEDIATE
PEDI - NO PALPABLE PULSE
YES
"P" INAPPROPRIATE POSTURING OR "U"
(PEDIATRIC)
Mental Status ?
DOESN'T OBEY COMMANDS
ADULT
IMMEDIATE
OBEY COMMANDS - ADULT
DELAYED
"A", "V", OR "P"(APPROPRIATE) - PEDIATRIC
Http://www.starttriage.com
Http://www.jumpstarttriage.com
** Using the JS algorithm evaluate all children first who did not walk under their own power. Evaluate infants first in secondary triage using entire JS algorithm !
PEDI Neurological Assessment
A Alert
V Responds to Verbal Stimuli
P Responds to Painful Stimuli
U Unresponsive To Noxious Stimuli

Emergency Services Personnel Rehabilitation 2016

Goal(s):

- To establish procedures for Emergency Services Personnel Rehabilitation
- Primary consideration: Emergency operations require significant physical activity, but no personnel will be required to perform emergency operations beyond safe levels of physical or mental endurance
- Purpose: This guideline is intended to examine and evaluate the physical and mental status of emergency services personnel working on an emergency incident or a training exercise and determine which treatment, if any, is necessary/ indicated

General Actions:

Responsibilities

- Emergency Services Personnel (ESP):
  1) Are responsible for reporting to the Rehab Group when ordered to do such by a commanding officer
  2) To advise the commanding officer when any member of his/her crew is in need of Rehab.
- Incident Commander (IC)/Unified Command (UC): Must ensure all personnel receive the proper rest, refreshments, medical evaluation, monitoring, and clearance
- Rehab Supervisor (RS):
  1) Is ideally led by a paramedic
  2) Reports directly to the IC/UC and the Incident Safety Officer (ISO).
  3) Function includes:
     - Report to the IC/UC and obtain rehabilitation requirements
     - Locate and establish a rehab site
     - Identify the EMS requirements and request additional personnel to assist as required
     - Provide required resources for rehabilitation
     - Check vital signs, monitor for heat stress, and signs of medical issues
     - Document medical monitoring on Lee County Common Incident Rehab Worksheet
     - Provide medical care and transportation to medical facilities as required
     - Inform the IC/UC and ISO when personnel require transportation to the treatment at a medical facility
     - Ensure documentation of any medical care provided
       a. Any and all injuries will require a Patient Care Report to be completed

Establishment of the Rehab Group

- Location:
  1) If a specific location has not been designated, the RS shall select an appropriate location based on site characteristics and designations such as fire apparatus, ambulance, nearby garage, or make-shift rehab structure.
  2) The RS shall notify the IC/UC where the rehab area has been established
- Site Characteristics:
  1) Preferably upwind
  2) Far enough away from hot zone/tactical area that members may safely remove their Personal Protective Equipment (PPE)
  3) Large enough to accommodate the number of personnel expected with a separate area for members to remove PPE

4) Preferably shaded; protected from elements
5) Away from exhaust fumes
6) Provide access to SCBA/SCUBA replenishment/refill equipment
7) Easy ingress and egress for ambulance traffic
8) Able to accommodate prompt re-entry back into the operation upon complete rehabilitation
9) Away from spectators and the media

- Resources:
  1) Fluids/food – potable drinking water, sports beverages, ice, food, and snacks
  2) Medical monitoring equipment
  3) Tarps
  4) Water supply for active cooling (wet towels, misting fans, ice vests, forearm immersion chairs)
  5) Blankets and warm, dry clothing for winter months
  6) Chairs (if available)

Rehab Procedure

- Entry:
  1) Collect accountability passport(s)/tags and place on status board
  2) Log names on the Lee County Common Incident Rehab Worksheet
  3) Dress-down incoming personnel
  4) Assign to the seating area
- Initiate Medical Monitoring:
  1) Normal Parameters as noted on the Lee County Common Incident Rehab Worksheet

PEARL | *Have high index of suspicions for and be prepared to act on Life Threatening Signs & Symptoms*

- Initiate Cooling:
  1) Passive
     - ❖ Removal of PPE
     - ❖ Remove to a cooler environment
  2) Active
     - ❖ Cold packs
     - ❖ Cool, wet towels
     - ❖ Forearm immersion
     - ❖ Misting fans
     - ❖ Ice vests
- Begin Hydration:
  - ❖ Water/fluids

PEARL | *Avoid caffeine and carbonated beverages*

- Rest time:
  - ❖ Minimum: 10 minutes
    - ✓Normal Vital Signs, may be released
    - ✓Abnormal Vital Signs, 10 additional minutes in rehab
    - ✓Abnormal Vital Signs, move to Medical Treatment Area
- Release:
  1) ESP that cannot be cleared shall be reported to the IC/UC and ISO

PEARL | *The RS and ISO retain final authority to ground any ESP*

  2) All ESP departing rehab shall retrieve their Passports from the RS
  3) Completed Lee County Common Incident Rehab Worksheets shall be given to the IC/UC or ISO

Lee County Common Incident Rehab Worksheet

INCIDENT LOCATION: _____ INCIDENT NUMBER: _____ DATE: _____

Name											
Assigned Unit											
Initial Evaluation Time											
Blood Pressure											
Pulse Rate											
Respirations											
Temperature [tympanic] [core] [oral] Circle											
SpO2 Level											
SpCO Level**											
SpMet Level**											
Injuries	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
C/O illness	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
FF Hydrated?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Treatment Given*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
2nd Eval. Time (10 minutes from initial)											
Blood Pressure											
Pulse Rate											
Respirations											
Tympanic Temp.											
SpO2 Level											
SpCO Level**											
SpMet Level**											
3rd Eval. Time (20 minutes from initial)											
Blood Pressure											
Pulse Rate											
Respirations											
Tympanic Temp.											
SpO2 Level											
SpCO Level**											
SpMet Level**											
Return to Work Time											
[Initials of IC refusing recommendations]											

*If Medical Tx given see Patient Care Report
**If Equipment Available

Symptoms Requiring Transport to ER
Chest Pain
SOB
Dizziness
Altered Mental Status
Nausea

Parameters that must be met to be released
Temperature: ≤100.6°F
Heart Rate: <100bpm
Respiratory Rate: Between 12-20/min
Blood Pressure: Systolic <160 and Diastolic <100
Pulse Oximetry (SpO2): >91% on room air
CO Levels (SpCO): <10% of baseline

Any signs or symptoms outside these paramete shall be sent to Treatment Area

***NO PERSON SHOULD BE RELEASED FROM REHAB UNTIL CLEARED BY THE REHAB OFFICER**

* As Incident Commander I am overriding the recommendations made by the Rehab Officer by initialling above and tak full responsibility of my actions by signing here: _____ print: _____

Rehab Officer: (Print) _____ (Signature) _____ Page ___ of ___

Lee County School Board Accident Waiver 2016

Goal(s):

- To establish a guideline for the management and documentation of accidents/crashes involving a Lee County School Board vehicle with Lee County School Board students and/or employees on-board

General Actions:

Definitions

- ***Lee County School Board Administrator/Representative:*** An administrator/representative of the Lee County School Board who is dispatched to the scene of all accident/crashes involving a Lee County School Board vehicle and is responsible for and assumes custody of the students on the bus
- ***Lee County School Transportation Accident-Student Responsibility Affidavit:*** The authorized 2-part form used for non-patient deemed students who will be remaining in the custody of the Lee County School Board
- ***Legal Custodian:*** 1) School Administrator/Representative, 2) Parent or legal guardian (responsible party)
- ***Patient***: a patient shall be defined as an individual who meets one of more of the following criteria:
  - ❖ Any individual with a medical or traumatic complaint
  - ❖ Any individual with an illness or injury
  - ❖ Any individual with a new altered mental status
  - ❖ Any individual in the same event as a significantly ill and/or injured party (e.g., motor vehicle crash, structural collapse, explosion, toxic fume environment, etc.)
  - ❖ Any individual who, at the discretion of the highest medical authority providing direct patient care, demonstrates a high index of suspicion for illness or injury (EMT or Paramedic judgement)
- ***No Care Required***: unit arrives on-scene and the Person Involved (PI) does not meet "patient" criteria as prescribed above

Procedure

1) All Lee County School Board students and employees involved in an accident/crash while on a Lee County School Board vehicle shall be evaluated as prescribed by the Lee County Common Treatment Guidelines
2) Students that do not meet patient criteria, in accordance with the definition, may be left in the custody of a legal custodian
3) Students that are not patients or transported shall have their names printed on the Lee County School Transportation Accident-Student Responsibility Affidavit form
4) The Lee County School Transportation Accident-Student Responsibility Affidavit form will be filled out completely; including the bus number and school name
5) A legal custodian on-scene shall print their name and sign the form at the bottom acknowledging custody of the students
6) If multiple Lee County School District vehicles are involved, a separate Lee County School Transportation Accident-Student Responsibility Affidavit form shall be completed for each vehicle
7) All Lee County School Transportation Accident-Student Responsibility Affidavit forms shall be scanned and attached to an electronic patient care report (ePCR) for the department/service handing the event – Disposition: No Care Required
8) Any Lee County School Board student and employee that is deemed to be a patient, shall have a separate ePCR completed – regardless of the disposition (Transport, No-Transport or Refusal of Care)

Agency_____ PCR/RUN #_____ Date _____

School _____ Bus # _____

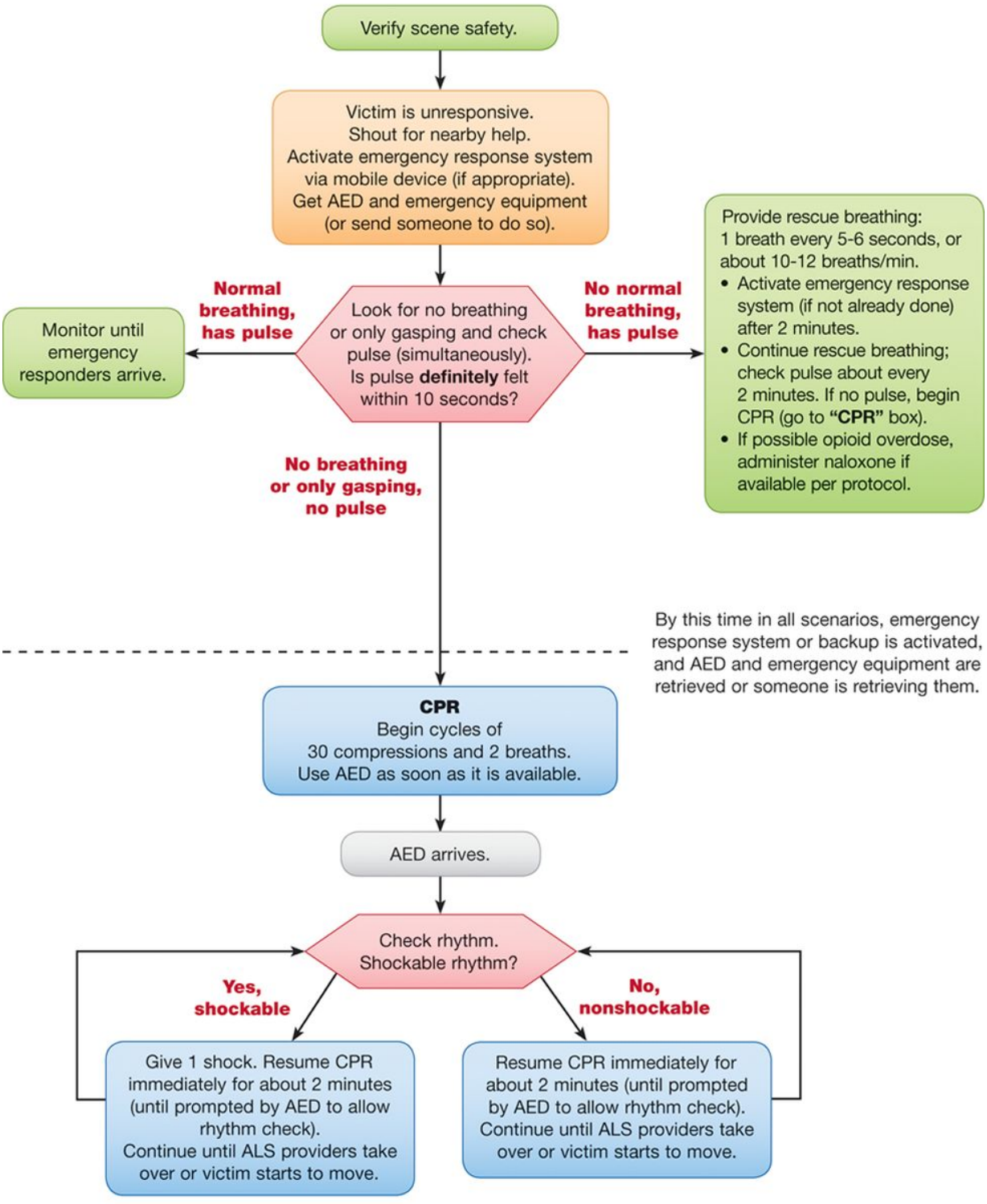
The students listed below have been evaluated by Emergency Responders and it has been determined that no complaints or injuries were found present at the time of exam, thus the need for transport to an Emergency Department by ambulance was deemed unnecessary.

The below signed takes legal custody of students listed below and hereby releases and holds harmless Emergency Medical Service (EMS), The EMS Care Providers, The EMS Medical Director(s), the responding Lee County Fire/Rescue Districts(s), the Lee County Board of County Commissioners, the City of Cape Coral, the City of Ft. Myers, and the Medical Control Physician(s) from any liability for any medical consequences, which may result in any way related to the non-transport of listed students.

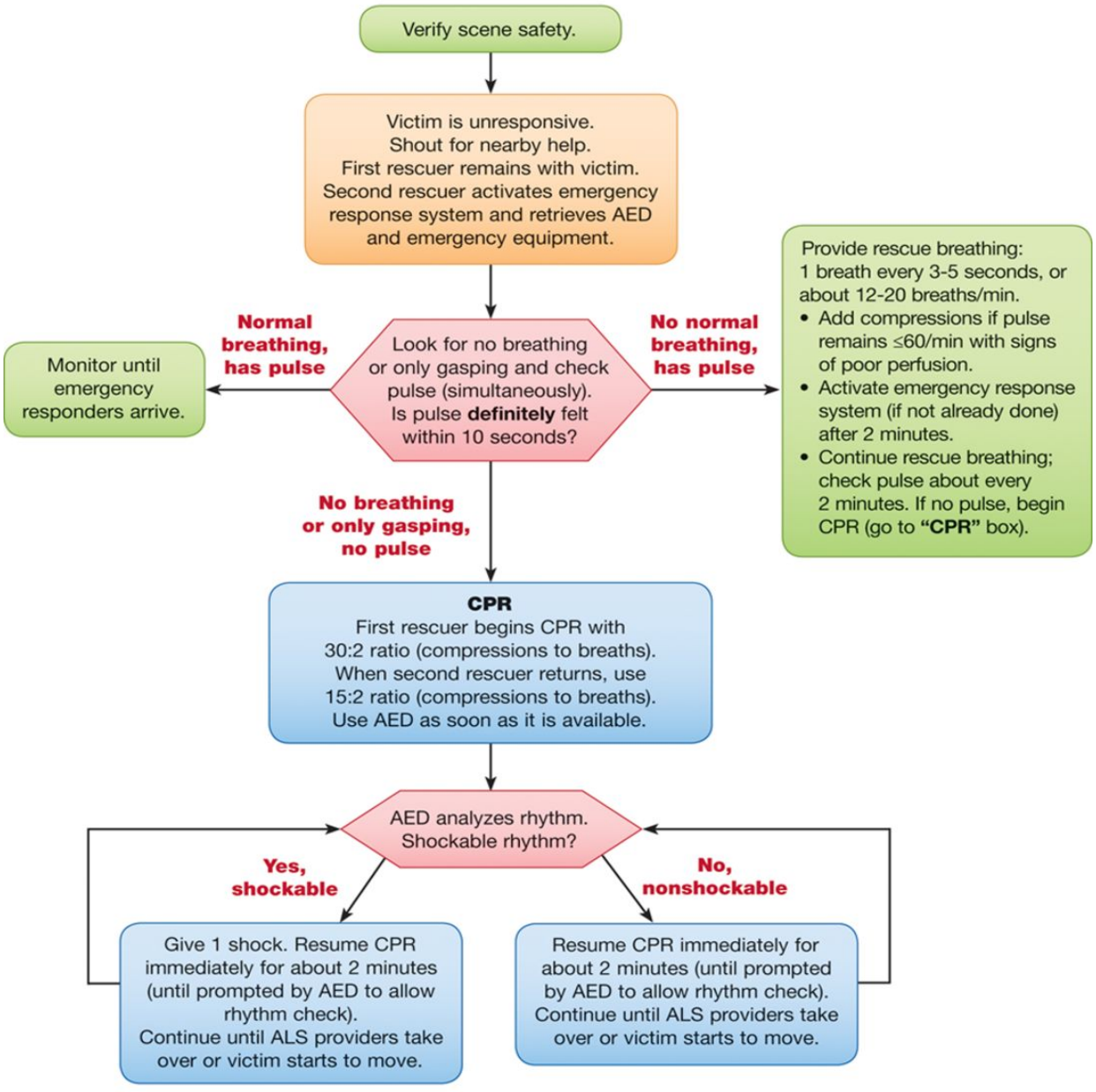
1.	21.
2.	22.
3.	23.
4.	24.
5.	25.
6.	26.
7.	27.
8.	28.
9.	29.
10.	30.
11.	31.
12.	32.
13.	33.
14.	34.
15.	35.
16	36.
17.	37.
18.	38.
19.	39.
20.	40.

