

# Region V BLS Prehospital Treatment Protocols

Region Five Medical Directors

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# Communication Protocol

## ONLINE MEDICAL OVERSIGHT

If transporting within Region V, prehospital providers will contact the receiving facility to obtain Online Medical Oversight. If transporting outside Region V, the treating provider's sponsor hospital will be contacted. All prehospital providers will establish Online Medical Oversight via a recorded line. All communications between the prehospital provider and Online Medical Oversight will be via CMED. If the CMED radio system is not functioning, call the CMED center directly, and request a conference call or phone patch.

## COMMUNICATION FAILURE

In the event of complete communication failure, these protocols will act as the parameters for prehospital patient care. If a communication failure occurs, the prehospital provider will follow these protocols to render appropriate and timely emergency care to the patient.

Upon arrival at the receiving facility, the EMS provider will immediately complete an incident report relating to the communication failure, describing the events including the patient's condition and treatment given. This incident report must be filed with the prehospital provider's sponsor hospital EMS Medical Director and/or EMS Coordinator within 24 hours of the event. A copy of the patient's run form will also accompany the incident report.

The Northwest Connecticut Public Safety Communications Center, Inc (Northwest CMED) can be reached at (203) 758-0054

The Litchfield County Dispatch Center, Inc. (LCD) can be reached at (860) 496-0711

Charlotte Hungerford Hospital Emergency Department can be reached at (860) 496-6650  
(Charlotte Hungerford Hospital Sponsored EMS Agencies shall follow the established communication protocol)

Danbury Hospital Emergency Department can be reached at (203) 739-6757

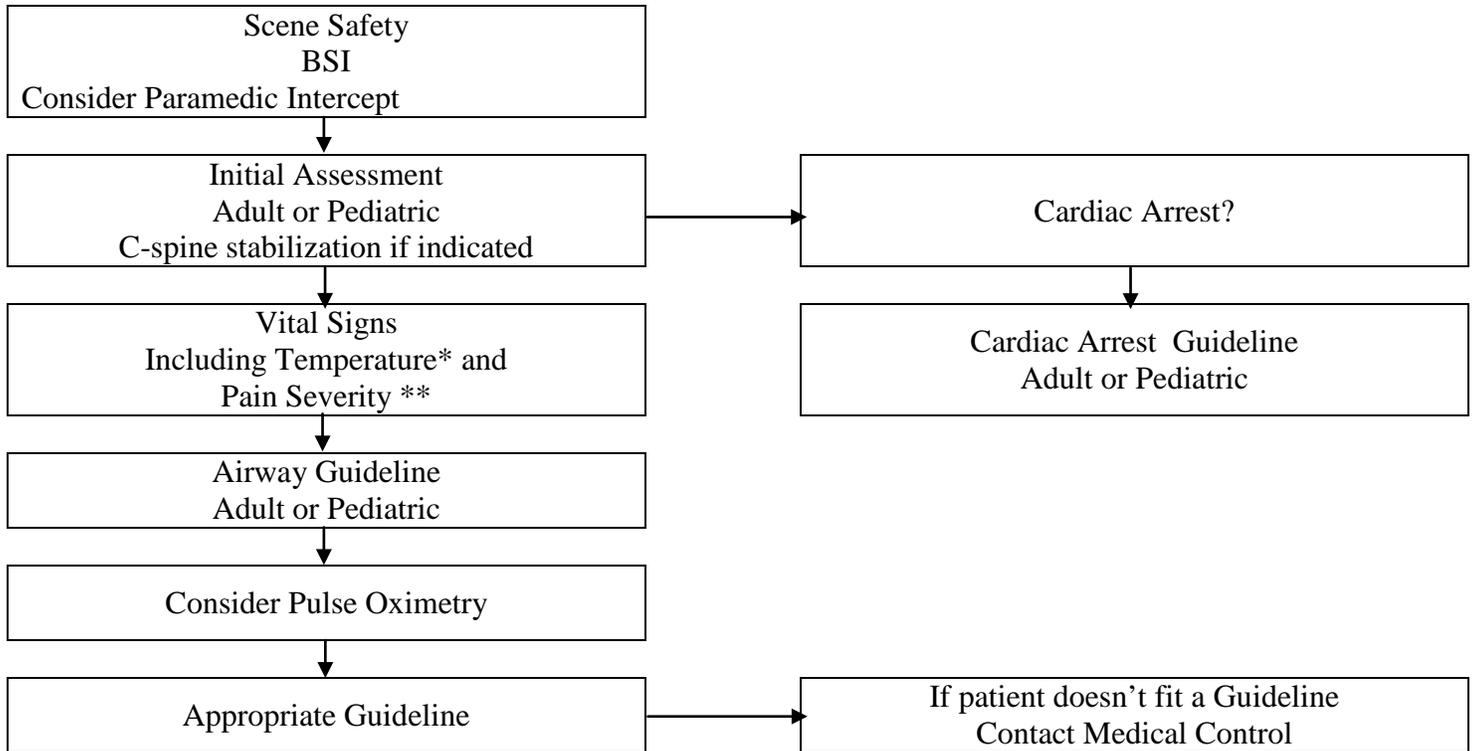
New Milford Hospital Emergency Department can be reached at (860) 201-5200