SCHOOL BOARD REPRESENTATIVE	RESCUE SERVICE REPRESENTATIVE
Printed Name _____	Witness _____
Signature _____	Signature _____

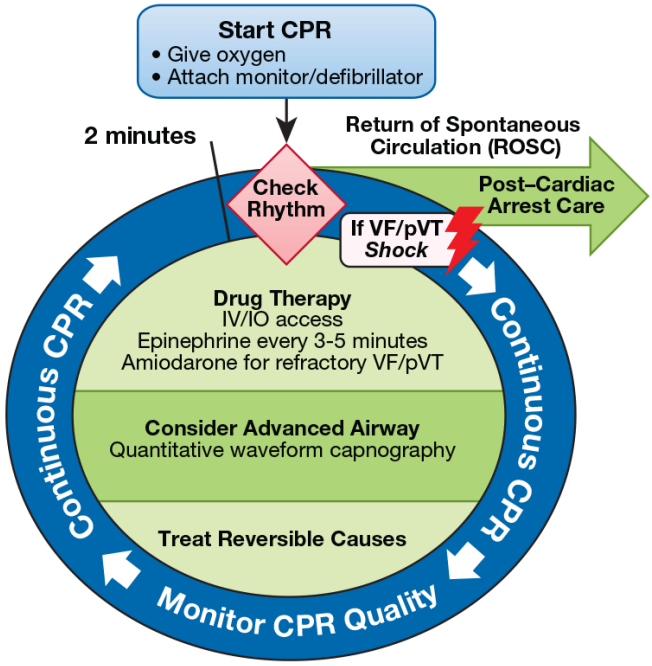
BLS Healthcare Provider
Adult Cardiac Arrest Algorithm—2015 Update



BLS Healthcare Provider
Pediatric Cardiac Arrest Algorithm for 2 or More Rescuers—2015 Update



Adult Cardiac Arrest Circular Algorithm—2015 Update



CPR Quality

- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Rotate compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If P_{ETCO_2} <10 mm Hg, attempt to improve CPR quality
- Intra-arterial pressure.
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality.

Shock Energy for Defibrillation

- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Drug Therapy

- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg.

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

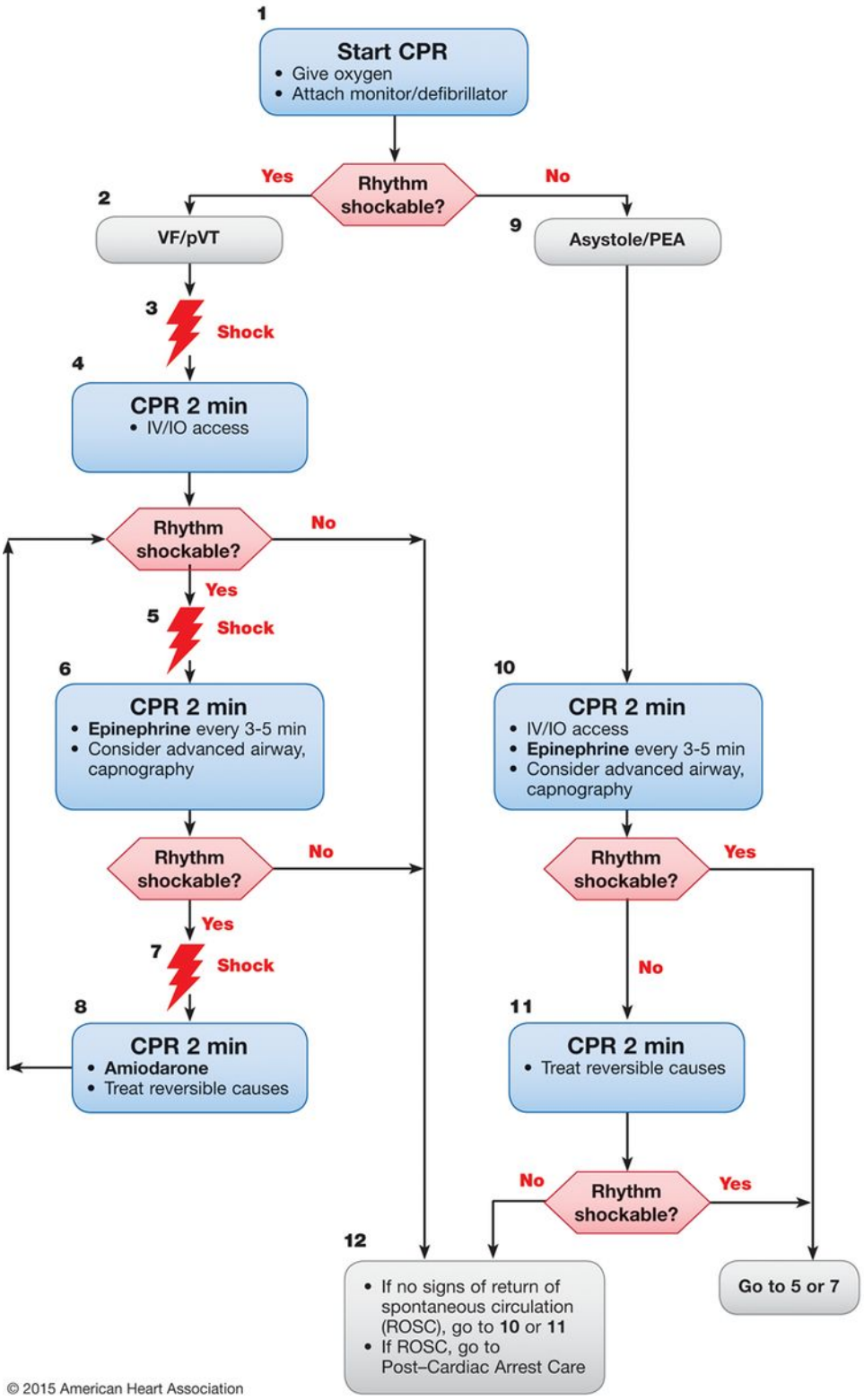
Return of Spontaneous Circulation (ROSC)

- Pulse and blood pressure
- Abrupt sustained increase in P_{ETCO_2} (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Adult Cardiac Arrest Algorithm—2015 Update



CPR Quality

- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Rotate compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If P_{ETCO_2} <10 mm Hg, attempt to improve CPR quality.
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality.

Shock Energy for Defibrillation

- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Drug Therapy

- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg.

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

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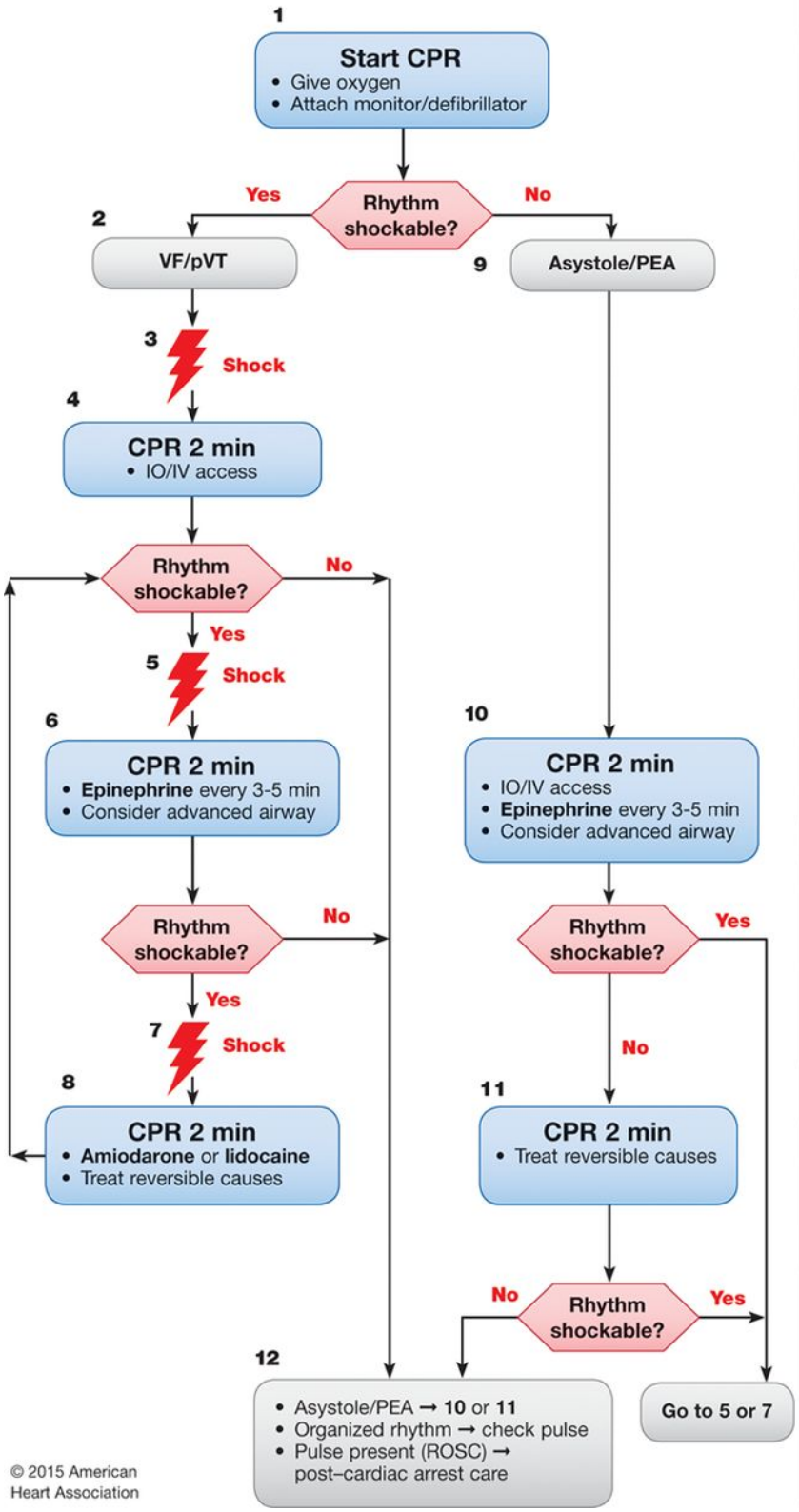
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Pediatric Cardiac Arrest Algorithm—2015 Update



CPR Quality

- Push hard (≥⅓ of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Rotate compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 15:2 compression-ventilation ratio.

Shock Energy for Defibrillation

First shock 2 J/kg, second shock 4 J/kg, subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose

Drug Therapy

- **Epinephrine IO/IV dose:** 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes.
  If no IO/IV access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration).
- **Amiodarone IO/IV dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT.
- **Lidocaine IO/IV dose:** Initial: 1 mg/kg loading dose. Maintenance: 20-50 mcg/kg per minute infusion (repeat bolus dose if infusion initiated >15 minutes after initial bolus therapy).

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

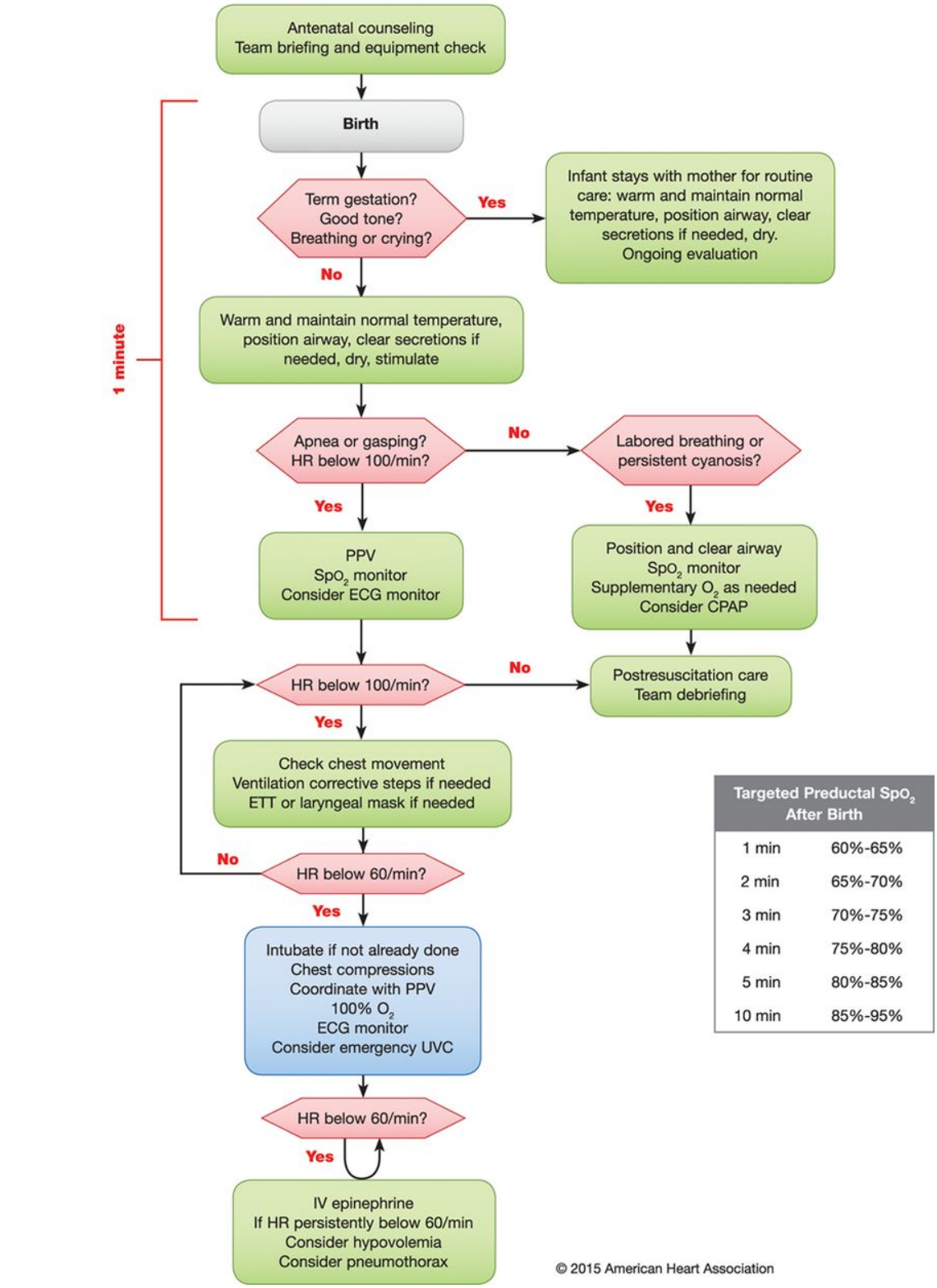
Return of Spontaneous Circulation (ROSC)

- Pulse and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypoglycemia
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Neonatal Resuscitation Algorithm—2015 Update



Targeted Preductal SpO_2 After Birth	
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-95%

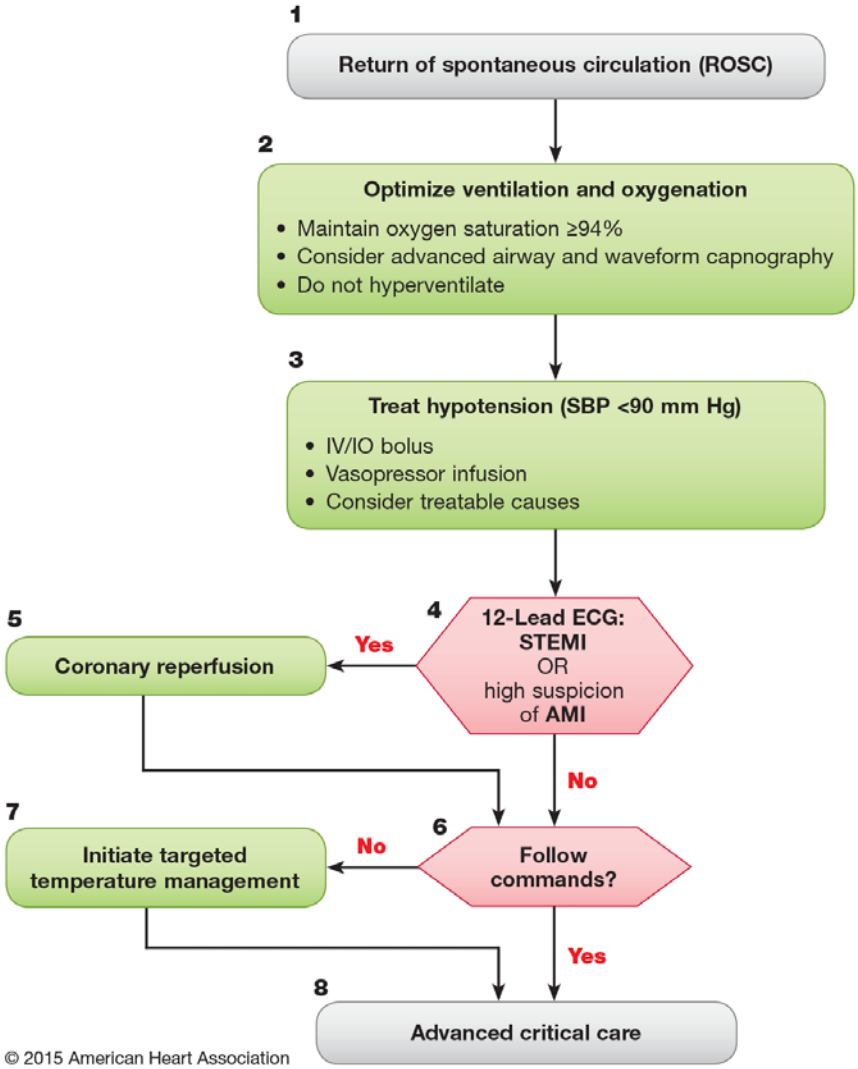
INDICATIONS FOR USE:

The Neo-tee T-Piece Resuscitator is a gas powered emergency resuscitator intended to provide pulmonary support by means of a face mask or advanced airway. It is intended for ***use with neonates and infants weighing less than 10kg (22lbs).***

Remember: "10/12/20/5 Rule"

1) "10": set the oxygen flowmeter at 10LPM and attached the Neo-Tee oxygen tubing
2) "12": set the PIP controller to the 12 o'clock position
   - "20": PIP controller set at 12 o'clock yields 20cmH_20 Peak Inspiratory Pressure
3) "5": set the PEEP at 5cmH_20
4) Confirm settings – 20/5
5) Ventilate

Adult Immediate Post–Cardiac Arrest Care Algorithm—2015 Update



Doses/Details

Ventilation/oxygenation: Avoid excessive ventilation. Start at 10 breaths/min and titrate to target P_{ETCO_2} of 35-40 mm Hg. When feasible, titrate F_{IO_2} to minimum necessary to achieve S_{pO_2} ≥94%.

IV bolus: Approximately 1-2 L normal saline or lactated Ringer's

Epinephrine IV infusion: 0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

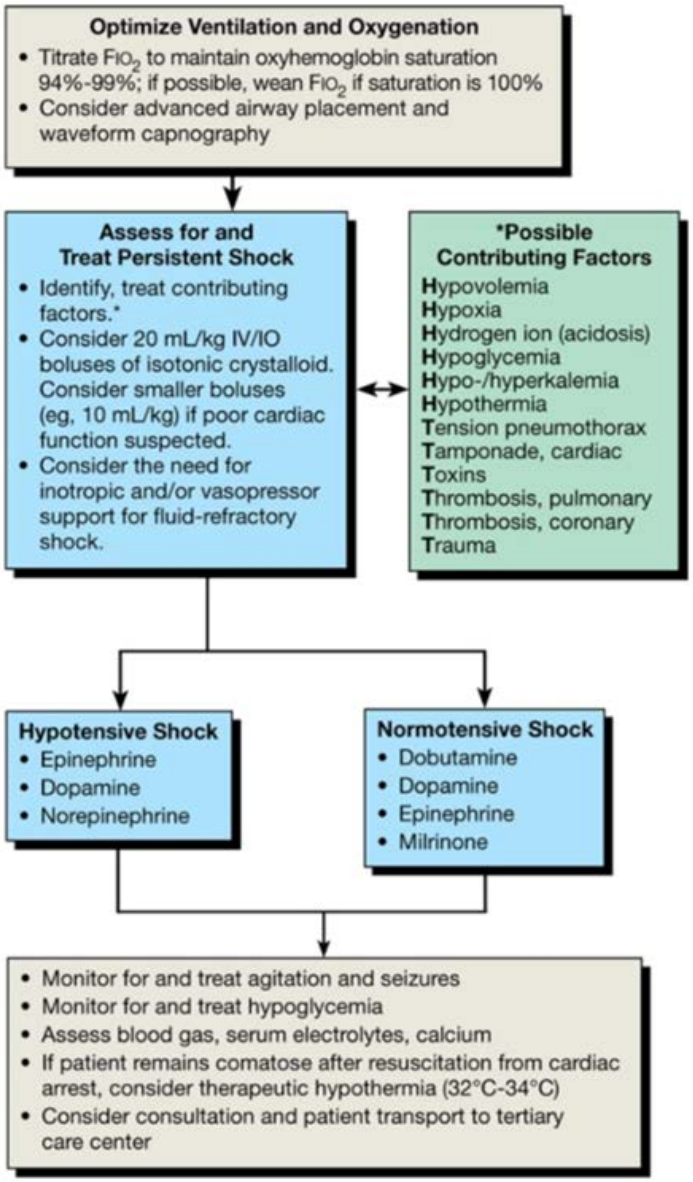
Dopamine IV infusion: 5-10 mcg/kg per minute

Norepinephrine IV infusion: 0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

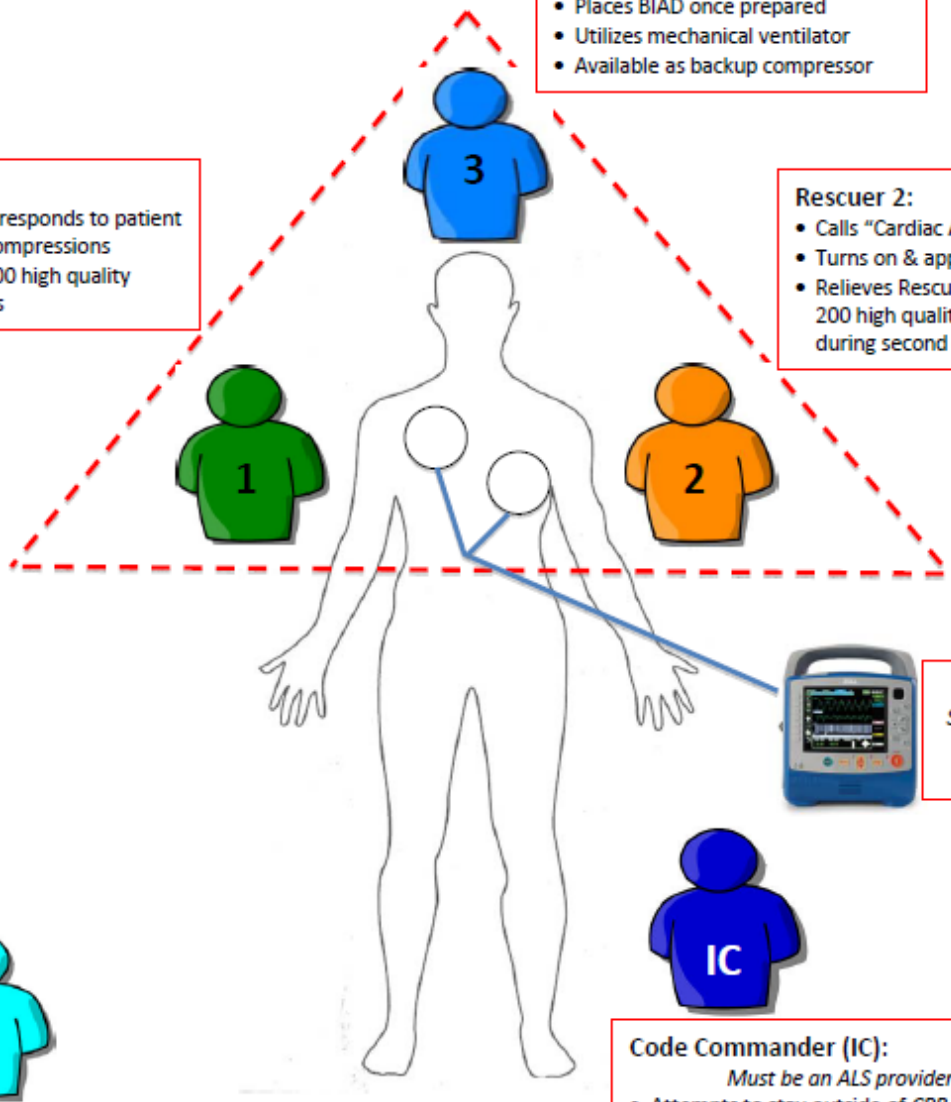
Pediatric Immediate Post-Cardiac Arrest Care Algorithm



Rescuer 3:
- Maintains open airway
- Inserts OPA/NPA
- Applies high flow nasal cannula
- Prepares BIAD with NG tube
  - etCO2 attached
- Places BIAD once prepared
- Utilizes mechanical ventilator
- Available as backup compressor

Rescuer 1:
- Immediately responds to patient and begins compressions
- Completes 200 high quality compressions

Rescuer 2:
- Calls "Cardiac Arrest" on radio
- Turns on & applies AED/Monitor
- Relieves Rescuer 1 and performs 200 high quality compressions during second cycle



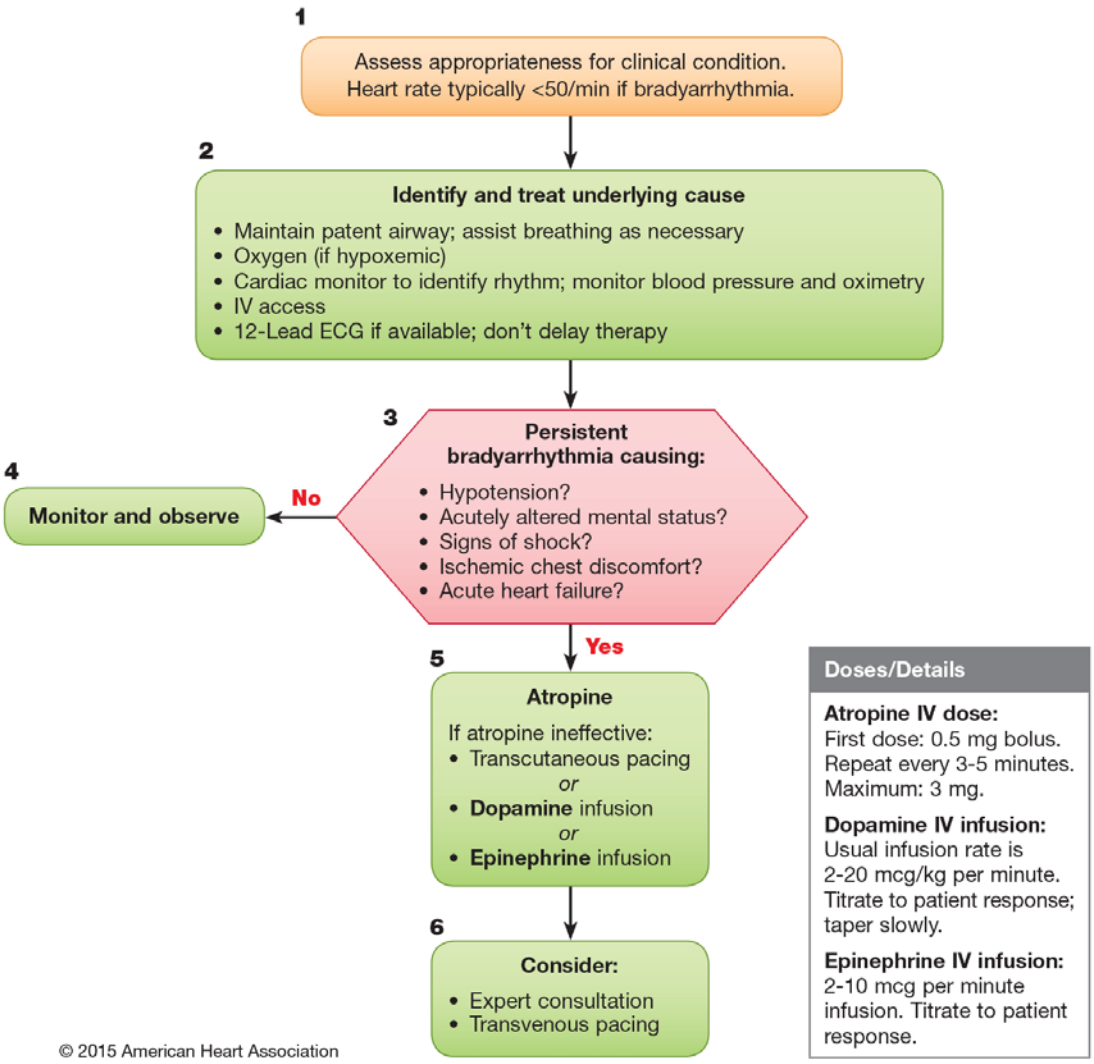
AED/Monitor
Switch to transport agency's monitor when appropriate

Code Commander (IC):
Must be an ALS provider
- Attempts to stay outside of *CPR Triangle*
- Coordinates 2 minute rotations
- Attempts/delegates vascular access
- Starts *Resus Checklist*
- Pre-charge monitor at 1:45
- Assess femoral pulse & analyzes rhythm at 2 minute intervals
- Defibrillates when appropriate
- Administers medications

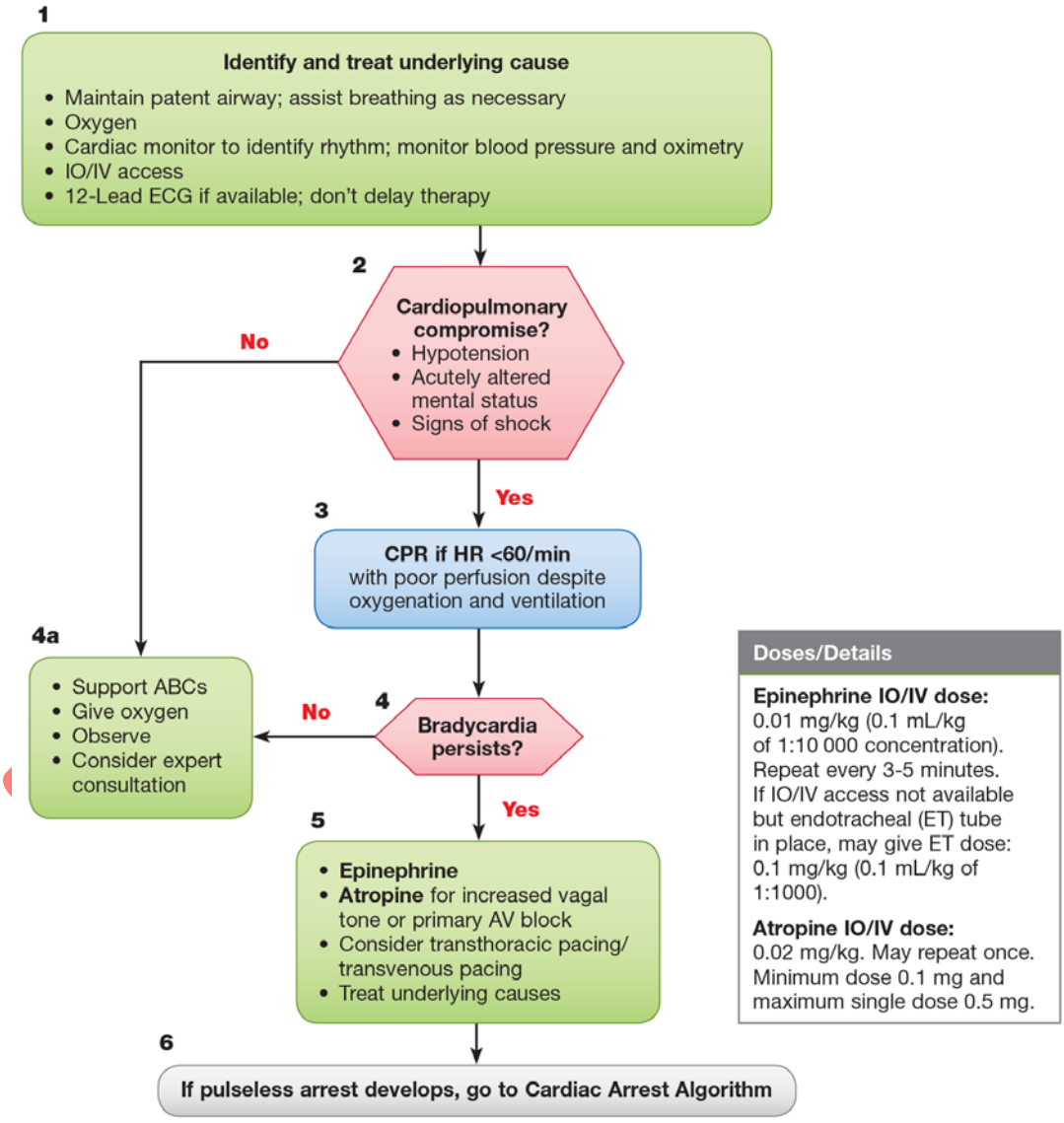
Resuscitation Officer:
- Stays outside of *CPR Triangle*
- Completes *Resus Checklist*
- Provides assistance as needed
- Comforts family and collects patient information
- Obtain SAMPLE History

Intentionally blank pending future development

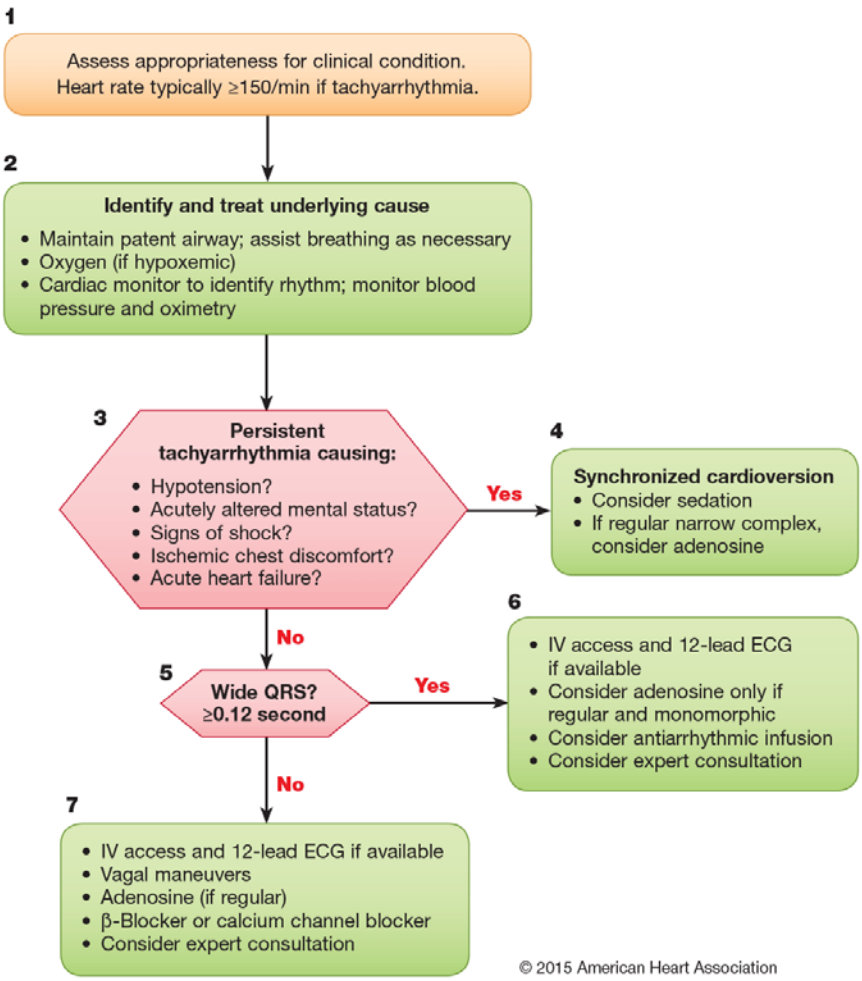
Adult Bradycardia With a Pulse Algorithm



Pediatric Bradycardia With a Pulse and Poor Perfusion Algorithm



Adult Tachycardia With a Pulse Algorithm



Doses/Details

Synchronized cardioversion:
Initial recommended doses:
- Narrow regular: 50-100 J
- Narrow irregular: 120-200 J biphasic or 200 J monophasic
- Wide regular: 100 J
- Wide irregular: defibrillation dose (*not* synchronized)

Adenosine IV dose:
First dose: 6 mg rapid IV push; follow with NS flush.
Second dose: 12 mg if required.

Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia

Procainamide IV dose:
20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given. Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF.

Amiodarone IV dose:
First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs. Follow by maintenance infusion of 1 mg/min for first 6 hours.