Saint Mary's Hospital Emergency Department can be reached at (203) 709-6004

Sharon Hospital Emergency Department can be reached at (860) 364-4000

Waterbury Hospital Emergency Deptment can be reached at (203) 573-6290

## Universal Patient Care Guideline

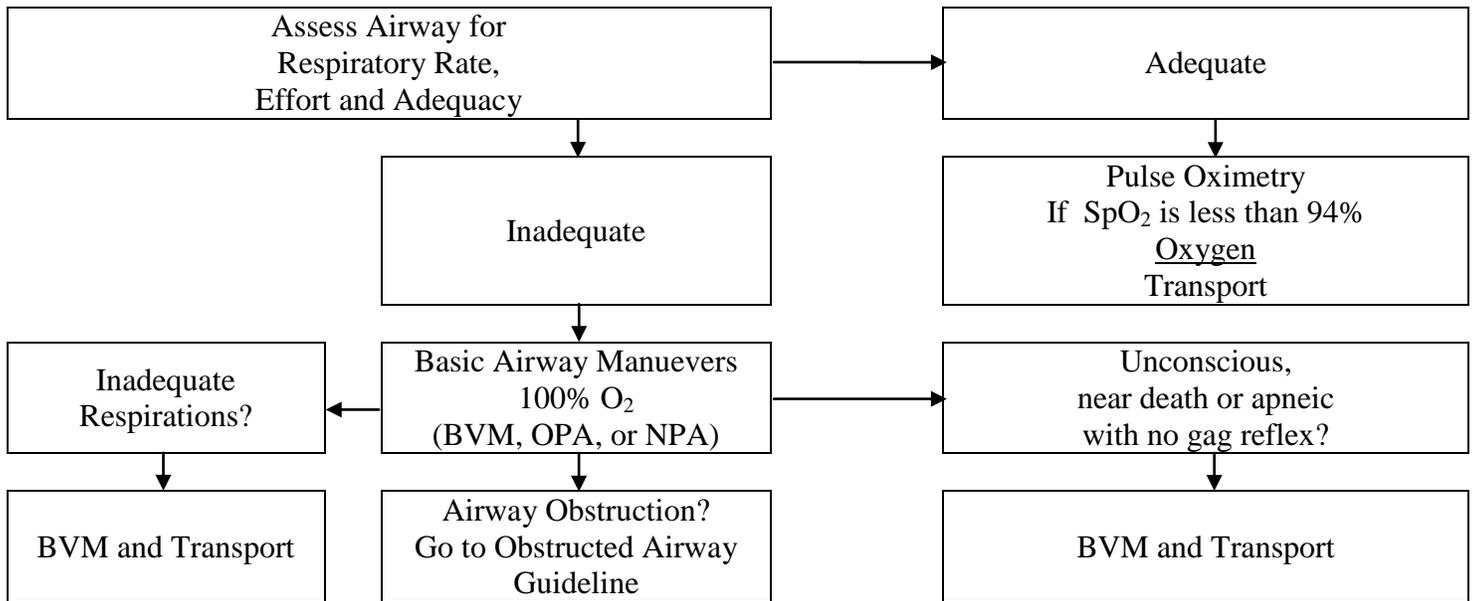


\* Temperature and pain may be either quantitative (a specific reading) or qualitative (a description, hot, cool, etc.)

\*\*Pain severity should be recorded using a pain scale as outlined in the Pain Guideline

- Any patient contact which does not result in an EMS transport must have a completed PCR.
- Minimal exam if not noted on the specific protocol is vital signs, mental status, and location of injury or complaint.
- Required vital signs on every patient include blood pressure, pulse, respirations, and pain/severity.
- Pulse oximetry and temperature documentation is dependent on the specific complaint.
- Timing of transport should be based on patient's clinical condition.

## Adult Airway Guideline



- For this protocol, adult is defined as 13 years old or greater.
- Do not assume hyperventilation is psychogenic –use oxygen, not a paper bag.
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.

# Cardiac Guidelines

## Chest Pain and Suspected Acute Coronary Syndromes

Any patient suspected of acute coronary syndrome, based on the following clinical findings:

- Chest Pain, Pressure, or Discomfort
- Radiating pain to neck, shoulder, back, or either arm
- Shortness of Breath/Difficulty Breathing
- Sweating incongruent with environment
- Abnormal heart rate
- Syncope / Near syncope
- Profound weakness
- Nausea, Vomiting
- Epigastric Pain
- Previous cardiac history
- Other cardiac risk factors (HTN, Smoker, Obesity)



Universal Patient Care Guideline  
12 Lead EKG transmission (for approved EMS Organizations)  
(Assessment of ABC's)



Acquire 12 lead EKG and transmit to Sponsor Hospital. Consult with Medical Direction at Sponsor Hospital.  
Possible Physician Orders: -Transport to STEMI Center



Request Paramedic Intercept  
Contact Receiving Hospital to advise of "Cardiac Alert" or "STEMI Alert" as appropriate.  
Attach AED pads in Anterior / Posterior positions.  
Prepare to repeat 12 Lead EKG at 10 minute intervals or change in condition



Oxygen: Oxygen Therapy if patient in respiratory distress (or SpO<sub>2</sub> is less than 94%)  
Maintain oxygen saturation of 94% - 96%



ASPIRIN: Aspirin 324 mg  
(Baby ASA PO 324mg (81mgx4) (if EMS Service is authorized)



Establish Medical Control: Possible Physician orders: The EMT may assist the pt. with prescribed Nitroglycerin (NTG) 0.4mg (1/150 gr.) sublingual or NTG spray (1) metered dose if SB/P > 100 systolic NTG may be repeated q 5 minutes to a total of 3 doses, until symptom free or SB/P ≤ 100



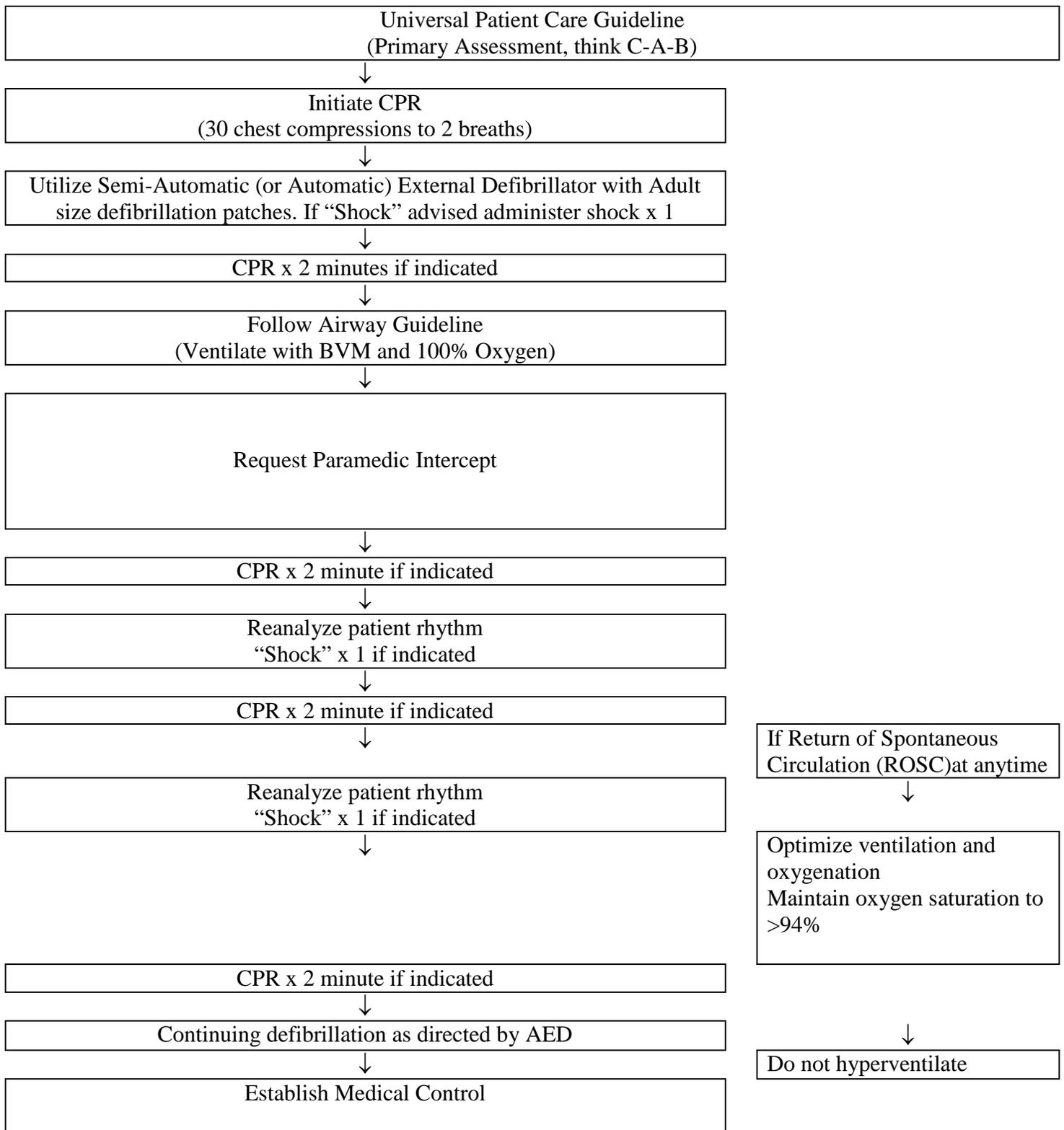
Contact Medical Control: Additional doses of the patient's own sublingual Nitroglycerin for EMTs

## Chest Pain and Suspected Acute Coronary Syndromes

### PEARLS

- Avoid ASA administration in patients with hypersensitivity to ASA
- Confirm that patient has not used erectile dysfunction meds in the past 48 hours due to the potential for severe hypotension if Nitroglycerin administered.
- If patient has taken Nitroglycerin without relief, consider potency of the medication.
- Monitor for hypotension after administration of Nitroglycerin.
- Diabetics, females and geriatric patients often have atypical pain, or only generalized complaints.
- The use of nitrates in patients with hypotension (SBP <100 mm Hg or  $\geq 30$  mm Hg below baseline), extreme bradycardia (<50 bpm), or tachycardia in the absence of heart failure (>100 bpm) is contraindicated.
- If patient SB/P drops below 100, place patient supine, elevate legs and remove any NTG paste/patch.
- Early transport and notification of the hospital are essential for patients suspected of ACS.
- If patient is wearing a nitroglycerin patch remove it prior to administering sublingual Nitroglycerin.

## Routine Adult Cardiac Arrest



## PEARLS

Compressions - Start chest compressions for any unresponsive adult victim with no breathing or no normal breathing (ie, only gasps). Initiate chest compressions before giving rescue breaths (C-A-B rather than A-B-C). Push hard (>2 inches) and fast (> 100/min) and allow complete chest recoil. Minimize Interruptions. Consider rotating compressors every two minutes. If no advanced airway in place, 30:2 compression-ventilation ratio

Ventilation - Deliver each rescue breath over 1 second. Give a sufficient tidal volume to produce *visible chest rise*. Once advanced airway is in place, (Endotracheal Tube, Combi-tube, LMA, or King-LT) maintain continuous compressions. Ventilate with 600 ml of an adult ambu bag. 8-10 a minute.

- Continue Quality CPR
- Treat Reversible Causes
- If hypothermic, follow hypothermia Guideline.

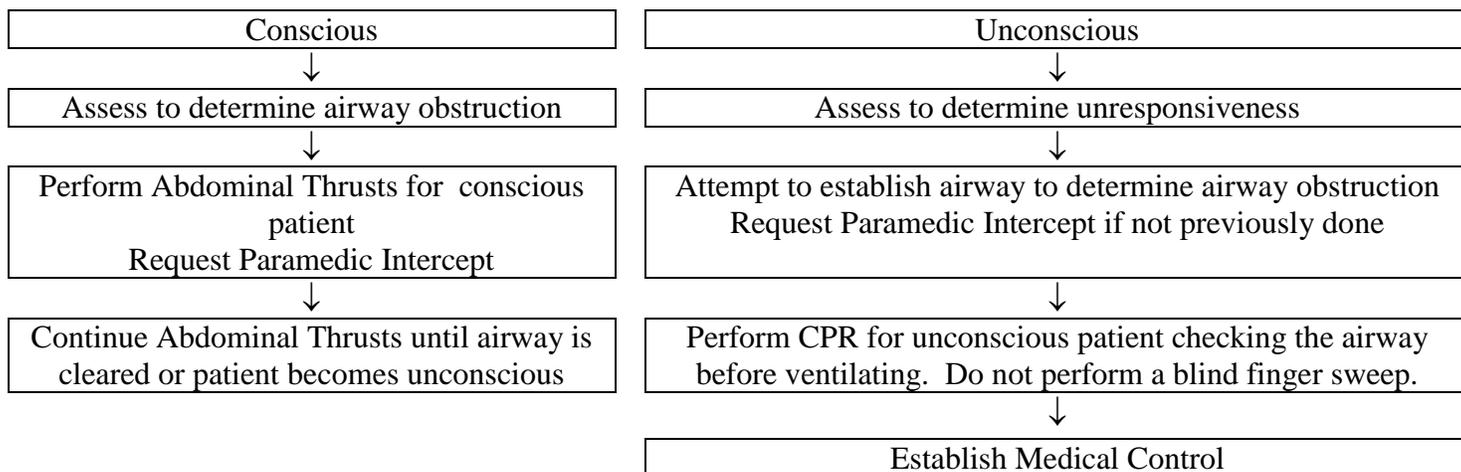
CPR Devices - CPR Devices should only be used with the approval of the service's medical control. At no time should the deployment of the device delay or disrupt quality CPR. Services who utilize such devices are expected to train often in use of the device to ensure smooth and rapid deployment.