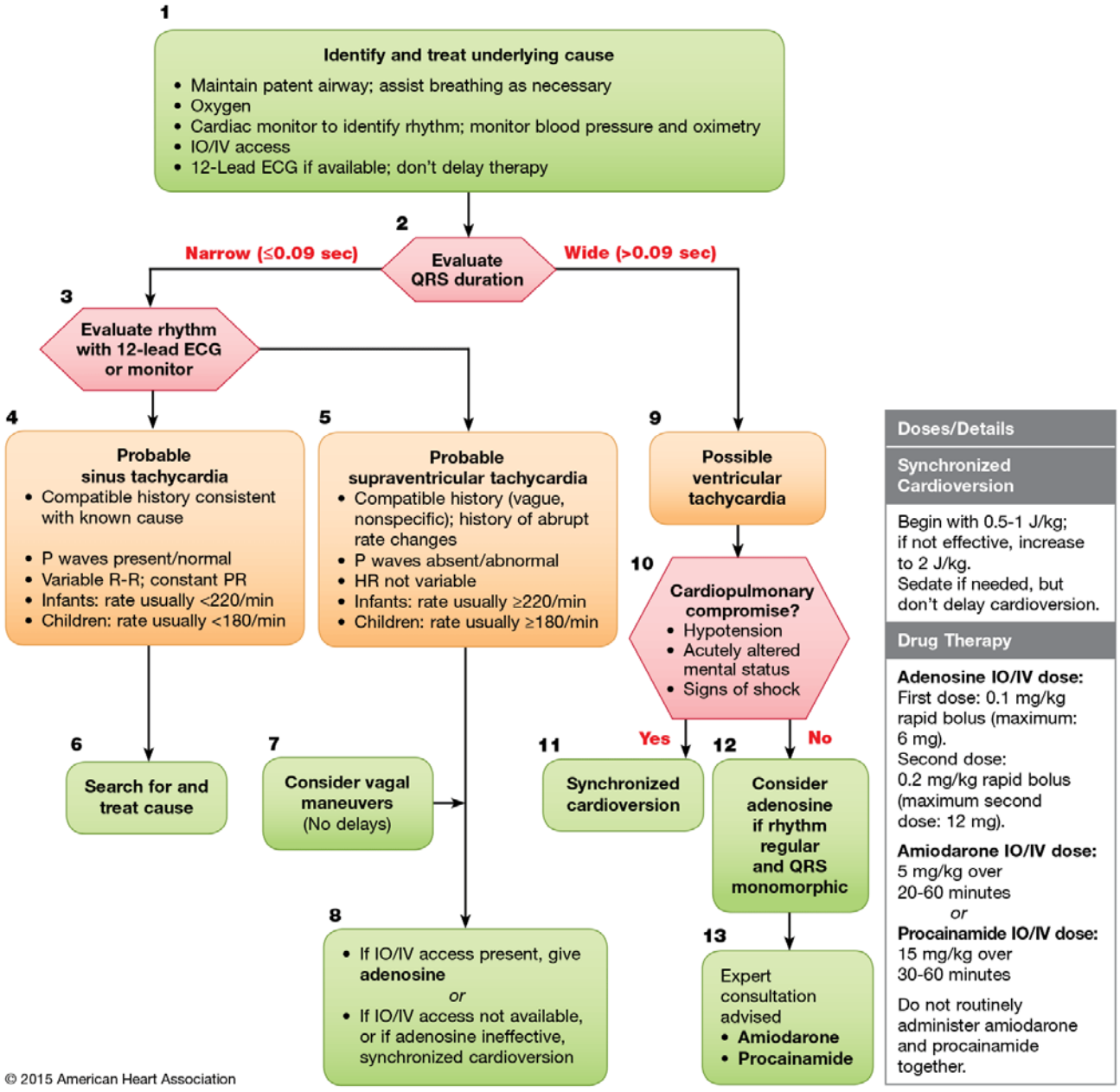
Sotalol IV dose:
100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.

LCCTG Supplement

Calcium Channel Blocker for Stable Narrow-QRS, Irregular Tachycardia

Diltiazem *(Cardizem)* IV dose:
First dose: 0.25mg/kg (max dose 20mg)
Second dose: 0.35mg/kg (max dose 25mg if required)

Pediatric Tachycardia With a Pulse and Poor Perfusion Algorithm



Differential Impressions:

- Acute Abdominal Syndrome
- Cholecystitis
- Colitis
- Crohn's Disease
- Diverticulitis
- Pancreatitis
- Peptic Ulcer Disease
- Pelvic Inflammatory Disease
- Renal Colic
- Urinary Tract Infection
- Abdominal Aortic Aneurysm
- Appendicitis
- Bowel Obstruction
- Ectopic Pregnancy
- Incarcerated Hernia
- Rupture Ovarian Cyst

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Nausea | Vomiting Management Guideline as necessary/indicated
  - Pediatric: Nausea | Vomiting Management Guideline as necessary/indicated
- Esophageal Food Bolus Obstruction:
  Glucagon 1mg IV
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

Differential Impressions:

- Localize Allergic Reaction
- Systemic Anaphylaxis Reaction
- Anaphylactoid Shock
- Anaphylactic Shock
- Angioedema
- Systemic Anaphylactoid Reaction
- Transfusion Reaction

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- EpiPen IM
  - Pediatric: EpiPen, Jr. IM
- Albuterol 2.5mg AT
  - Pediatric: Albuterol 2.5mg AT

Advanced Life Support Actions/Considerations:

- Epinephrine (1:1000) 0.5mg IM
  - Pediatric: Epinephrine (1:1000) 0.01mg/kg IM (Maximum Dose: 0.3mg IM)

PEARL | *First-line therapy for* anaphylaxis/anaphylactoid reactions/shock

PEARL | *Use with caution in the elderly and with known heart disease*

PEARL | *No absolute contraindication for anaphylaxis/anaphylactoid reactions/shock*

- Crystalloid Resuscitation 10cc/kg IV/IO; repeat PRN
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO; repeat PRN

PEARL | *Second-line therapy for* anaphylaxis/anaphylactoid reactions/shock

- Diphenhydramine 50mg IV/IM
  - Pediatric: Diphenhydramine 1mg/kg IV/IM
- CPAP 5 – 15cm/H20 PEEP
- Albuterol 2.5mg AT; repeat PRN
  - Pediatric: 2.5mg AT; repeat PRN

PEARL | *Persistent "shark-fin" capnogram suggests on-going bronchospasm*

- DuoNeb: Albuterol 2.5mg & Ipratropium 0.5mg AT
- Methylprednisolone 125mg SIVP
  - Pediatric: Methylprednisolone 1mg/kg SIVP
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated
- Epinephrine (1:10,000) 0.5mg IV/IO

PEARL | *For pre or peri-cardiopulmonary arrest states*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
- Repeat DuoNeb
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

Differential Impressions:

- Mental Illness
- Psychiatric Emergencies
- Substance Abuse
- Baker Act
- Marchman Act

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Communicate in a calm and nonthreatening manner
- Respect the dignity of the patient
- Request law enforcement as necessary/indicated for:

  Baker Act consideration:

  Florida Statute Chapter 394, Part I, is also known as the Florida Mental Health Act. The Baker Act provides legal procedures for patients with known or suspected mental illness. This includes mental health examinations and treatment and provides authorization to police, physicians, mental health professional and the courts to dictate certain medical care for persons who pose a threat of harm to themselves or to others.

  PEARL | *Baker Act is not intended for patients who are competent, are without mental illness, have decisional capacity, and have been informed yet still desire to refuse care against medical advice*

  PEARL | *Organic causes of behavioral change must be considered and ruled out*

  PEARL | *Law enforcement will provide EMS with a Baker Act Form (3052a), and as required for EMS safety, will accompany or follow the ambulance to the hospital*

  or

  Marchman Act consideration:

  Florida Statute Chapter 397, Part V, provides legal procedures for patients with known or suspected conditions involving substance abuse. This includes mental health examinations and treatment and provides authorization to police, physicians, mental health professional and the courts to dictate certain medical care for persons who are impaired and pose a threat of harm to themselves or to others or is so impaired that he is incapable of appreciating his need for substance abuse services.

  PEARL | *Marchman Act is not intended for patients who are competent, have decisional capacity, and have been informed yet still desire to refuse care against medical advice*

  PEARL | *Organic causes of behavioral change must be considered and ruled out*
- Patient Restraint Guideline as necessary/indicated

  PEARL | *Teamwork between prehospital providers and law enforcement improves patient care*
- Excited Delirium Guideline as necessary/indicated

Advanced Life Support Actions/Considerations:

- Excited Delirium Guideline as necessary/indicated
  - Pediatric: Excited Delirium Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Differential Impressions:

- Chest Pain – Cardiac Pathology
- STEMI (ST Elevation Myocardial Infarction)
- Acute Coronary Syndrome (ACS)
- Unstable Angina Pectoris
- NSTEMI (Non-ST Elevation Myocardial Infarction)

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Aspirin 324mg PO (chewable)

  PEARL | ***Withhold for patients with known contraindications or if prior to arrival aspirin administration has been confirmed – full dose and chewable***
- Nitrolingual Spray 0.4mg SL; may repeat q 5minutes for as long as symptoms persist without evidence of hypoperfusion

  PEARL | ***Nitrates should be withheld in patients with initial systolic blood pressures less than 90mmHg, in patients with marked bradycardia or tachycardia, and in patients with known or suspected right ventricular infarction (RVI)***

  PEARL | ***Contraindicated in patients who have used Viagra, Cialis, Levitra or other erectile dysfunction medication in the previous 48 hours***

Advanced Life Support Actions/Considerations:

- 12 Lead ECG

  PEARL | ***STEMI Alert and Acute Coronary Syndrome (ACS) patients should be transported to the closest STEMI/Percutaneous Coronary Intervention (PCI) facility***

  PEARL | ***Repeat q 10 minutes for high index of suspicion of evolving cardiac condition***
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated

  PEARL | ***for Right Ventricular Infarct (RVI) – repeat as necessary/indicated while in the absence of pulmonary edema***
- Tridil Infusion 10mcg/min IV/IO; may increase by increments of 10 mcg/min q 5 minutes to desired effect remaining vigilant for hypotension/hypoperfusion – not to exceed 50mcg/min

  PEARL | ***Nitrates should be withheld in patients with initial systolic blood pressures less than 90mmHg, in patients with marked bradycardia or tachycardia, and in patients with known or suspected right ventricular infarction (RVI)***
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated

  PEARL | ***for severe pain unresponsive to nitroglycerin or in cases where nitrates cannot be given due to hypoperfusion***
- Nausea & Vomiting Management Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Lead Summary

I Lateral Circumflex Artery	aVR	V1 Septal Left Anterior Descending Artery	V4 Anterior Right Coronary Artery
II Inferior Right Coronary Artery	aVL Lateral Circumflex Artery	V2 Septal Left Anterior Descending Artery	V5 Lateral Circumflex Artery
III Inferior Right Coronary Artery	AVF Inferior Right Coronary Artery	V3 Anterior Right Coronary Artery	V6 Lateral Circumflex Artery

Differential Impressions:

- Congestive Heart Failure
- Pulmonary Edema
- Right Heart Failure
- Left Heart Failure
- Non-Cardiac Pulmonary Edema (e.g., Drowning)

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Nitrolingual Spray 1.2mg (x3 0.4mg) SL; may repeat q 1minute PRN for as long as symptoms persist with evidence of hypoperfusion

PEARL | ***Nitrates should be withheld in patients with hypotension, marked bradycardia or tachycardia, and in patients with known or suspected right ventricular infarction (RVI)***

PEARL | ***Nitrates are contraindicated in patients who have used Viagra, Cialis, Levitra or other erectile dysfunction medication in the previous 48 hours***

Advanced Life Support Actions/Considerations:

- CPAP 5 – 15cm/H20 PEEP
- 12 Lead ECG

PEARL | ***STEMI Alert and Acute Coronary Syndrome (ACS) patients should be transported to the closest STEMI/Percutaneous Coronary Intervention (PCI) facility***

PEARL | ***Repeat q 10 minutes for high index of suspicion of evolving cardiac condition***

- *Continuous Nitrate Therapy – Option #1:*
  Tridil Infusion 10 – 50mcg/min IV/IO; titrate to desired effect in increments of 10 mcg/min q 5 minutes remaining vigilant for hypotension/hypoperfusion – not to exceed 50mcg/min

PEARL | ***Nitrates should be withheld in patients with hypotension, marked bradycardia or tachycardia, and in patients with known or suspected right ventricular infarction (RVI)***

- *Continuous Nitrate Therapy – Option #2:*
  Nitropaste 1in TD (transdermal; chest wall)

PEARL | ***Nitrates should be withheld in patients with hypotension, marked bradycardia or tachycardia, and in patients with known or suspected right ventricular infarction (RVI)***

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated

PEARL | ***For Right Ventricular Infarct (RVI) and hypotension/hypoperfusion***

- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated

PEARL | ***For Right Ventricular Infarct (RVI) and hypotension/hypoperfusion***

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Differential Impressions:

- Hypoglycemia (blood glucose <60mg/dL)
- Hypoglycemic Insult
- Iatrogenic Hypoglycemia
- Hyperglycemia (blood glucose >300mg/dL)
- Diabetic Ketoacidosis (DKA)
- Hyperosmolar Hyperglycemia State (HHS)

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- bG <60mg/dL:
  Oral Glucose 15 – 30gm PO
  - Pediatric: Oral Glucose 15 – 30gm PO

PEARL | *For patients with intact airway reflexes*

Advanced Life Support Actions/Considerations:

- *bG <60mg/dL with vascular access – Option #1:*
  Thiamine 100mg IV/IM

  PEARL | *For adults with evidence of alcohol abuse or signs of malnourishment*

  Dextrose 10% 125 – 250cc (12.5 – 25gm) IV titrated to return of normal mental status
  - Pediatric: Dextrose 10% 5cc/kg IV titrated to return of normal mental status

  PEARL | *As normal mental status is restored, stop infusion and re-check blood glucose:*
  bG >60mg/dL, discontinue the remainder of infusion,
  bG <60mg/dL, continue infusion not to exceed 250cc/25gm
- *bG <60mg/dL with vascular access – Option #2:*
  Thiamine 100mg IV/IM

  PEARL | *For adults with evidence of alcohol abuse or signs of malnourishment*

  Dextrose 50% 12.5 – 25gm IV
  - Pediatric: Dextrose 25% 0.5gm/kg IV

- *bG <60mg/dL without vascular access:*
  Glucagon 1mg IM
  - Pediatric: Glucagon 0.5mg IM

- *bG >300mg/dL with vascular access:*
  Crystalloid Resuscitation 20cc/kg IV/IO; repeat PRN
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO; repeat PRN

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Excited Delirium Syndrome (ExDS) 2016

Differential Impressions:

- Psychiatric or Psychological behavioral violence
- Pharmacological or Substance Abuse violence
- Toxidrome rage
- Metabolic storm
- Infectious agitation
- Conditions that result in agitated, violent, or uncooperative behavior that pose imminent threat or danger to self or others

PEARL | *Exclusion Criteria: Agitated or violent behavior due to medical conditions including, but not limited to: 1) Head trauma, 2) Hypoglycemia, 3) Hypoxia*

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline

PEARL | *Reduce external stimuli – lights, sirens, horns, etc.*

- Patient Restraint Guideline

PEARL | *Must be adequately controlled prior to loading and transporting*

PEARL | *ExDS patients shall not be packaged or transported prone, hog-tied or in any position that may impede pulmonary function*

- Hyperthermia Guideline as necessary/indicated

Advanced Life Support Actions/Considerations:

- Ketamine 5mg/kg IM

PEARL | *Loading dose not to exceed 500mg*

or

Midazolam 5mg IM/IN/IV

PEARL | *Loading dose with peripheral pulses present*

- Crystalloid Resuscitation 10cc/kg IV/IO
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO
- Hyperthermia Guideline as necessary/indicated
- If patient emerges from loading dose:
  - Ketamine 2.5mg/kg IV/IO/IM/IN

PEARL | *IV/IO Ketamine must be diluted with an equal volume of Normal Saline*

or

Midazolam 2.5 – 5mg IV/IO/IM/IN

PEARL | *Benzodiazepines are preferential to Ketamine for emergence dosing and antiseziure coverage*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - Pediatric: Contact Medical Control

Differential Impressions:

- Asthma and Asthma-Like Syndrome
- Chronic Obstructive Pulmonary Disease
- Aspiration
- Toxic Inhalation (vapor, fume, or smoke)
- Upper Respiratory or Pulmonary Viral Infection
- Pneumonia

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Albuterol 2.5mg AT
  - Pediatric: Albuterol 2.5mg AT
- EpiPen IM
  - Pediatric: EpiPen, Jr. IM

Advanced Life Support Actions/Considerations:

- CPAP 5 – 15cm/H20 PEEP

  PEARL | *PEEP not to exceed 7.5cm/H20 in "tight lung" pathology*
- Albuterol 2.5mg AT; repeat PRN
  - Pediatric: 2.5mg AT (repeat as necessary)

    PEARL | *Persistent "shark-fin" capnogram suggests on-going bronchospasm*
- DuoNeb: Albuterol 2.5mg & Ipratropium 0.5mg AT
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

  PEARL | *For evidence of dehydration or to mobilize secretions in prolonged "tight lung" pathology*
- Magnesium Sulfate 2gm in 100cc D5W IV Infusion over 10 minutes
  - Pediatric: Magnesium Sulfate 50mg/kg in 100cc D5W IV Infusion over 10 minutes
- Epinephrine (1:1000) 0.5mg IM
  - Pediatric: Epinephrine (1:1000) 0.01mg/kg IM (Maximum Dose: 0.3mg IM)
  - Pediatric: Normal Saline 3cc AT (for suspected Croup)

    PEARL | *For suspect croup or laryngotracheobronchitis*
  - Pediatric: Epinephrine (1:1000) 3mg in 3cc NS AT

    PEARL | *For extremis epiglottitis or bronchoilitis*
- Methylprednisolone 125mg SIVP
  - Pediatric: Methylprednisolone 1mg/kg SIVP

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
- Repeat DuoNeb
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

Differential Impressions:

- Epilepsy
- Central Nervous System origins
- Closed Head/Traumatic Brain Injury
- Infectious origins (i.e., Febrile)
- Metabolic origins
- Medication/Toxin induced
- Neurological origins
- Oncology origins
- Pregnancy (i.e., Eclampsia)
- Psychological disorders
- Stroke
- Viral origins

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- bG <60mg/dL:
  Diabetic Emergencies | Hypo & Hyperglycemia Guideline

Advanced Life Support Actions/Considerations:

- *bG Normal, Not Pregnant:*
  Midazolam 2.5 – 5.0mg IV/IO; may repeat q 10minutes PRN
  - Pediatric: 0.1mg/kg IV/IO

    PEARL | *Pediatric maximum dose IV/IO 2mg*

  or

  Midazolam 5.0mg IM/IN; may repeat q 10minutes PRN
  - Pediatric: Midazolam 0.2mg/kg IM/IN

    PEARL | *Pediatric maximum dose 5mg*

- *bG Normal, Mid to Late Trimester Pregnancy or early post-partum phase:*
  Eclampsia Guideline

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Sepsis 2016

Differential Impressions:

- Systemic Inflammatory Response Syndrome
- Sepsis
- Severe Sepsis
- Septic Shock | Distributive Shock (MAP <65mmHg)
- Pneumosepsis
- Meningeal Sepsis
- Gastro-Intestinal Sepsis
- Septicemia
- Urosepsis
- Skin/Wound Sepsis

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline

PEARL | *Early recognition and goal-directed therapy reduces mortality*

- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and reduces Lethal Triad*

PEARL | *If hyperthermic, do not attempt to cool – fever fights the infection*

Advanced Life Support Actions/Considerations:

- CPAP 5 – 15cm/H20 PEEP

PEARL | *for SpO2 < 94%*

PEARL | *Use with caution – contraindicated for hypoperfused conditions*

- Crystalloid Resuscitation 20cc/kg, repeat PRN
  - Pediatric: Crystalloid Resuscitation 20cc/kg, repeat PRN

PEARL | *First-line therapy for hypotension secondary to Distributive Shock – target MAP = 70mmHg*

PEARL | *Crystalloid is paramount for survival; do not withhold in normotensive patients*

PEARL | *If hyperthermic, do not attempt to cool – fever fights the infection*

- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated

PEARL | *Initiate only after 2L crystalloid infused*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

Sepsis Checklist

1. SIRS (at least 2)

- ☐ Temp. ≤ 96° **or** ≥ 100.4° F
- ☐ HR ≥ 90
- ☐ Resp. ≥ 20

3. SEVERE SEPSIS

Meets: SIRS + Infection +

- ☐ Organ dysfunction (e.g AMS, Oliguria, Mottling…)

2. SEPSIS

Meets: SIRS +

- ☐ Infection (documented or suspected)

4. SEPSIS SHOCK

Meets: SIRS + Infection + Organ dysfunction +

- ☐ Hypotension (SBP < 90 or MAP < 65)

ADULT RX

- ☐ Consider CPAP SpO2 < 92%
- ☐ **Normal Saline 20 mL/ kg** rapid infusion
  - ☐ **Repeat**
- ☐ Epi 0.1- 0.5 mcg/kg/min for hypo-perfusion

PEDI RX

- ☐ Consider CPAP SpO2 < 92%
- ☐ **Normal Saline 20 mL/ kg** rapid infusion
  - ☐ **Repeat**
- ☐ Epi 0.1-1 mcg/kg/min for hypo-perfusion

- ☐ **FLUID RESUSITATION IS PARAMOUNT!**
- ☐ Avoid aggressive cooling measures
- ☐ Warming measures for hypothermic patients
- ☐ Clearly communicate "SEPSIS" to receiving facility
- ☐ Your patient does NOT need to be febrile to be septic!

Stroke 2016

Differential Impressions:

- Ischemic
- Transient Ischemic
- Large Vessel Thrombotic
- Small Vessel Thrombotic
- Hemorrhagic

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- bG <60mg/dL:
  Diabetic Emergencies | Hypo & Hyperglycemia Guideline
- Perform Cincinnati Stroke Scale Assessment

PEARL | *Acutely positive = Stroke Alert*

Advanced Life Support Actions/Considerations:

- Perform Lee County Stroke Triage Checklist

PEARL | *Stroke facility based upon the clinical differential (Primary versus Comprehensive Stroke Center) as determined by the Lee County Stroke Triage Checklist*

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

PEARL | *Crystalloid Resuscitation is aimed at maintaining cerebral perfusion*

- Nausea | Vomiting Management Guideline as necessary/indicated

PEARL | *Antiemetic therapy is aimed at reducing intracranial pressure*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Intentionally blank pending future development of the Florida DoH BEMS Stroke Checklist

Differential Impressions:

- Opioid Ingestion (Opium, Heroin, Codeine, Codones, Meperidine, Methadone, etc.)
- Sedative-Hypnotic Ingestion (Benzodiazepines, GHB, Antihistamines, Alcohol, Barbiturates, etc.)
- Cholinergic Exposure (Organophosphates, Nerve Agents, Mushrooms, etc.)
- Anticholinergic Ingestion (Antihistamines, Tricyclics, Phenothaiazines, Antidiarrheals, etc.)
- Sympathomimetic Ingestion (Cocaine, Ampehtamines, Methamphetamines, Ecstasy, MDPV, etc.)
- Hallucinogen Ingestion (PCP, LSD, Cannabinoids, Ecstasy, Flakka, Bath Salts, etc.)
- Toxic Inhalation (Smoke, Cyanide, etc.)
- Alkali
- Poly-Pharmacologic

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Patient Restraint Guideline

PEARL | *Patients must be adequately controlled prior to loading and transporting*

PEARL | *Patients shall not be packaged or transported prone, hog-tied or in any position that may impede pulmonary function*

- Refer to Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
- Dermal Decontamination as necessary/indicated
- Contact Poison Control for consultation: **Poison Control Center 1-800-222-1222**

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

PEARL | *For the majority of Toxidromes, the solution to pollution is dilution*

PEARL | *Crystalloid may be repeated as necessary/indicated*

- Consider CPAP 5 – 15cm/H20 PEEP
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

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- Opioid (Narcotic):
  Naloxone 0.5mg IV/IO/IM/IN; may repeat q 5minutes PRN until respiratory depression is improved
  - Pediatric: 0.1mg/kg IV/IO/IM/IN; maximum dose 2mg

PEARL | *Primary indication for Naloxone: respiratory depression unmanageable with non-invasive airway/ventilation/oxygenation techniques*

PEARL | *Naloxone is contraindicated in patients with or planned advanced airway placement and in cardiopulmonary arrest states*

- Sedative-Hypnotic:
  Supportive Therapy

- Hallucinogen:
  Excited Delirium Syndrome Guideline

- Cholinergic:
  Atropine 1 – 2mg IV q 5minutes till resolved
  PEARL | *For SLUDGEM – No maximum dose*

- Anticholinergic:
  Sodium Bicarbonate 1mEq/kg IV/IO
  PEARL | *For Tricyclic Overdose with heart rate >120bpm & QRS >100ms*

- Sympathomimetic:
  Midazolam 2mg IV/IO/IM/IN may repeat q 5minutes PRN until heart rate & blood pressure normalize
  PEARL | *For hyperadrenergic states with heart rate >120bpm*

- Beta-Blocker:
  Glucagon 1mg IV/IO

- Toxic Inhalation:
  Burn | Electrocution | Smoke Inhalation Guideline

- Dystonic Reactions/Extrapyramidal Symptoms:
  Diphenhydramine 50mg IV/IM

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Blunt Force Trauma

2016

Differential Impressions:

- Falls
- Motor Vehicle Crash
- Pedestrian
- Battery
- Hanging
- Other Impact Injury

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Spinal Motion Restriction Guideline
  - Pediatric: Spinal Motion Restriction Guideline
- Hemorrhage Control:

  Direct Pressure
  - Pediatric: Direct Pressure

  Pressure Dressing
  - Pediatric: Pressure Dressing

  Tourniquet
  - Pediatric: Tourniquet
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

  PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and mitigates Lethal Triad*
- Pelvic Splinting as necessary/indicated
  - Pediatric: Pelvic Splinting as necessary/indicated
- Extremity Splinting as necessary/indicated
  - Pediatric: Extremity Splinting as necessary/indicated
- Perform Trauma Triage Criteria & Methodology Assessment Checklist

  PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*
  - Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

  PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

- Pleural Needle Decompression as necessary/indicated
  - Pediatric: Pleural Needle Decompression as necessary/indicated
- Crystalloid Resuscitation IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation IV/IO as necessary/indicated

  PEARL | *Perfusion target: permissive hypotension; peripheral pulses present – restrict crystalloid*
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Pericardiocentesis as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Penetrating Trauma | 2016

Differential Impressions:

- Gunshot Wound
- Stab Wound
- Impalement
- Other Sharp Force Injury

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Hemorrhage Control:
  Direct Pressure
  - ➢ Pediatric: Direct Pressure

  Pressure Dressing
  - ➢ Pediatric: Pressure Dressing

  Tourniquet
  - ➢ Pediatric: Tourniquet

  Occlusive Dressing
  - ➢ Pediatric: Occlusive Dressing
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - ➢ Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

  PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and mitigates Lethal Triad*
- Extremity Splinting as necessary/indicated
  - ➢ Pediatric: Extremity Splinting as necessary/indicated
- Perform Trauma Triage Criteria & Methodology Assessment Checklist

  PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*
  - ➢ Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

  PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

- Pleural Needle Decompression as necessary/indicated
  - ➢ Pediatric: Pleural Needle Decompression as necessary/indicated
- Crystalloid Resuscitation IV/IO as necessary/indicated
  - ➢ Pediatric: Crystalloid Resuscitation IV/IO as necessary/indicated

  PEARL | *Perfusion target: permissive hypotension; peripheral pulses present – restrict crystalloid*
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - ➢ Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Pericardiocentesis as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - ➢ Pediatric: Pericardiocentesis as necessary/indicated

Isolated Closed Head & Traumatic Brain Injury | 2016

Differential Impressions:

- Isolated Closed Head Injury
- Traumatic Brain Injury
- Subdural Hematoma
- Epidural Hematoma
- Intracranial Hemorrhage

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Spinal Motion Restriction Guideline
  - Pediatric: Spinal Motion Restriction Guideline
- Hemorrhage Control:
  Direct Pressure
  - Pediatric: Direct Pressure

  Pressure Dressing
  - Pediatric: Pressure Dressing
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and reduces Lethal Triad*

- Perform Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*

  - Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg IV/IO; repeat PRN
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO; repeat PRN

PEARL | *First-line therapy for hypotension to reduce secondary brain insult*

- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Nausea | Vomiting Management Guideline as necessary/indicated
  - Pediatric: Nausea | Vomiting Management Guideline as necessary/indicated

PEARL | *Antiemetic therapy is aimed at reducing intracranial pressure*

- Seizure Guideline as necessary/indicated
  - Pediatric: Seizure Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

PEARL | *Second-line therapy for hypotension to reduce secondary brain insult – target MAP = 70mmHg*

Isolated Spinal Cord Injury | 2016

Differential Impressions:

- Isolated Spinal Cord Injury
- Neurogenic Shock
- Spinal Shock
- Complete & Incomplete Cord Injury
- Central Cord Syndrome
- Anterior Cord Syndrome
- Posterior Cord Syndrome
- Brown-Séquard Syndrome

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Spinal Motion Restriction Guideline
  - Pediatric: Spinal Motion Restriction Guideline
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and mitigates Lethal Triad*

- Perform Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*

  - Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg IV/IO; repeat PRN
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO; repeat PRN

PEARL | *First-line therapy for hypotension secondary to Distributive Shock*

- Atropine 0.5mg IV/IO; repeat x1
  - Pediatric: Atropine 0.02mg/kg IV/IO; repeat x1 (minimum dose 0.1mg/maximum dose 0.5mg)

PEARL | *Second-line therapy for hemodynamically significant bradycardia*

- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Nausea | Vomiting Management Guideline as necessary/indicated
  - Pediatric: Nausea | Vomiting Management Guideline as necessary/indicated

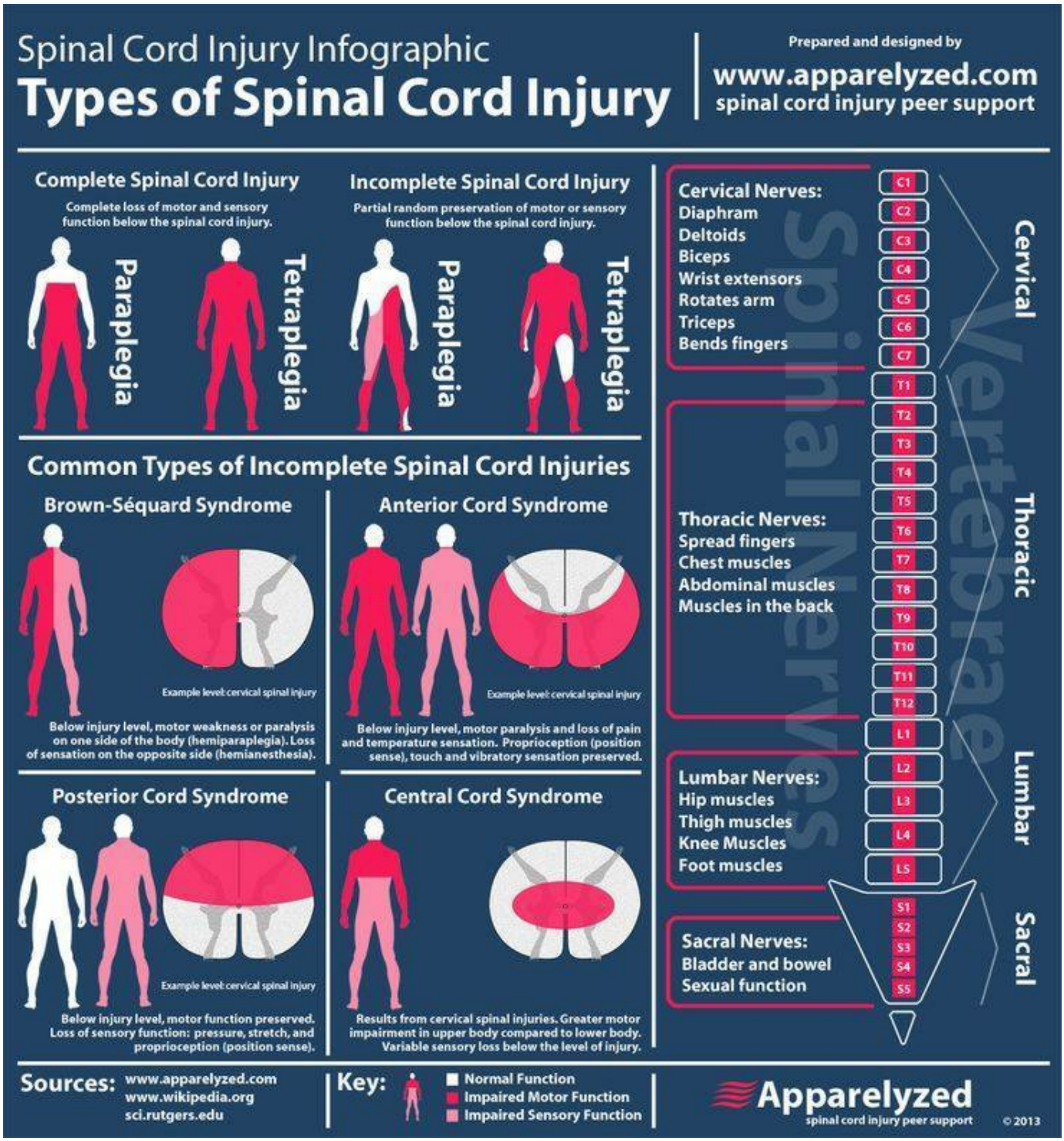
PEARL | *Antiemetic therapy is aimed at reducing airway compromise from vomiting*

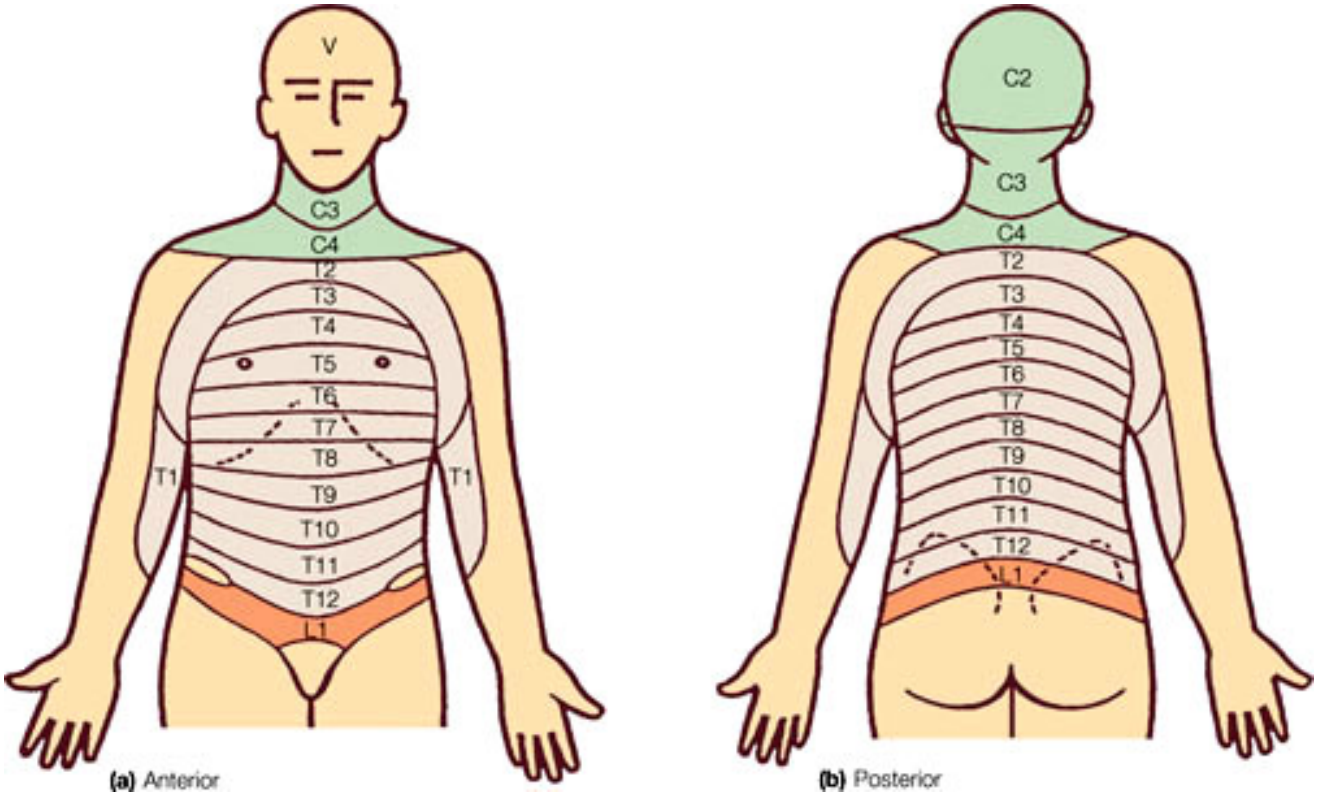
- Seizure Guideline as necessary/indicated
  - Pediatric: Seizure Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 1mcg/kg/min IV/IO Infusion

PEARL | *Third-line therapy for hypotension secondary to Distributive Shock – target MAP = 70mmHg*