## AED Policy regarding 2010 AHA Guidelines

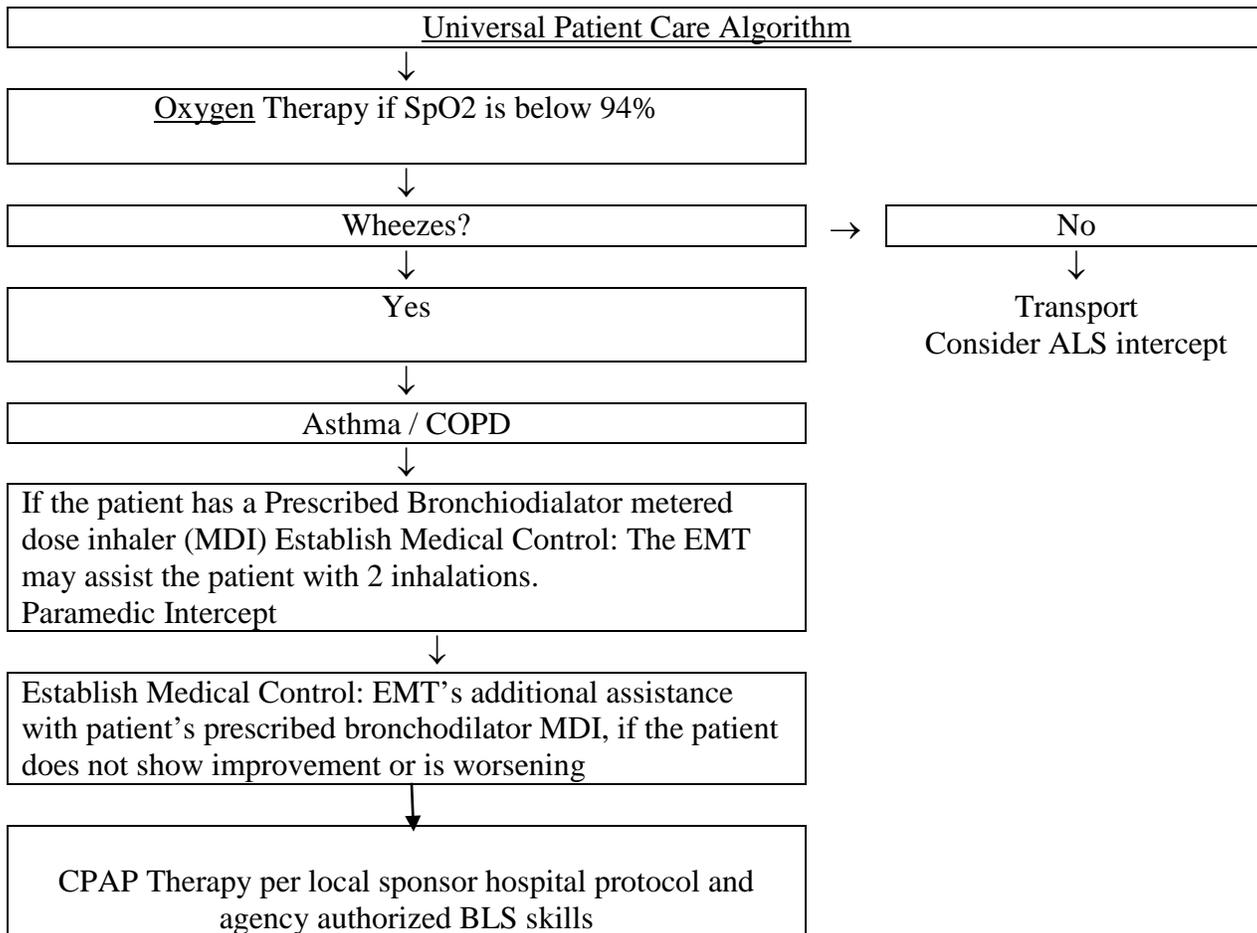
1. Existing AEDs may continue to be used, including those that administer 3 successive shocks.
2. Services are expected to upgrade their AEDs to administer single shocks before January 1, 2008.
3. If you are given programming options for your AED, it should be to analyze and shock once it is turned on. Please note that this is consistent with current (Guidelines 2010) AHA teachings. Shock energy levels should be in accordance with manufacturer recommendations.
4. When more than one rescuer is present: Upon arrival at a cardiac arrest CPR should be started immediately and continued until the AED pads are in place and the machine is ready to analyze. The AED should be placed on the patient as soon as it is available, regardless of downtime or if the arrest was witnessed or un-witnessed. In cases in which a defibrillator is not immediately available, CPR should be done until such time as a defibrillator is available.
5. When there is only a single rescuer present: Unwitnessed arrests should have the AED placed on the patient if no other help has arrived. (If additional help arrives they should place the AED on the patient as soon as they arrive). Witnessed arrests should have the AED placed immediately.

# Respiratory Guidelines

## Complete Airway Obstruction



## Respiratory Distress



### Pearls

- If respirations begin to decrease in rate or depth with a change in mental status, begin to assist ventilations immediately.
- A patient who is experiencing moderate to severe respiratory distress with a respiratory rate > 24 with wheezing presumed to be reactive airway disease.
- Oxygen may be administered via NC or NRB as appropriate to maintain saturation above 94%
- Refer to CPAP Protocol

# Continuous Positive Airway Pressure

Per Local Sponsor Hospital

## Patient presenting with any of the following signs of respiratory distress:

- Hypoxemia despite oxygen therapy
- Increased oxygen requirements
- Accessory muscle use
- Crackles or rhonchi
- Increased work of breathing
- Inability to speak in full sentences

### Contraindications

- Respiratory Rate  $\leq 10$  breaths/minute
- Confusion: Inability to understand and/or to cooperate with application of CPAP
- History or suspicion of pneumothorax or recent tracheo-bronchial surgery, thoracentesis, lung biopsy, and/or bronchoscopy
- Respiratory distress related to trauma
- Active nausea or vomiting despite anti-emetic therapy
- Hypotension: Systolic BP less than 100 mmHg (contact medical control)
- Anaphylactic reaction

Yes

- Provide O<sub>2</sub>, ventilate as appropriate
- Transport to Hospital

NO

**Believed to be a respiratory problem**  
**DO NOT SUSPECT THE PATIENT HAS A PNEUMOTHORAX**

YES

1. Apply CPAP at 10 cmH<sub>2</sub>O
2. If possible (depending on the CPAP unit used), adjust FIO<sub>2</sub> to maintain oxygen saturations of  $> 90\%$

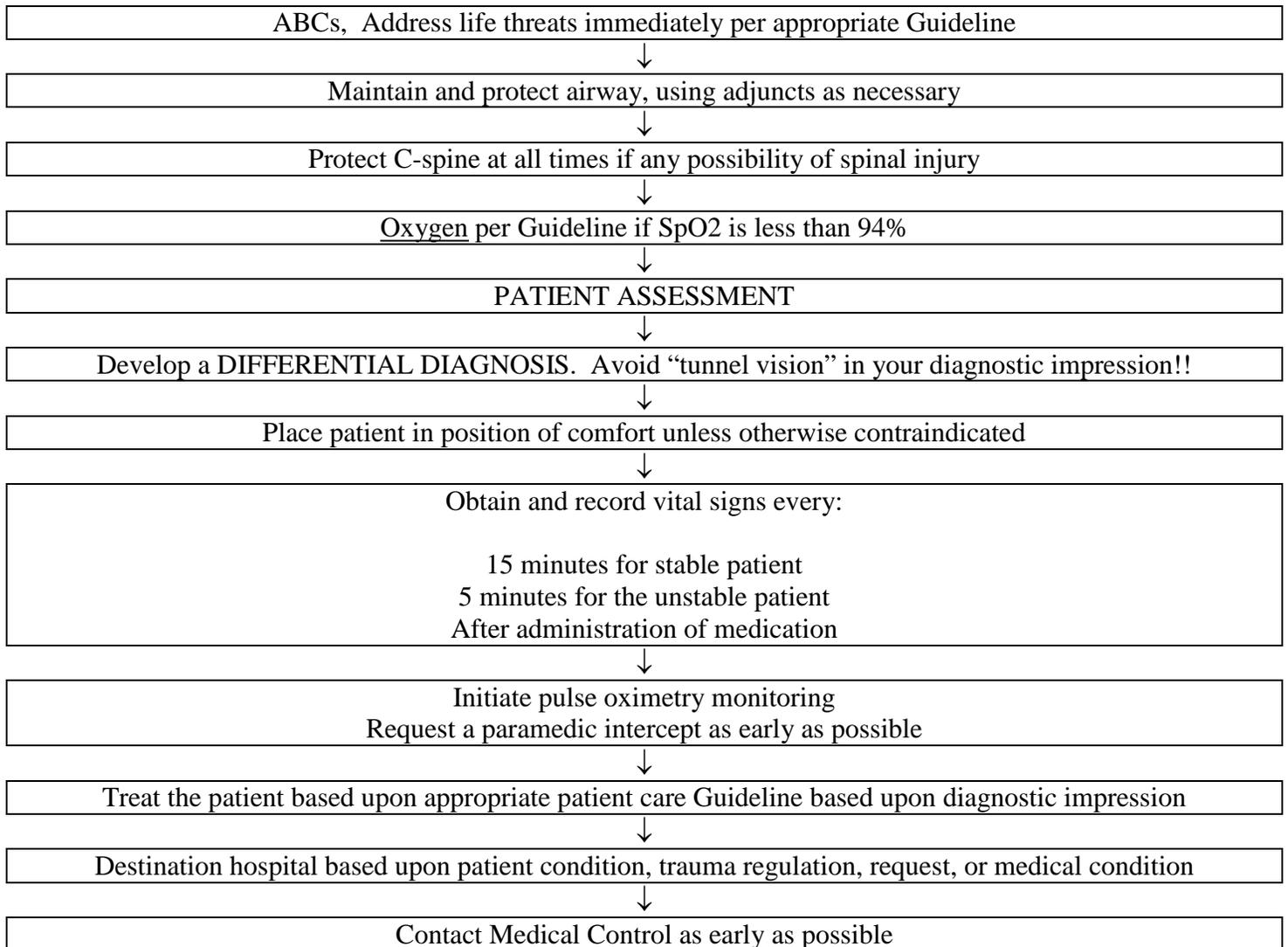
### PEARLS

- If the level of consciousness diminishes consider discontinuing CPAP and initiating bag valve mask ventilation
- A paramedic shall be requested when a patient presents with any of the signs of respiratory distress listed above.

# Medical Guidelines

## Routine Medical Care

PURPOSE: All patients, after receiving their initial assessment and priority assignment, are to receive routine medical care followed by the initiation of the appropriate Guideline.



## Allergic Reaction

Stable Hemodynamics (Blood pressure >100 mmHg systolic); with minor or moderate skin manifestations.

Universal Patient Care Guideline



Oxygen: Oxygen Therapy if patient in respiratory distress (or SpO<sub>2</sub> is less than 94%)



Establish Medical Control  
Possible Physician orders:  
Epi-Pen for EMT's

### PEARLS

- An allergic reaction is a hypersensitivity to a given antigen. It is usually not life threatening, merely uncomfortable for the patient.
- The patient is hemodynamically stable and complains of minor to moderate skin manifestation (erythema, pruritus or urticaria).
- If swelling to mouth, throat or neck is present refer to anaphylaxis Guideline
- If wheezes or respiratory distress is present, refer to the anaphylaxis Guideline
- Call for Paramedic Intercept

# Anaphylaxis

Unstable Hemodynamics with hypotensive patient or impending upper airway obstruction; stridor; severe wheezing and/or respiratory distress.



Universal Patient Care Guideline



Airway Management Guideline



Oxygen: Oxygen Therapy if patient in respiratory distress (or SpO<sub>2</sub> is less than 94%)



Epi-Pen autoinjector

The anaphylaxis patients who has at least two of the following criteria:

1. Unstable Hemodynamics with hypotension (SBP < 100 mmHg)
2. Difficulty in breathing or wheezing
3. Hives, redness and/or itching
4. Difficulty in swallowing