Spinal Cord Injury Infographic
Types of Spinal Cord Injury
Prepared and designed by
www.apparelyzed.com
spinal cord injury peer support
Complete Spinal Cord Injury
Complete loss of motor and sensory function below the spinal cord injury.
Paraplegia
Tetraplegia
Incomplete Spinal Cord Injury
Partial random preservation of motor or sensory function below the spinal cord injury.
Paraplegia
Tetraplegia
Common Types of Incomplete Spinal Cord Injuries
Brown-Séquard Syndrome
Example level: cervical spinal injury
Below injury level, motor weakness or paralysis on one side of the body (hemiparaplegia). Loss of sensation on the opposite side (hemianesthesia).
Anterior Cord Syndrome
Example level: cervical spinal injury
Below injury level, motor paralysis and loss of pain and temperature sensation. Proprioception (position sense), touch and vibratory sensation preserved.
Posterior Cord Syndrome
Example level: cervical spinal injury
Below injury level, motor function preserved. Loss of sensory function: pressure, stretch, and proprioception (position sense).
Central Cord Syndrome
Results from cervical spinal injuries. Greater motor impairment in upper body compared to lower body. Variable sensory loss below the level of injury.
Cervical Nerves:
Diaphram
Deltoids
Biceps
Wrist extensors
Rotates arm
Triceps
Bends fingers
Thoracic Nerves:
Spread fingers
Chest muscles
Abdominal muscles
Muscles in the back
Lumbar Nerves:
Hip muscles
Thigh muscles
Knee Muscles
Foot muscles
Sacral Nerves:
Bladder and bowel
Sexual function
Spinal Nerves
Vertebrae
C1 C2 C3 C4 C5 C6 C7
T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12
L1 L2 L3 L4 L5
S1 S2 S3 S4 S5
Cervical
Thoracic
Lumbar
Sacral
Sources: www.apparelyzed.com
www.wikipedia.org
sci.rutgers.edu
Key:
Normal Function
Impaired Motor Function
Impaired Sensory Function
Apparelyzed
spinal cord injury peer support
© 2013


V
C3
C4
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
L1
T1
T1
(a) Anterior
C2
C3
C4
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
L1
(b) Posterior

Burn | Electrocution | Smoke Inhalation 2016

Differential Impressions:

- Burns (Thermal, Chemical, Electrical, Radiation)
- Electrocution (AC, DC)
- Smoke Inhalation
- Toxic Fume Inhalation

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Spinal Motion Restriction Guideline
  - Pediatric: Spinal Motion Restriction Guideline

PEARL | *Electrocutions may be coupled with Blunt Force Trauma*

- Hemorrhage Control:

  Direct Pressure
  - Pediatric: Direct Pressure

  Pressure Dressing
  - Pediatric: Pressure Dressing

  Tourniquet
  - Pediatric: Tourniquet
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Burns = hypothermia – Hibler's Method preserves body heat and mitigates Lethal Triad*

- Burn Care:

  <15% BSA – Stop the burning process, WaterJel Dressing
  - Pediatric: <15% BSA – Stop the burning process, Waterjel Dressing

  >15% BSA – Stop the burning process, Dry Dressing
  - Pediatric: >15% BSA – Stop the burning process, Dry Dressing

  Remove jewelry and constricting items
  - Pediatric: Remove jewelry and constricting items

PEARL | *Critical Burns: All burns >25% BSA; 3° burns >10% BSA; 2° and 3° burns to the face, eyes, hands, feet or genitalia; inhalation burns; burns with extremes of age or co-morbidities; electrical burns.*

- Extremity Splinting as necessary/indicated
  - Pediatric: Extremity Splinting as necessary/indicated
- Perform Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*

  - Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

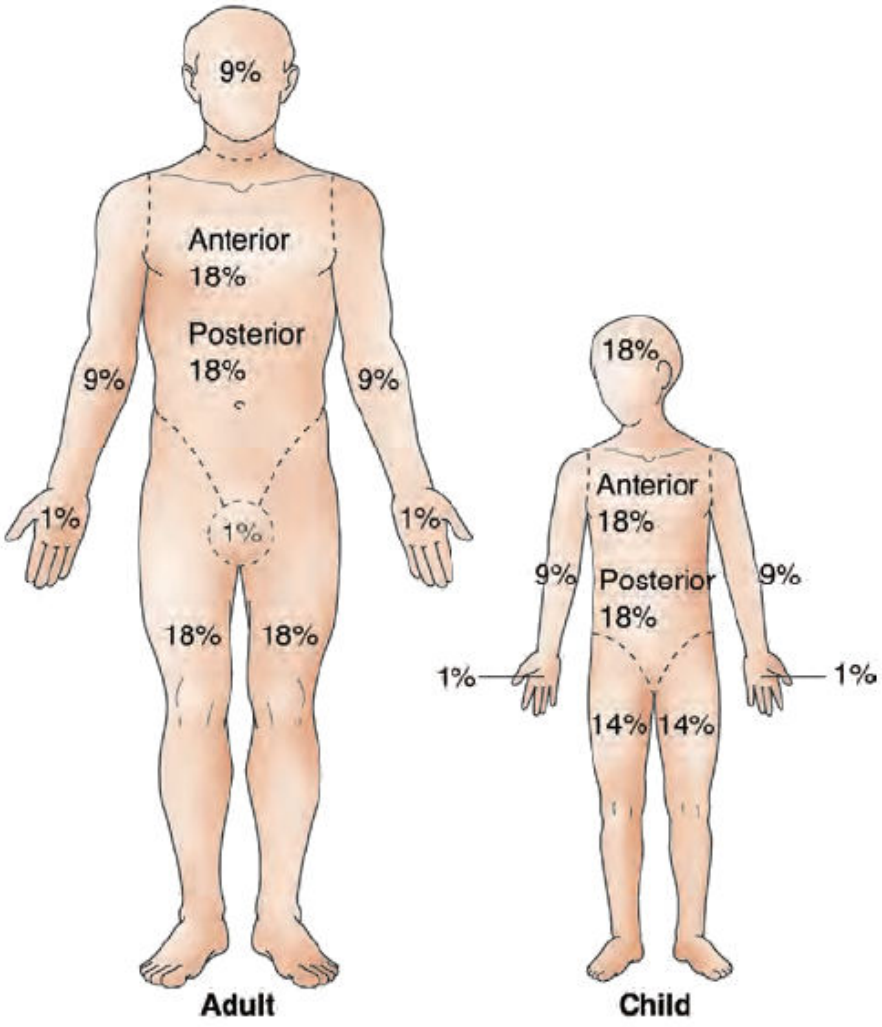
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated

(continued)

- High Voltage Electrical Injury or Direct Lightning Strike with significant tissue destruction:
  Sodium Bicarbonate 1mEq/kg IV/IO
  - Pediatric: Sodium Bicarbonate 1mEq/kg IV/IO
- Smoke Inhalation:
  Reactive Airway Disease Guideline
  - Pediatric: Reactive Airway Disease Guideline
- Smoke Inhalation, Carbon Monoxide or Cyanide Toxicity:
  Cyanokit 5gm (1 Kit) IV/IO over 15minutes

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - Pediatric: Cyanokit 70mg/kg IV/IO over 15minutes



Amputation | Blast | Crush Injury

2016

Differential Impressions:

- Explosion
- Structural Collapse
- Amputations
- Crush Injury Syndrome

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Spinal Motion Restriction Guideline
  - Pediatric: Spinal Motion Restriction Guideline

PEARL | *Blast injuries may be coupled with primary and secondary Blunt Force Trauma*

PEARL | *Crush injuries may be coupled with Blunt Force Trauma*

- Hemorrhage Control:

  Direct Pressure
  - Pediatric: Direct Pressure

  Pressure Dressing
  - Pediatric: Pressure Dressing

  Tourniquet
  - Pediatric: Tourniquet
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and reduces Lethal Triad*

- Burn | Electrocution | Smoke Inhalation Guideline as necessary/indicated
  - Pediatric: Burn | Electrocution | Smoke Inhalation Guideline as necessary/indicated

PEARL | *Burns may be coupled with Blast Injury*

- Pelvic Splinting as necessary/indicated
  - Pediatric: Pelvic Splinting as necessary/indicated

PEARL | *Blast injuries may be coupled with primary and secondary Blunt Force Trauma*

PEARL | *Crush injuries may be coupled with Blunt Force Trauma*

- Extremity Splinting as necessary/indicated
  - Pediatric: Extremity Splinting as necessary/indicated
- Perform Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, GCS <12 or Paramedic Discretion = Trauma Alert*

  - Pediatric: Perform Pediatric Trauma Triage Criteria & Methodology Assessment Checklist

PEARL | *1 Red, 2 Blue, Altered Mental Status or Paramedic Discretion = Trauma Alert*

Advanced Life Support Actions/Considerations:

- Pleural Needle Decompression as necessary/indicated
  - Pediatric: Pleural Needle Decompression as necessary/indicated
- Crystalloid Resuscitation IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation IV/IO as necessary/indicated

PEARL | *Perfusion target: permissive hypotension; peripheral pulses present – restrict crystalloid*

- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
- Sodium Bicarbonate 1mEq/kg IV/IO
  - Pediatric: Sodium Bicarbonate 1mEq/kg IV/IO

PEARL | *For Crush Injury Syndrome >4 hours - alkalinizes urine, controls hyperkalemia and acidosis*

Isolated Eye Injury

2016

Differential Impressions:

- Foreign Body/Substance (not embedded)
- Foreign Body (impaled object)
- Corneal Abrasion
- Lacerated Globe
- Global Rupture
- Protruding Eye
- Orbital Fracture
- Retinal Artery Occlusion

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Foreign Body/Substance (not embedded) & Corneal Abrasion:
  Normal Saline Irrigation 2L or 20 minutes

  PEARL | *Remove any caustic powder prior to irrigation*

  Tetracaine 2gtts q 10 minutes
  - Pediatric: Tetracaine 2gtts q 10 minutes

  PEARL | *Tetracaine is contraindicated in open globe injuries*

- Foreign Body (impaled object), Globe Injury and/or Protruding Eye:
  i. Shield or cup dress affected eye
  ii. Consider loose cover to unaffected eye to reduce eye movement
  iii. Protect loss of fluids: apply saline moistened dressing as necessary
  iv. Consider C-Collar to reduce head movement
  v. Elevate stretcher head

  PEARL | *Tetracaine is contraindicated in open globe injuries*

- Orbital Fracture and Retinal Artery Occlusion
  i. Shield or cup dress affected eye
  ii. Consider loose cover to unaffected eye to reduce eye movement
  iii. Consider C-Collar to reduce head movement
  iv. Elevate stretcher head

  PEARL | *Tetracaine is contraindicated in open globe injuries*

Advanced Life Support Actions/Considerations:

- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Nausea & Vomiting Management Guideline as necessary/indicated

  PEARL | *Antiemetic therapy is aimed at reducing intraocular pressure*
- Crystalloid Resuscitation IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation IV/IO as necessary/indicated

PEARL | *Perfusion target: permissive hypotension; peripheral pulses present – restrict crystalloid*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Adult Trauma Triage Criteria & Methodology

The EMT or paramedic shall assess the condition of those injured persons with anatomical and physiological characteristics of a person sixteen (16) years of age or older for the presence of at least one of the following four (4) criteria to determine whether to transport as a trauma alert. These four criteria are to be applied in the order listed, and once any one criterion is met that identifies the patient as a trauma alert; no further assessment is required to determine the transport destination.

Criteria:

- ☐ **1.** Meets color-coded triage system (see below)
- ☐ **2.** GCS ≤ 12 (Patient must be evaluated via GCS if not identified as a trauma alert after application of criterion 1.)
- ☐ **3.** Meets local criteria (specify): _____
- ☐ **4.** Patient does not meet any of the trauma criteria listed above but, in the judgment of the EMT or paramedic, should be transported as a trauma alert (document)_____

_____

COMPONENT		
AIRWAY	RESPIRATORY RATE OF 30 or GREATER ☐ B	ACTIVE AIRWAY ASSISTANCE[1] ☐ R
CIRCULATION	SUSTAINED HR OF 120 BEATS PER MINUTE or GREATER ☐ B	LACK OF RADIAL PULSE WITH SUSTAINED HEART RATE (>120) or BP <90 mmHg ☐ R
BEST MOTOR RESPONSE	BMR =5 ☐ B	BMR = 4 or LESS or PRESENCE OF PARALYSIS, or SUSPICION OF SPINAL CORD INJURY or LOSS OF SENSATION ☐ R
CUTANEOUS	SOFT TISSUE LOSS[2] or GSW TO THE EXTREMETIES ☐ B	2ND OR 3RD ° BURNS TO 15% or MORE TBSA or AMPUTATION PROXIMAL TO THE WRIST or ANKLE or ANY PENETRATING INJURY TO HEAD, NECK, or TORSO[3] ☐ R
LONGBONE FRACTURE[4]	SINGLE FX SITE DUE TO MVA or FALL 10 ' or MORE ☐ B	FRACTURE OF TWO or MORE LONGBONES ☐ R
AGE	55 YEARS or OLDER ☐ B	
MECHANISM OF INJURY	EJECTION FROM VEHICLE[5] or DEFORMED STEERING WHEEL[6] ☐ B	

R = any **one (1)** - transport as a trauma alert

B = any **two (2)** - transport as a trauma alert

1. Airway assistance beyond administration of oxygen.
2. Major degloving injuries, or major flap avulsion (>5 in.)
3. Excluding superficial wounds in which the depth of the wound can be determined.
4. Longbone (Including humerus, (radius, ulna), femur, (tibia or fibula).
5. Excluding motorcycle, moped, all terrain vehicle, bicycle, or open body of a pickup truck.
6. Only applies to driver of vehicle.

Pediatric Trauma Scorecard Methodology

The EMT or Paramedic shall assess the condition of those injured individuals with anatomical and physical characteristics of a person fifteen (15) years of age or younger for the presence of one or more of the following three (3) criteria to determine the transport destination per 64E-2.001, Florida Administrative Code, (F.A.C.):

☐ **1)** Pediatric Trauma Triage Checklist: The individual is assessed based on each of the six (6) physiologic components listed below (left column). The single, most appropriate criterion for each components is selected (along the row to the right). Refer to the color-coding of each criteria and legend below to determine the transport destination:

COMPONENT			
SIZE	> 20 Kg (44+ lbs.) ☐ G	>11-20 Kg (24-44 lbs.) ☐ G	WEIGHT ≤ 11 Kg or LENGTH ≤ 33 INCHES ON A PEDIATRIC LENGTH AND WEIGHT EMERGENCY TAPE ☐ B
AIRWAY	NORMAL ☐ G	SUPPLEMENTED O_2 ☐ G	ASSISTED OR INTUBATED (1) ☐ R
CONSCIOUSNESS	AWAKE ☐ G	AMNESIA OR LOSS OF CONSCIOUSNESS ☐ B	ALTERED MENTAL STATUS (2) OR COMA or PRESENCE OF PARALYSIS OR SUSPICION OF SPINAL CORD INJURY or LOSS OF SENSATION ☐ R
CIRCULATION	GOOD PERIPHERAL PULSES; SBP > 90 mmHg ☐ G	CAROTID OR FEMORAL PULSES PALPABLE, BUT THE RADIAL OR PEDAL PULSE NOT PALPABLE or SBP < 90-mmHg ☐ B	FAINT OR NON-PALPABLE CAROTID OR FEMORAL PULSE or SBP < 50 mmHg ☐ R
FRACTURE	NONE SEEN OR SUSPECTED ☐ G	SINGLE CLOSED LONG BONE (3) FRACTURE (4) ☐ B	OPEN LONG BONE (3) FRACTURE (5) OR MULTIPLE FRACTURE SITES OR MULTIPLE DISLOCATIONS (5) ☐ R
CUTANEOUS	NO VISIBLE INJURY ☐ G	CONTUSION OR ABRASION ☐ G	MAJOR SOFT TISSUE DISRUPTION (6) OR MAJOR FLAP AVULSION OR 2^0 OR 3^0 BURNS TO ≥10% TBSA OR AMPUTATION (7) or ANY PENETRATING INJURY TO HEAD, NECK, OR TORSO (8) ☐ R

R = RED, any **one (1)**-transport as a trauma alert B = BLUE, any **two (2)** - transport as a trauma alert G = GREEN, follow local protocols

☐ **2)** Meets local criteria (specify): all pediatric trauma alert patients will be transported to the closest facility if air support is not available.

☐ **3)** Patient does not meet any of the trauma criteria listed above, but the EMT or Paramedic can call a "Trauma Alert" if, in his or her judgment, the trauma patient's condition warrants such action. Must be documented on run report pursuant to 64E-2.013, (F.A.C.)

1. Airway assistance includes manual jaw thrust, continuous suctioning, or use of other adjuncts to assist ventilatory efforts.
2. Altered mental states include drowsiness, lethargy, inability to follow commands, unresponsiveness to voice, totally unresponsive.
3. Long bones include the humerus, (radius, ulna), femur, (tibia or fibula).
4. Long bone fractures do not include isolated wrist or ankle fractures.
5. Long bone fractures do not include isolated wrist or ankle fractures or dislocations.
6. Includes major degloving injury.
7. Amputation proximal to wrist or ankle.
8. Excluding superficial wounds where the depth of the wound can be determined.

LEE COUNTY EMS TRAUMA TRANSPORT PROTOCOL

DISPATCH PROCEDURES

A. Upon receipt of any call for help that is determined to be trauma related, the Communications Operator shall solicit the following information from the caller:

1. Approximate number of patient(s) involved.
2. The location of the injured patient(s).
3. The extent and severity of the patient(s) injuries.
4. The patient(s) apparent state of consciousness.
5. The type of traumatic incident, with particular regard to the possible mechanism of injury (i.e., car vs. car, car vs. tree, explosion, gunshot, fire, etc.).

B. The Communications Operator will then dispatch the closest EMS unit along with the nearest fire department (FD) response unit to the location of the incident. The closest responding units will be determined by utilizing information derived from Lee County's Enhanced 911 /Computer- Aided Dispatch System.

C. The Lee County EMS air medical asset may be sent as an initial response ALS unit to trauma patients in remote or inaccessible areas of Lee County. These areas are determined by the information provided by the Enhanced 911 and CAD Systems at the Communications Center. Ground ALS units will be sent to all trauma calls (except as previously mentioned). Lee County EMS personnel on the scene of any trauma call, may request the helicopter, when air transport would be the quickest means for the trauma patient to arrive at the trauma center.

D. The first ALS unit arriving on scene of a trauma related incident would then advise Communications of the severity of the situation. If it is determined that it is a multi-casualty incident, (MCI = 5 or more patients) additional ALS units and an EMS Supervisor will be dispatched to the scene. Any additional requests for EMS resources will be determined by the on-scene EMS Incident Commander.

1. Should on scene personnel (lead paramedic, incident command, etc.) recognize a need for other emergency agencies (e.g. law enforcement, fire, additional EMS, air transport, or air support) they shall notify dispatch immediately. On scene personnel must identify the resources or agencies needed and the specific amount of personnel, equipment, etc. required. The communications center shall dispatch or make contact with the appropriate services (mutual aid/automatic aid). A contact list of all available emergency services is maintained and available through the Lee County Public Safety Communications Center.