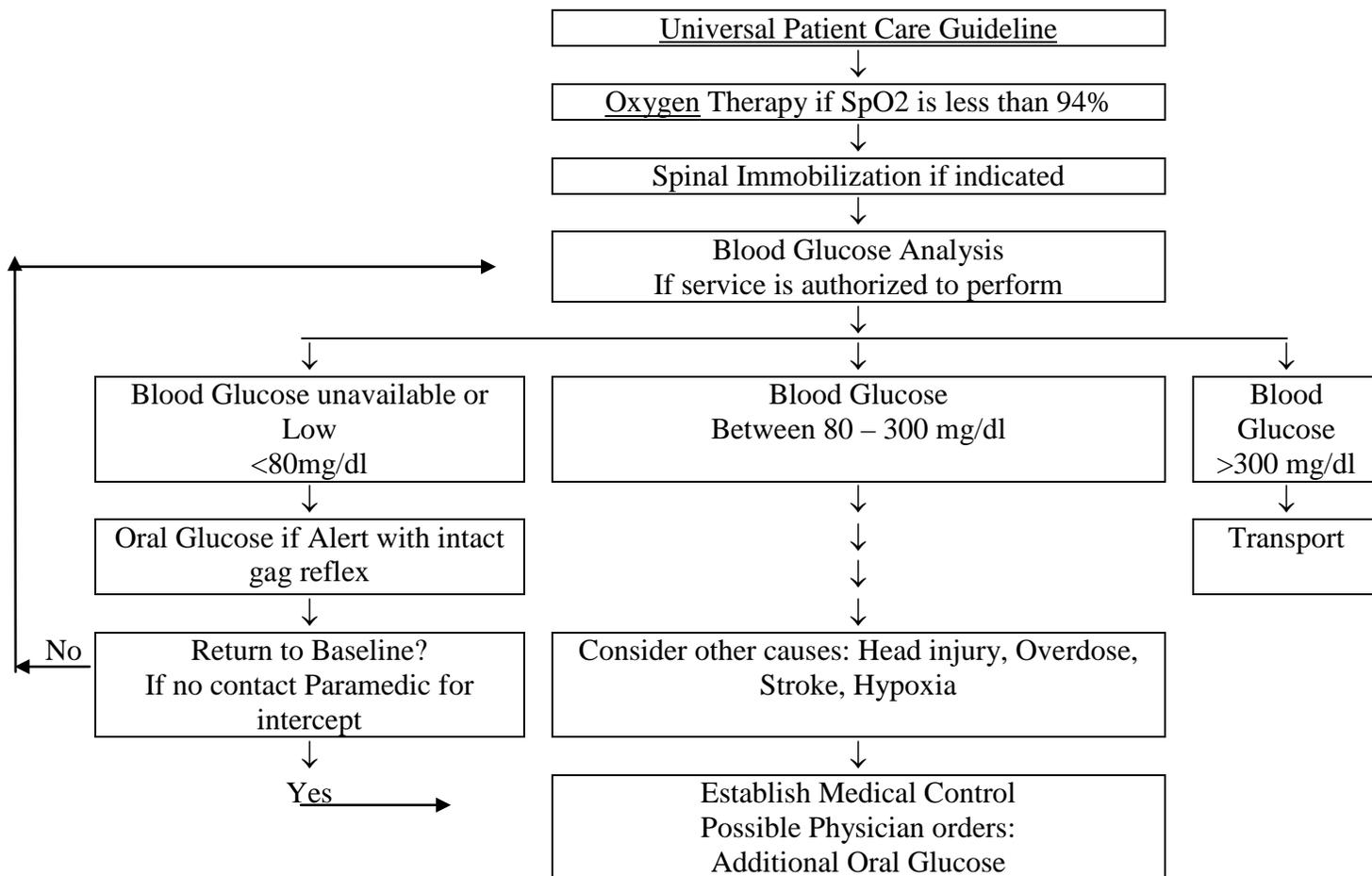
Establish Medical Control

Possible Physician orders:

Repeat doses of Epi-Pen

Call for Paramedic Intercept

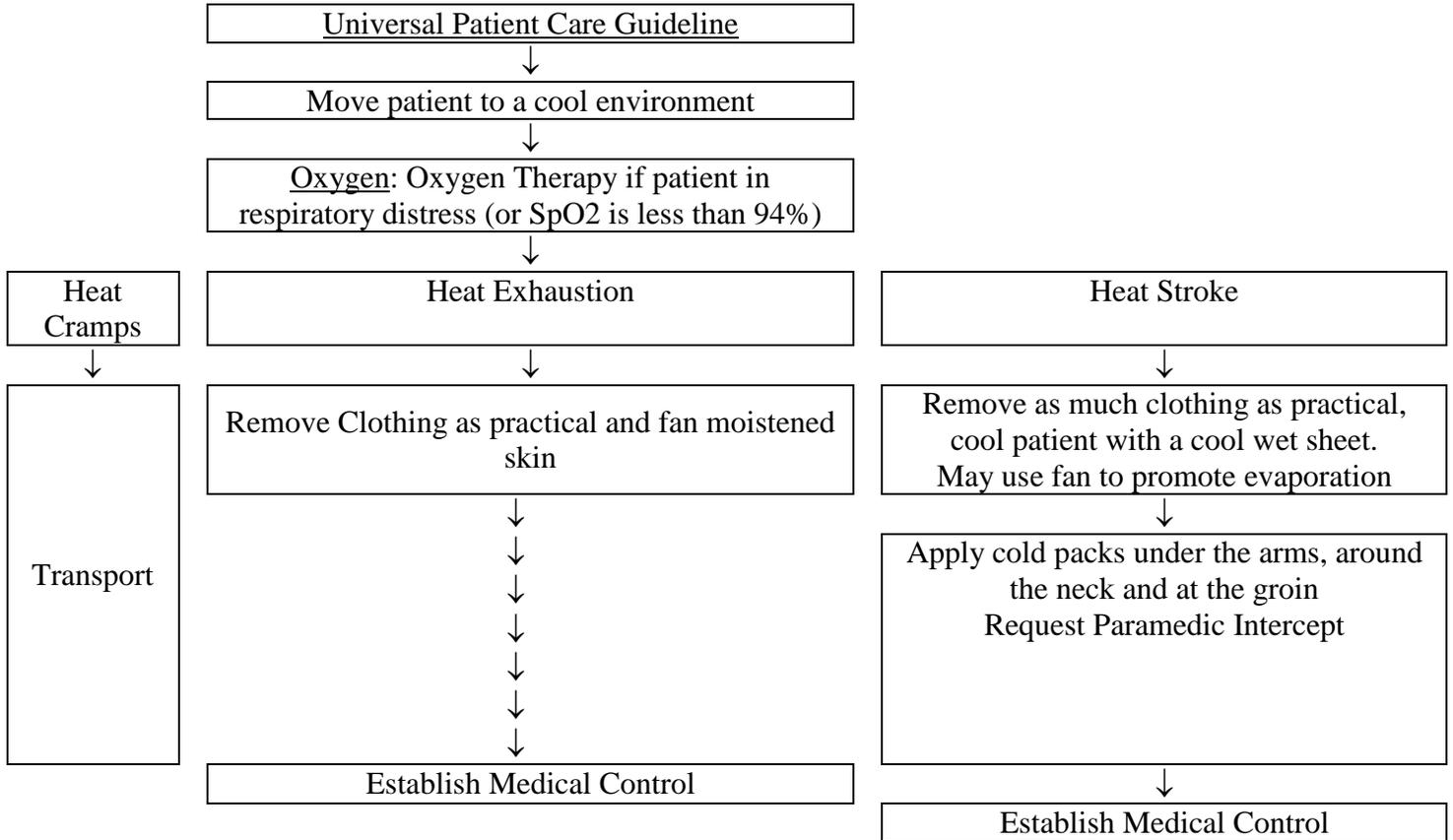
## Altered Mental Status



### PEARLS

- Be aware of AMS as presenting sign of an environmental toxin or Haz-Mat exposure and protect personal safety.
- It is safer to assume hypoglycemia than hyperglycemia if doubt exists.
- Do not let alcohol confuse the clinical picture. Alcoholics frequently develop hypoglycemia.
- Consider restraints if necessary for patient's and/or personnel's protection per the restraint policy.
- Treatment options are not mutually exclusive, consider other or combined causes.
  - Call for Paramedic Intercept

## Heat Related Emergencies



### PEARLS

- Heat Cramps: Pain in muscles due to loss of fluid and salt. Frequently affects lower extremities and abdomen. Cool, moist skin, normal to slightly elevated temperature; nausea.
- Heat Exhaustion: The state of more severe fluid and salt loss leading to syncope, headache, nausea, vomiting, diaphoresis, tachycardia, pallor and/or weak pulse. Call for Paramedic Intercept
- Heat Stroke: A very serious condition. The patient may present with hot and flushed skin, strong bounding pulse and altered mental status. The situation may progress to coma and/or seizures. CAUTION: Sweating may still be present in 50% of heat stroke patients. Call for Paramedic Intercept
- Do not massage cramping muscles
  - Do not give patient oral fluids if patient is nauseated or confused.
  - Place patient in cool environment and determine need for advanced life support.
  - Determine patients past medical history and history related to present event.

# Hypothermia

## Universal Patient Care Guideline



Avoid rough handling or excessive movement  
If CPR is required refer to Hypothermic Arrest Guideline



Maintain the Airway  
Assist ventilations if respiratory rate is less than 5/minute, but do not hyperventilate; Administer Oxygen if patient in respiratory distress (or SpO<sub>2</sub> is less than 94%)



Protect C-spine as necessary



Remove patient from cold environment  
Remove all wet clothing  
Protect from further heat loss



Passive Rewarming  
Warm blankets, Warm Environment  
Active External Rewarming (as needed)  
Hot packs wrapped in a towel may be applied to axillae, groin, abdomen



**DO NOT DELAY TRANSPORT**  
Transport the patient supine in a 10° head-down tilt



Contact Medical Control

## PEARLS

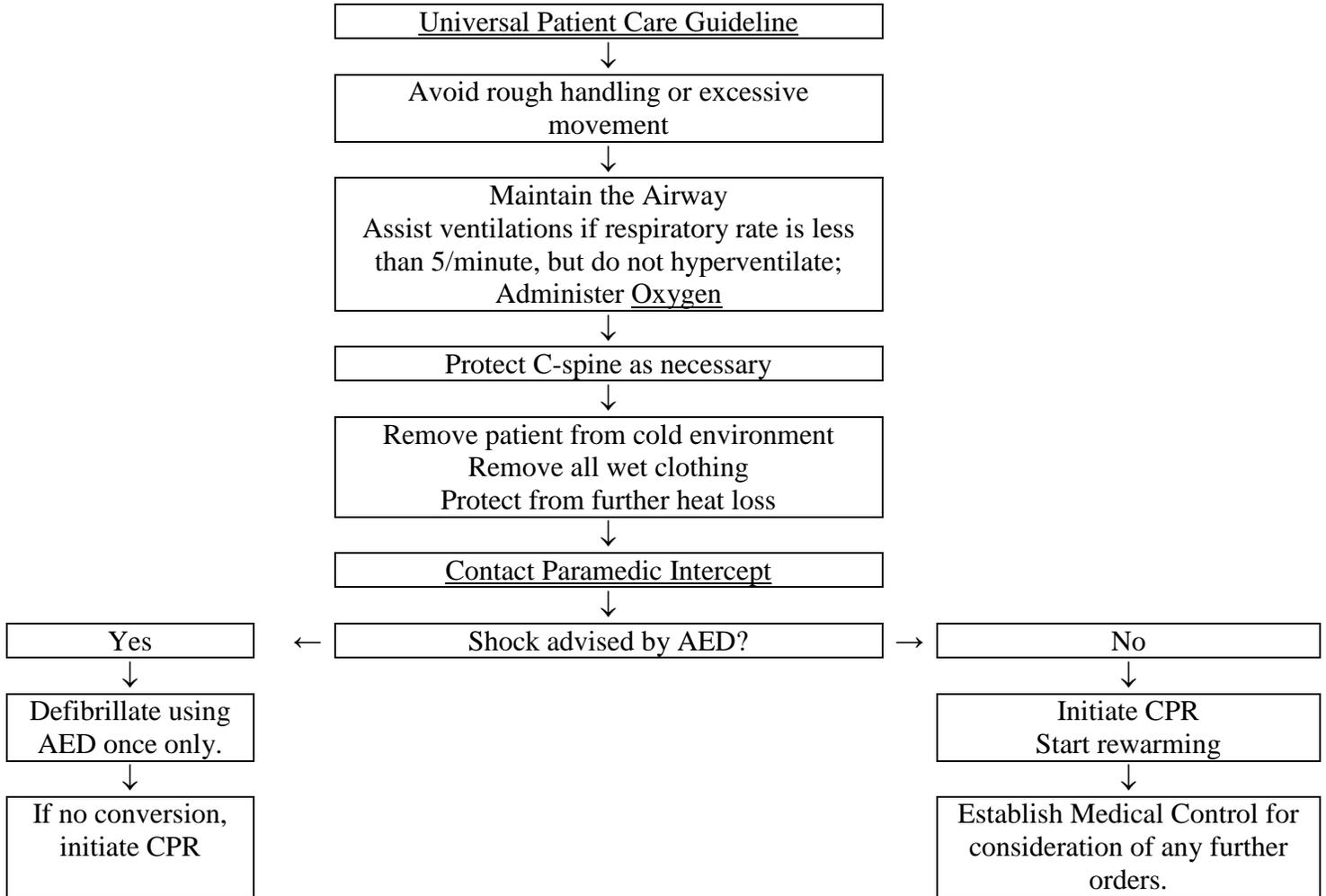
When the body's core temperature decreases, the body will first respond by shivering. This is an attempt by the body to generate heat from muscle activity. Vasoconstriction will shunt blood from the skin and an increase in the patient's metabolic rate will increase heat. If these mechanisms cannot compensate for severe temperature drops and the body's systems begin to fail, i.e. respiratory function will deteriorate and lead to hypoxemia. The patient may also develop dysrhythmias and cardiopulmonary arrest may occur, especially during the warming phase of treatment. **HANDLE GENTLY:** The cold heart is more susceptible to fibrillation.