E. Other emergency response agencies that may be on-scene prior to EMS (e.g., Fire Department / Law Enforcement First Responders should relay requests for additional resources through their respective On-Scene Officer / Incident Commander. The Officer/Incident Commander shall contact their Communications Operator who will place an automated ring down call to Lee Control (EMS Dispatch Center).

TRAUMA PATIENT ASSESSMENT (ADULT AND PEDIATRIC)

Triage

A. Upon arrival at the location of a trauma related incident, the EMS team will assure that each injured person (adult or pediatric) is medically assessed under the guidelines of the Lee County protocol and insure transport to the closest State Approved Trauma Center (S.A.T.C.).

B. For each injured adult patient (16 years of age or older), the EMS team will
   1. Assess the condition, determine the vital signs, and determine the Glasgow Coma Scale score.
   2. Assess the patient's condition and determine whether or not the patient meets the criteria listed on Attachment A (Adult Trauma Triage Criteria & Methodology).
   3. If the patient meets one or more of the stated criteria on Attachment A, they will identify the trauma patient as a *TRAUMA ALERT PATIENT.*

C. For each injured pediatric patient (15 years of age or younger), the EMS team will
   1. Assess the condition, determine the vital signs, and determine the Glasgow Coma Scale score.
   2. Assess the patient's condition and determine whether or not the patient meets the criteria listed on Attachment B (Pediatric Trauma Scorecard Methodology).
   3. If the patient meets one or more of the stated criteria on Attachment B, they will identify the trauma patient as a *TRAUMA ALERT PATIENT*.

D. If the condition(s) of the patient(s) exceed the resources of the EMS personnel on scene, then a request for additional assistance should be made through Lee Control. The Communications Operator will dispatch the most appropriate ALS unit (air or ground) to the scene of the incident.

TRAUMA DESTINATION REQUIREMENTS / TRAUMA TRANSPORT DESTINATION CRITERIA

Lee Memorial Hospital – Level II Trauma Center
2776 Cleveland Avenue
Ft. Myers, Fl. 33901

A. Lee Memorial Hospital - Lee Memorial Health System is the closest designated and state approved trauma center for Lee County. Lee Memorial Hospital - Lee Memorial Health System is a Level II state approved trauma center. All *TRAUMA ALERT* patient(s) adult and pediatric will be transported there unless exceptions exists as noted below.

B. Obstetrical Trauma Alert patients who are at risk for fetal distress shall be transported to Lee Memorial Hospital – Lee Memorial Health System

C. Exceptions to transporting the *TRAUMA ALERT* patient(s) to Lee Memorial Hospital - Lee Memorial Health System would be:
   1. Patient in cardiac arrest with all control measures in place.
   2. EMS crew is unable to achieve control measures and the patient will succumb to their injuries without such measures being in place before reaching the trauma center.
   3. A (closer) hospital is contacted on telemetry and agrees to assist with these control measures before continuing to transport to the trauma center (Lee Memorial Hospital - Lee Memorial Health System).
   4. If Lee Memorial Hospital – Lee Memorial Health System. is temporarily unable to provide adequate trauma care to the *Trauma Alert Patient(s)* the EMS Team may determine to transport the patient(s) to a capable hospital closest to the scene of the traumatic incident. This hospital must be contacted prior to transport and confirm that they are equipped and capable to handle the *TRAUMA ALERT* patient(s).

Other Lee County, Florida Hospitals:

Cape Coral Hospital - Lee Memorial Health System
636 Del Prado Boulevard
Cape Coral, FL 33990

Gulf Coast Medical Center - Lee Memorial Health System
13681 Doctor's Way
Fort Myers, FL 33912

Lehigh Regional Medical Center
1500 Lee Boulevard
Lehigh Acres, FL 33936

Health Park Medical Center - Lee Memorial Health System
9981 Health Park Circle
Fort Myers, FL 33908

NOTE:

All deviations or diversions are to be documented, in their entirety on the corresponding Patient Care Report (PCR) in accordance with the F.A.C. 64J - 2.

TRANSFER OF PATIENT CARE INFORMATION / DOCUMENTATION OF THE TRAUMA CALL

A. The EMS provider responsible for the patient shall ensure that a prehospital trauma alert is issued upon determining that a trauma patient meets the requirements of Rules 64J-2.004 and 64J-2.005, F.A.C. The words "trauma alert" shall be used when notifying the trauma center, or hospital that EMS is en route with a trauma alert patient. The EMS provider issuing the trauma alert shall also provide the trauma center or hospital with information required under subsection 64J-1.014(5), F.A.C., and the information listed below at the time the patient is transferred to the personnel of the receiving trauma center or hospital:
   1. Time of injury if different from the time of the call;
   2. Date of injury if different from day of call;
   3. County of injury;
   4. County of residence of patient;
   5. Cause of injury;
   6. Injury site/type;
   7. Trauma alert criteria if met as defined in Rule 64J-2.004 or 64J-2.005, F.A.C., and
   8. Protective devices if motor vehicle crash, bicycle or marine crash.

B. The information listed above shall be documented on the patient care record of the transporting unit that delivered the patient in accordance with the requirements of Rule 64J-1.001(18) and 64J-1.014, F.A.C.

C. Every patient who sustains blunt or penetrating trauma and is transported shall have a Lee County EMS Patient Care Report (PCR) completed in accordance with Lee County EMS Guidelines/Protocol, standard operating guidelines/procedures, and the F.A.C. 64J-2. Each completed PCR shall be delivered with the patient at time of disposition.

D. Any trauma patient who is pronounced dead on scene shall have a PCR completed by one of the EMS crewmembers or Supervisor. These PCRs are to be completed in accordance with the PCR manual/document and subsequent memoranda. These PCRs are to be provided to the administrative office for processing. Copies of these PCRs may be given to on-scene investigators in accordance with Lee County EMS standard operating guidelines/procedures.

NOTE:

Lee County EMS utilizes an electronic patient care reporting system. Our current receiving facilities have access to obtain and review the patient care report including the trauma alert criteria score sheet from the system. Procedures are in place and alternative mechanisms available to Lee County EMS providers to ensure continuity of care during unforeseen occurrences.

EMERGENCY INTER-FACILITY TRANSFERS

A. If an Inter-facility transfer for established *Trauma Alert Patient(s)* becomes necessary and is requested by a medical facility within Lee County, the closest EMS ambulance will be dispatched for transport of the patient(s).

B. Hendry, Glades, Collier or Charlotte County EMS may request the use of the Lee County EMS air medical asset for the transport of trauma alert patients to the trauma center in Lee County. The Lee County EMS air medical asset will be available for the transport of Trauma Alert patients when such transport will not compromise the fulfillment of the helicopter's primary responsibility to the patients of Lee County.

C. Certain patients transported to the trauma center will require rapid stabilization and transport to a specialized care hospital outside Lee County. Lee County EMS will assist in facilitating this transfer through the use of appropriate transport mechanism (ground or air).

MEDICAL DIRECTOR APPROVAL/ATTESTATION

TRAUMA TRANSPORT PROTOCOLS
MEDICAL DIRECTOR APPROVAL

I, Joseph D. Lemmons, DO, FACOEP, Medical Director for Lee County Department of Public Safety/Emergency Medical Services certify to the Division of Emergency Medical Operations that I have reviewed and approve the trauma transport protocols dated February 1, 2014.

_____ON FILE_____ _____

Signature, Lee County DPS/EMS Medical Director Date

Lee County
Southwest Florida
BOARD OF COUNTY COMMISSIONERS

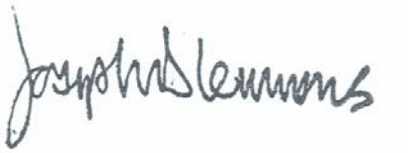
September 1, 2014 ***(Reaffirmed: February 2016)***

Division of Emergency Medical Operations
4052 Bald Cypress Way, Bin C-18
Tallahassee, Florida 32399-1738

To Whom It May Concern:

Lee County Department of Public Safety/Emergency Medical Services is approved to use the Ambu Perfit ACE adjustable cervical collar (Adult) and Ambu Mini Perfit ACE (Infant, Pediatric, and Small Adult).

Respectfully,



Joseph D. Lemmons, DO, FACOEP
Medical Director

Differential Impressions:

- Human bite
- Animal bite
- Snake bite/envenomation
- Spider bite/envenomation
- Hymenoptera bite/envenomation (ants, bees, sawflies, wasps)
- Cnidaria sting (jellyfish)
- Stringray/Catfish sting

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Human & Animal:
  Highly infectious – irrigate and dress wounds as necessary/indicated
- Snake & Spider:
  Immobilize extremity in neutral position – no ice, tourniquets, cutting or sucking injury site
- Hymenoptera
  Remove/scrape off stingers/venom sacs with a blunt-edge object (e.g., credit card or tongue depressor)
- Cnidaria:
  Remove from skin with sea water, rinse with vinegar (if available) and immerse in very warm water
- Stringray/Catfish:
  Do not remove barb – immerse in very warm water
- Allergic Reaction | Anaphylaxis Guideline as necessary/indicated
  - Pediatric: Allergic Reaction | Anaphylaxis Guideline as necessary/indicated

Advanced Life Support Actions/Considerations:

- Allergic Reaction | Anaphylaxis Guideline as necessary/indicated
  - Pediatric: Allergic Reaction | Anaphylaxis Guideline as necessary/indicated
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated
- Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
  - Pediatric: Pain | Anxiety | Procedural Sedation Management Guideline as necessary/indicated
- Nausea | Vomiting Management Guideline as necessary/indicated
  - Pediatric: Nausea | Vomiting Management Guideline as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Drowning | Submersion

2016

Differential Impressions:

- Drowning
- Submersion

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
- Reactive Airway Disease Guideline as necessary/indicated
  - Pediatric: Reactive Airway Disease Guideline as necessary/indicated

Advanced Life Support Actions/Considerations:

- CPAP 5 – 15cm/H20 PEEP
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
- Reactive Airway Disease Guideline as necessary/indicated
  - Pediatric: Reactive Airway Disease Guideline as necessary/indicated
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

PEARL | *Resuscitate cold water drowning until warm – transport*

- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated
  - Pediatric: Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion

Differential Impressions:

- Hypothermia
- Hyperthermia

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Hypothermia
  Passive External Rewarming
  Remove from cold environment, remove wet clothing
  Hibler's Method of Thermopreservation
  - Pediatric: Passive External Rewarming
  - Pediatric: Remove from cold environment, remove wet clothing
  - Pediatric: Hibler's Method of Thermopreservation

  PEARL | *Handle gently to reduce lethal arrhythmias*

- Hyperthermia
  Passive External Cooling – fans, misting, and/or ice packs to groin, axilla and neck
  Remove from hot environment, remove clothing
  - Pediatric: Passive External Cooling – fans, misting, and/or ice packs to groin, axilla and neck
  - Pediatric: Remove from hot environment, remove clothing

  PEARL | *Withdrawal cooling as core temperature approaches 100.0°F/37.7°C*

Advanced Life Support Actions/Considerations:

- Hypothermia
  Warm Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Warm Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

  PEARL | *Rough patient handling may cause ventricular fibrillation*

  PEARL | *Hypothermia is susceptible to progressive bradycardias*

- Hyperthermia
  Cool Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - Pediatric: Cool Crystalloid Resuscitation 20cc/kg IV/IO as necessary/indicated

  PEARL | *Withdrawal cooling as core temperature approaches 100.0°F/37.7°C*

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Eclampsia 2016

Differential Impressions:

- Pre-Eclampsia
- Eclampsia
- Post-Partum Eclampsia (<4weeks post partum)
- 3rd Trimester Hypertension
- 3rd Trimester Proteinuria
- 3rd Trimester Headache
- 3rd Trimester Edema
- 3rd Trimester Visual Changes
- 3rd Trimester Seizure Activity
- Early Post-Partum Seizure Activity (<4weeks post partum)

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Place in left lateral recumbent position
- bG <60mg/dL:
  Diabetic Emergencies | Hypo & Hyperglycemia Guideline as necessary/indicated

Advanced Life Support Actions/Considerations:

- *bG <60mg/dL with vascular access:*
  Diabetic Emergencies | Hypo & Hyperglycemia Guideline as necessary/indicated

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- *bG Normal, is Pregnant or early Post-Partum:*
  Magnesium Sulfate 4gm in 100cc D5W IV Infusion over 20 minutes
  PEARL | *Magnesium Sulfate is first-line therapy for* eclamptic tonic-clonic seizure activity
  or
  Magnesium Sulfate 4gm IM (2gm in each gluteus)
  PEARL | *Magnesium Sulfate is first-line therapy for* eclamptic tonic-clonic seizure activity
  or
  Midazolam 2.5 – 5.0mg IV/IO; may repeat q 10minutes PRN
  PEARL | *Midazolam is second-line therapy for eclamptic tonic-clonic seizure activity when Magnesium Sulfate is otherwise unavailable or ineffective*
  or
  Midazolam 5.0mg IM/IN; may repeat q 10minutes PRN
  PEARL | *Midazolam is second-line therapy for eclamptic tonic-clonic seizure activity when Magnesium Sulfate is otherwise unavailable or ineffective*

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Differential Impressions:

- Normal Spontaneous Vaginal Delivery
- Complicated Spontaneous Vaginal Delivery
- Stillborn Delivery
- Newborn Distress Delivery

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated
  - Pediatric: Exposure Emergencies | Hypo & Hyperthermia Guideline as necessary/indicated

PEARL | *Cold blood does not clot – Hibler's Method preserves body heat and mitigates Lethal Triad*

- Normal Delivery Procedure
  - Place the mother on a firm surface and elevate hips
  - Inspect the vaginal area for impending delivery (crowning), or any signs of abnormal presentation – prolapsed amniotic sac, limb presentation, cord presentation, or breech presentation

PEARL | *Signs of imminent delivery include: membrane rupture or bloody show, contractions, urge to move bowels and/or urge to push*

  - Apply gentle palm pressure to the infant's head to prevent explosive delivery and tearing of perineum
  - As delivery occurs, suction mouth then nose
  - If amnion is still intact as head delivers, instruct mother to stop pushing and gently tear open membrane and immediately suction mouth, then nose
  - Keep newborn warm and dry
  - Maintain the newborn at vaginal level until cord is cut
  - Clamp the cord 6 and 9 inches away from baby and cut between the clamps
  - Stimulate the newborn as necessary/indicated
  - Document the time of delivery and perform APGAR score at 1 and 5 minutes
- Complicated Delivery Procedures

Nuchal Cord:

  - Place the mother on a firm surface and elevate hips
  - Inspect the vaginal area for impending delivery (crowning), or any signs of abnormal presentation – prolapsed amniotic sac, limb presentation, cord presentation, or breech presentation
  - Apply gentle palm pressure to the infant's head to prevent explosive delivery and tearing of perineum
  - As delivery occurs, attempt to slip the umbilical cord over the newborn's head
  - If umbilical cord is too tight to maneuver, immediately clamp and cut
  - Continue with delivery, suction mouth then nose

Prolapsed Cord:

  - Do not delay transport

PEARL | *Primary objective: maintain a pulsatile umbilical cord*

  - Place the mother in Trendelenberg or knee-chest position
  - Instruct the mother to pant and not push with each contraction
  - Apply upward manual pressure through the vagina lifting the presenting newborn anatomy away

from and off the umbilical cord
- ❖ With the umbilical cord now pulsating, maintain that position and transport

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Limb Presentation:
- ❖ Do not delay transport
- ❖ Place the mother head down with pelvis elevated position
- ❖ Instruct the mother to pant and not push with each contraction
- ❖ Maintain that position, do not pull on the exposed limb and transport

---

Breech Presentation:
- ❖ Do not delay transport
- ❖ Place the mother head down with pelvis elevated position
- ❖ Instruct the mother to pant and not push with each contraction
- ❖ Deliver the anterior shoulder in a gentle, controlled fashion, then deliver the posterior shoulder and the remainder of the newborn
- ❖ As the newborn's head passes the pubis, apply gentle upward pressure until the mouth appears over the perineum and immediately suction the mouth, then nose
- ❖ If the head does not deliver, form a "V" with the index and middle finger on either side of the infant's nose.
- ❖ Push the vaginal wall from the face, maintain that position and transport

---

Postpartum Hemorrhage:
- ❖ Massage the uterus/fundus from pubis toward umbilicus

PEARL | *Do not pack vagina to arrest bleeding*
- ❖ Encourage newborn breast feeding

Newborn Distress:
- ➢ Pediatric: AHA Neonatal Cardiac Arrest Algorithm as necessary/indicated

Advanced Life Support Actions/Considerations:

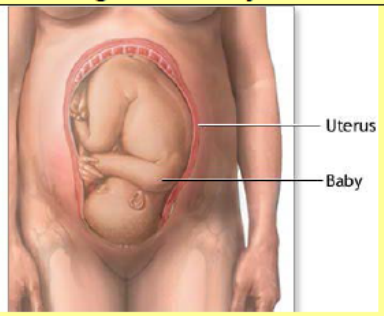
- Complicated Delivery Procedures

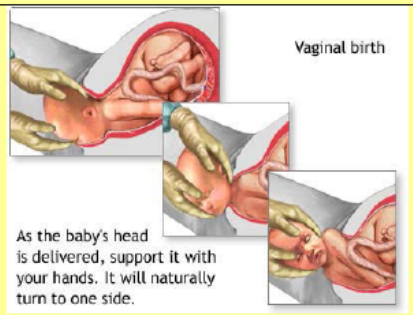
  Meconium Aspiration Syndrome:
  - ❖ If meconium is present and the newborn is not vigorous (poor muscle tone, weak respiratory effort, or heart rate <100), perform laryngoscopy and oro endotracheal tube suctioning via meconium aspirator
  - ❖ Suction until meconium is no longer present (may require repeat intubations); re-intubate with a new endotracheal tube
- Vaginal Bleeding Guideline as necessary/indicated
  - ➢ Pediatric: AHA Neonatal Cardiac Arrest Algorithm as necessary/indicated
- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
  - ➢ Pediatric: AHA Neonatal Cardiac Arrest Algorithm as necessary/indicated
- Nausea | Vomiting Management Guideline as necessary/indicated

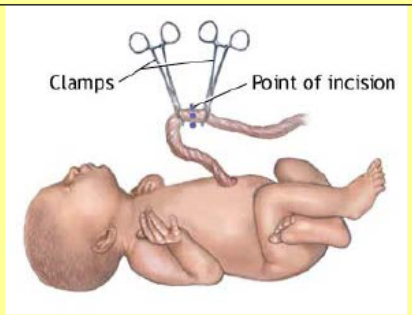
Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

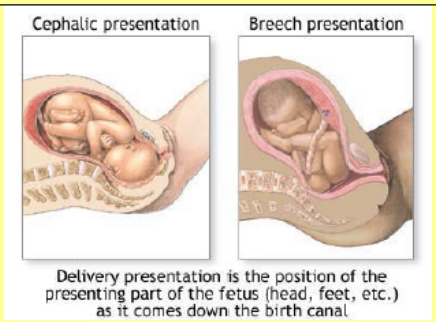
Normal vaginal delivery:

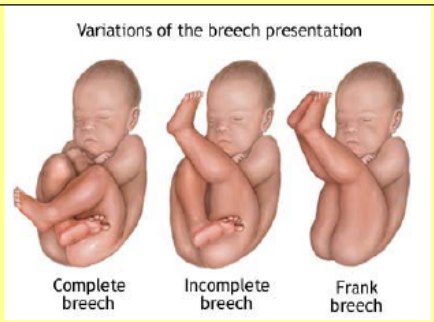


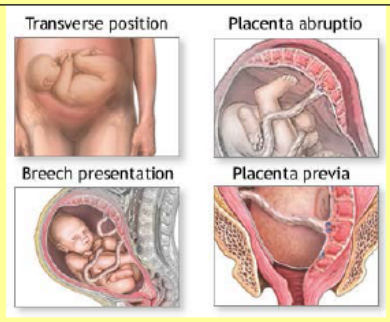


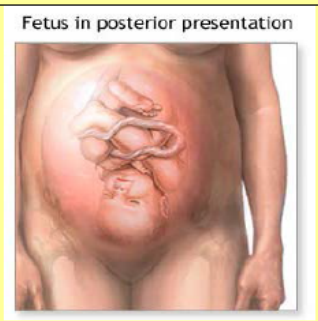


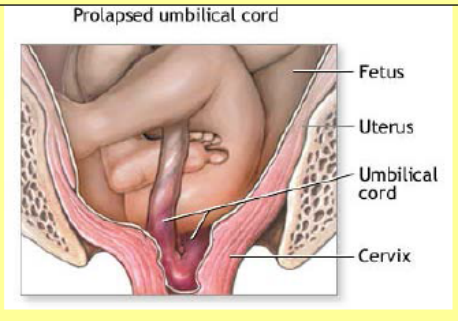
Other delivery presentations:

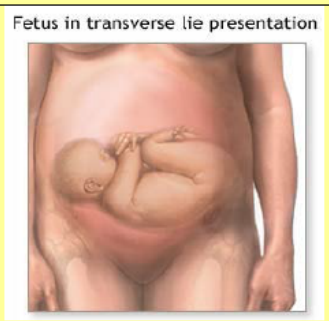












APGAR
Test Scoring

	Score 0	Score 1	Score 2	1 Minute	5 Minute
Appearance	 Blue all over	 Blue only at extremities	 No blue coloration		
Pulse	No pulse	<100 beats/min.	>100 beats/min.		
Grimace	 No response to stimulation	 Grimace or feeble cry when stimulated	 Sneezing, coughing, or pulling away when stimulated		
Activity	 No movement	 Some movement	 Active movement		
Respiration	No breathing	Weak, slow, or irregular breathing	Strong cry		
				Total:	**Total:**

Vaginal Bleeding

2016

Differential Impressions:

- Abrutio placenta
- Ectopic pregnancy rupture
- Placenta previa
- Inevitable abortion
- Spontaneous abortion
- Therapeutic abortion
- Threatened abortion
- Endometrosis
- Memorrhagia
- Postpartum hemorrhage
- Sexual battery/Vaginal trauma
- Uterine rupture

Basic Life Support Actions:

- Universal Care Guideline
- Patient Safety Guideline
- Provide emotional support

PEARL | *Any products of conception should be collected and transported with the patient*

PEARL | *In the case of a sexual battery, attempt to preserve evidence*

- If pregnant and if delivery is not imminent, transport in left lateral recumbent position
- If postpartum, massage the uterus/fundus and encourage newborn breast feeding

PEARL | *Do not pack vagina to arrest bleeding*

Advanced Life Support Actions/Considerations:

- Crystalloid Resuscitation 10cc/kg IV/IO as necessary/indicated
- Epinephrine 0.1 – 0.5mcg/kg/min IV/IO Infusion as necessary/indicated

Medical Control Actions/Orders/Requests:

- Consult as necessary/indicated

Section 300

Pharmacology Reference

Medication | Class	Indications | Contraindications	Adverse Effects
Adenosine *(Adenocard)* Antiarrhythmic	• Stable Narrow-Complex Tachycardia • Supraventricular Tachycardia • Paraoxsysmal Supraventricular Tachycardia • Known Atrial Fibrillation or Flutter • 2nd and 3rd Degree Heart Block • Sick Sinus Syndrome • Known Allergy/Hypersensitivity	• Chest Pain • Dizziness • Dyspnea • Headache • Facial Flushing • Palpitations • Transient Asystole • Nausea/Vomiting
Albuterol *(Proventil)* *(Ventolin)* Bronchodilator, Selective Beta$_2$ Agonist	• Reactive Airway Disease • Anaphylaxis • Toxic Fume Inhalation • Symptomatic Tachycardia • Ischemic Chest Pain • Known Allergy/Hypersensitivity	• Anxiety • Dizziness • Palpitations • Paradoxical Bronchospasm • Tachycardia • Tremors • Nausea/Vomiting
Amiodarone *(Cordarone)* Antiarrhythmic, Sodium, Calcium, and Potassium Channel Blocker	• Ventricular Fibrillation • Wide-Complex Tachycardia • Pulseless Ventricular Tachycardia • Hypotension • 2nd and 3rd Degree Heart Block • Congestive Heart Failure • Symptomatic Bradycardia • Known Allergy/Hypersensitivity	• AV Conduction Abnormalities • Bradycardia • Headache • Hypotension • Torsade de pointes • Nausea/Vomiting
Aspirin *(None)* NSAID, Platelet Aggregation Inhibitor, Antipyretic	• Ischemic Chest Pain • Bleeding Disorders • Gastrointestinal Bleeding • Peptic Ulcer Disease • Known Allergy/Hypersensitivity	• Anaphylaxis • Occult Bleeding • Gastrointestinal Irritation • Tinnitus • Nausea/Vomiting
Atropine Sulfate *(Atropen)* Parasympathetic Blocker, Anticholinergic	• Symptomatic Bradycardia (pulse producing) • Heart Blocks • Organophosphate Poisoning • Nerve Agent Exposure • None in Emergency Situations	• Blurred Vision • Dilated Pupils • Dizziness • Dry Mucus Membranes • Palpitations • Reflex Bradycardia • Tachycardia • Nausea/Vomiting

Medication | Class	Indications | Contraindications	Adverse Effects
Dextrose *(D10%)* *(D25%)* *(D50%)* *(InstaGlucose - oral)* Glucose, Caloric Supplement	• Hypoglycemia • Intracranial Hemorrhage • InstaGlucose: Inability to Protect Airway (swallow or manage secretions)	• Extravasation Injury • Hyperglycemia • Tissue Necrosis • Thrombophlebitis • Rebound Hypoglycemia
Diltiazem *(Cardizem)* Calcium Channel Blocker	• Atrial Fibrillation with Rapid Ventricular Response • Atrial Flutter • Refractory Paroxysmal Supraventricular Tachycardia • Hypotension/Hypoperfusion • 2nd and 3rd Degree Heart Block • Ventricular Tachycardia • Wolfe-Parkinson White Syndrome • Known Allergy/Hypersensitivity	• Asystole • Bradycardia • Dizziness • Heart Blocks • Hypotension • Nausea/Vomiting
Diphenhydramine *(Benadryl)* Antihistamine (H1), Anticholinergic, Antiemetic	• Allergic Reactions • Anaphylaxis • Motion Sickness/Nausea • Dystonia/Extrapyramidal Symptoms (EPS) • Known Allergy/Hypersensitivity	• Central Nervous System Depression • Palpitations • Tachycardia • Thickened Bronchial Secretions • Nausea/Vomiting
Epinephrine *(Adrenalin)* *(EpiPen)* *(EpiPen, Jr)* Sympathomimetic, Alpha & Beta Adrenergic Agonist	• CardioPulmonary Arrest • Anaphylaxis • Reactive Airway Disease • Pediatric Croup • Bradycardia • Shock • None in Emergency Situations	• Anxiety • Chest Pain • Headache • Palpitations • Tachycardia • Tremors • Ventricular Ectopi • Nausea/Vomiting
Fentanyl *(Sublimaze)* Narcotic Analgesic	• Pain Management • Sedation • Intoxication • Pregnancy • Stroke • Known Allergy/Hypersensitivity	• Bradycardia • Hypotension • Rigid Chest Wall Syndrome • Nausea/Vomiting

Medication | Class	Indications | Contraindications	Adverse Effects
Glucagon *(Glucagen)* Pancreatic Hormone	• Hypoglycemia without vascular access • Esophageal Food Bolus Obstruction • Beta Blocker Overdose • Calcium Channel Blocker Overdose • Known Allergy/Hypersensitivity	• Hypotension • Palpitations • Tachycardia • Nausea/Vomiting
Hydroxocobalamin *(Cyanokit)* Cyanide Poisoning Antidote	• Smoke Inhalation • Suspected or Known Cyanide Poisoning • None in Emergency Situations	• Headache • Chromaturia (Red Urine) • Erythemia/Skin Rash • Facial Flushing • Diarrhea • Nausea/Vomiting
Ipratropium Bromide *(Atrovent)* *(Duoneb – when premixed with Albuterol)* Bronchodilator, Anticholinergic	• Reactive Airway Disease • Anaphylaxis • Toxic Fume Inhalation • Known Allergy/Hypersensitivity	• Blurred Vision • Coughing • Chest Pain • Dizziness • Dry Mucus Membranes • Palpitations • Paradoxical Bronchospasm • Tachycardia • Tremors • Nausea/Vomiting
Ketamine *(Ketalar)* Dissociative Anesthetic, Sedative, Analgesic	• Excited Delirium Syndrome (ExDS) • Procedural Sedation • Known Allergy/Hypersensitivity	• Emergence Phenomenon • Hypersalivation • Laryngospasm • Transient Hypertension • Transient Tachycardia • Nausea/Vomiting
Lactated Ringer's Solution *(Lactated Ringer's Injection)* Isotonic Crystalloid	• Crystalloid Resuscitation • None in Emergency Situations	• Fluid overload • Thrombophlebitis
Lidocaine *(Xylocaine)* Anesthetic, Antiarrhythmic	• Intraosseous Anesthetic • 2nd and 3rd Degree Heart Block • Bradycardia • Known Allergy/Hypersensitivity	• Confusion • Facial Flushing • Injection Site Burning/Pain • Muscle Spasms • Seizures • Nausea/Vomiting

Medication | Class	Indications | Contraindications	Adverse Effects
Magnesium Sulfate *(none)* Intracellular Electrolyte, Calcium Channel Blocker	• Torsades de Pointes • Refractory Ventricular Tachycardia • Refractory Pulseless Ventricular Tachycardia • Reactive Airway Disease • Eclampsia Seizure • 2nd and 3rd Degree Heart Block • Patients on Digitalis • Known Allergy/Hypersensitivity	• Central Nervous System Depression • Hypotension • Respiratory Depression • Nausea/Vomiting
Methylprednisolone *(Solumedrol)* Glucocorticoid Steroid	• Reactive Airway Disease • Anaphylaxis • Known Hypersensitivity • Age <2year old	• Dizziness • Hypertension • Gastrointestinal Irritation • Vertigo • Nausea/Vomiting
Midazolam *(Versed)* Benzodiazepine, Anticonvulsant, Sedative	• Seizure Disorders • Procedural Sedation • Hypotension • Known Allergy/Hypersensitivity	• Bradycardia • Bronchospasm • Central Nervous System Depression • Laryngospasm • Hypotension • Nausea/Vomiting
Naloxone *(Narcan)* *(Evzio)* Narcotic Antagonist	• Opiate Overdose • Post Advanced Airway Management • Known Allergy/Hypersensitivity	• Withdrawal Symptoms • Cardiac Irritability • Hypothermia • Skeletal Tremors • Nausea/Vomiting
Nitroglycerin *(Nitrostat)* *(Nitrobid)* *(Nitropaste)* *(Tridal)* Vasodilator, Antianginal, Smooth Muscle Relaxant	• Acute Coronary Syndromes • Unstable Angina • STEMI • Congestive Heart Failure/Pulmonary Edema • Hypotension • Right Ventricular Infarct • Erectile Dysfunction Medication intake in the past 24 hours • Known Allergy/Hypersensitivity	• Dizziness • Facial Flushing • Headache • Hypotension • Palpitations • Nausea/Vomiting
Normal Saline Solution *(Saline 0.9% Injection)* Isotonic Crystalloid	• Crystalloid Resuscitation • None in Emergency Situations	• Fluid overload • Thrombophlebitis

Medication | Class	Indications | Contraindications	Adverse Effects
Ondansetron *(Zofran)* Antiemetic, Serotonin Antagonist	• Nausea/Vomiting • Prolonged QT Syndrome • Known Allergy/Hypersensitivity	• Hypotension • Tachycardia • Extrapyramidal Syndrome • Facial Flushing • Fever • Headache • Seizure • Prolonged QT Interval
Oxygen *(none)*	• Conditions with increased oxygen demands, respiratory distress/insufficiency, or illness or injury resulting in impaired ventilation and/or perfusion • Nitrogen Wash-Out for Airway Management • None in Emergency Situations	• Respiratory Depression in COPD
Pralidoxine *(2-Pam)* *(Protopam Chloride)* *(Duodote – when premixed with Atropine)* Nerve Agent Antidote	• Nerve Agent Exposure • Organophosphate Poisoning • None in Emergency Situations	• Blurred Vision • Dilated Pupils • Dizziness • Dry Mucus Membranes • Palpitations • Tachycardia • Nausea/Vomiting
Sodium Bicarbonate *(none)* Alkanlinizing Buffer Agent	• CardioPulmonary Arrest • Metabolic Acidosis • Tricyclic Overdose • Known Hyperkalemia • Alkalosis	• Metabolic Acidosis • May crystallize in IV solutions when mixed with Epinephrine
Tetracaine *(Tetravisc)* Ocular Anesthetic	• Eye Irritation • Eye Foreign Body/Substance • Corneal Abrasion • Open Globe Injury • Known Allergy/Hypersensitivity	• Ocular burning sensation • Ocular redness • Ocular tearing
Thiamine *(Vitamin B1)* Carbohydrate Metabolite	• Adults with evidence of alcohol abuse or signs of malnourishment prior to the administration of Dextrose • Known Allergy/Hypersensitivity	• None

Section 400

Clinical Procedures

Procedures & Scope-of-Practice 2016

Category	Procedure	Reference	Scope of Practice
Airway	Airway Maneuvers: Manual	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Airway Positioning: Head/Truncal	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Airway Suctioning	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Airway Adjuncts: Nasopharyngeal	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Airway Adjuncts: Oropharyngeal	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Supra Glottic Airway: LMA (i-gel)	http://us.intersurgical.com/info/igel-emergency-medicine	BLS
	Supra Glottic Airway: King Tube	http://www.georgiadogs.com/ot/sports-medicine/files/2012_EAPs/king_ltd_detailed_guide.pdf	BLS
	Supra Glottic Airway: Combitube	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Foreign Body Airway Obstruction: Heimlich	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Foreign Body Airway Obstruction: Forceps	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Laryngosocpy: Direct	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Laryngoscopy: Video	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Endotracheal Intubation: Nasal	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Endotracheal Intubation: Oral	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Endotracheal Intubation: Stoma	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Cricothyrotomy: Surgical	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Cricothyrotomy: Needle	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Airway Extubation	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
Breathing	Oxygen Delivery Adjuncts	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Ventilation: CPAP	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Ventilation: PEEP	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	ALS
	Ventilation: BVM	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_015.pdf	BLS
	Ventilation: Automated	http://otwo.com/hand-held-automatic-ventilators-resuscitators/carevent-als/	BLS
	Pleural Decompression: Needle	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_042.pdf	ALS
Circulation	CPR: Manual	https://eccguidelines.heart.org/index.php/circulation/cpr-ecc-guidelines-2/	BLS
	CPR: Mechanical (ZOLL AutoPulse)	http://www.zoll.com/medical-products/cardiac-support-pump/autopulse/	BLS
	CPR: Mechanical (Physio-Control LUCAS)	http://www.physio-control.com/WCProductDetails.aspx?id=2147484788	BLS
	Defibrillation: Manual	ZOLL | Physio-Control | Philips | Cardiac Science	ALS
	Defibrillation: Automated	ZOLL | Physio-Control | Philips | Cardiac Science	BLS
	Cardioversion: Synchronized	ZOLL | Physio-Control | Philips	ALS
	Transcutaneous Pacing	ZOLL | Physio-Control | Philips	ALS
	LVAD Maintenance	Manufacturer Specific	ALS
	Vagal/Valsalva Maneuver	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_022.pdf	ALS
	Pericardiocentesis	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_042.pdf	ALS
	Hemorrhage Control: Direct Pressure	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
	Hemorrhage Control: Pressure Dressing	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
	Hemorrhage Control: Hemostatic	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
	Hemorrhage Control: Occlusive	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_042.pdf	BLS

	Hemorrhage Control: Tourniquet	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
	Vascular Access: IV Peripheral	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ILS
	Vascular Access: IV External Jugular	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ALS
	Vascular Access: IO Peripheral	http://www.teleflex.com/en/usa/ezioeducation/index.html	ALS
	Medication Administration: IV/IO	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ALS
	Medication Administration: IM	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ALS
	Medication Administration: SQ	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ALS
	Medication Administration: PO	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_014.pdf	ALS
Disability	Musculoskeletal: Cervical Spine Restriction	Lee County | Spinal Motion Restriction Guideline	BLS
	Musculoskeletal: Spinal Immobilization	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_041.pdf	BLS
	Musculoskeletal: Extremity Splinting	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_044.pdf	BLS
	Musculoskeletal: Traction Splinting	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_044.pdf	BLS
	Musculoskeletal: Pelvic Splinting	http://www.sammedical.com/products/sam-pelvic-sling-ii/	BLS
	Soft Tissue: General Wound Care	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
	Soft Tissue: Burn Care	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_039.pdf	BLS
	Soft Tissue: Irrigation	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_038.pdf	BLS
Exposure	Cooling	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_045.pdf	BLS
	Warming	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_045.pdf	BLS
	OB: Childbirth	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_046.pdf	BLS
	OB: Post Partum Care	http://ems.jbpub.com/sanders/paramedic/docs/PPT_Lectures/Chapter_046.pdf	BLS