Clinical Presentation for moderate hypothermia may include: Conscious, but often lethargic & often shivering, with skin that is pale and cold to touch. Clinical presentation for severe hypothermia may include: Unconsciousness or decreased LOC, ice cold skin, inaudible heart sounds; unobtainable BP, or severe hypotension; unreactive pupils, very slow or absent respirations.

### Avoid:

- Hyperventilation because an extreme drop in CO<sub>2</sub> may cause ventricular fibrillation.
- Rubbing the skin.
- Rewarming frostbitten extremities until after the core is rewarmed to prevent vascular complications to the limb and the transportation of cold blood and detrimental by-products to the core.
- All unnecessary rough movements as they may precipitate arrhythmias
- Call for Paramedic Intercept

# Hypothermic Arrest



## PEARLS

- Call for Paramedic Intercept
- Once you have started CPR - DO NOT GIVE UP!
- *THE HYPOTHERMIC PATIENT IS NOT DEAD UNTIL THEY ARE WARM AND DEAD!*

NOTE: Severely hypothermic patients may be without detectable pulse, blood pressure, or respirations. This may be physiologic for a hypothermic patient. Successful resuscitation without CNS complications has been accomplished in patients with a core temperature less than 70°F.

- After defibrillating once with AED, turn it off.

## Drowning

Universal Patient Care Guideline



While protecting the cervical spine, establish a patent airway appropriate to the clinical situation  
Consider Paramedic Intercept



If hypothermic, follow Hypothermic Guideline



Treat according to appropriate Guideline  
oxygen if SpO<sub>2</sub> is < 94%



Contact Medical Control

## Seizures

Universal Patient Care Guideline

Consider Trauma, Hypoglycemia, Overdose  
Go to appropriate Guideline if indicated



Protect the patient from personal injury



oxygen if SpO<sub>2</sub> is < 94%



Consider Paramedic Intercept



Establish Medical Control

- Call for Paramedic Intercept

## Shock

Universal Patient Care Guideline

Control obvious bleeding  
Airway Guidelines



oxygen if SpO<sub>2</sub> is < 94%



Early transport of patient

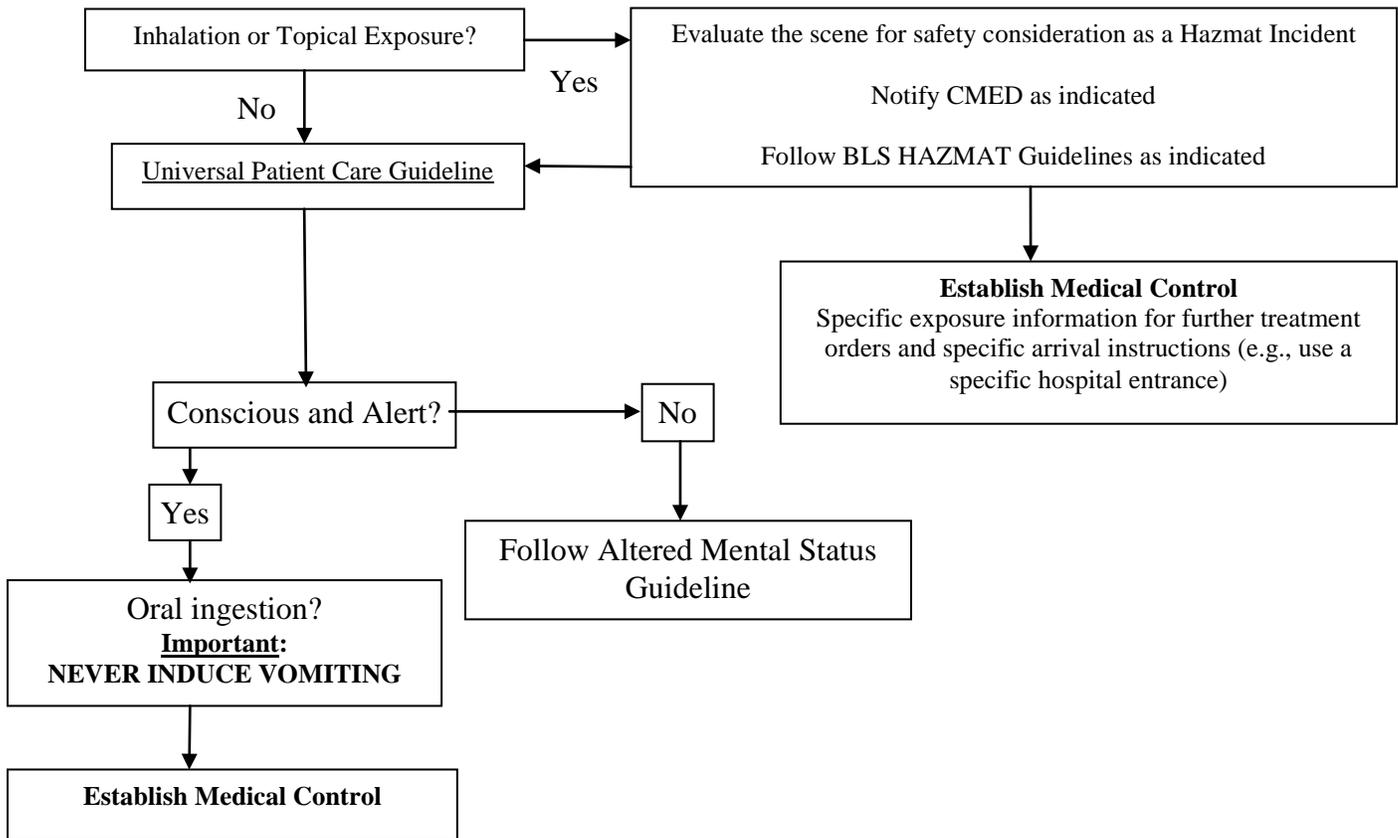


Call for Paramedic Intercept



Establish Medical Control

## Overdose / Poisonings

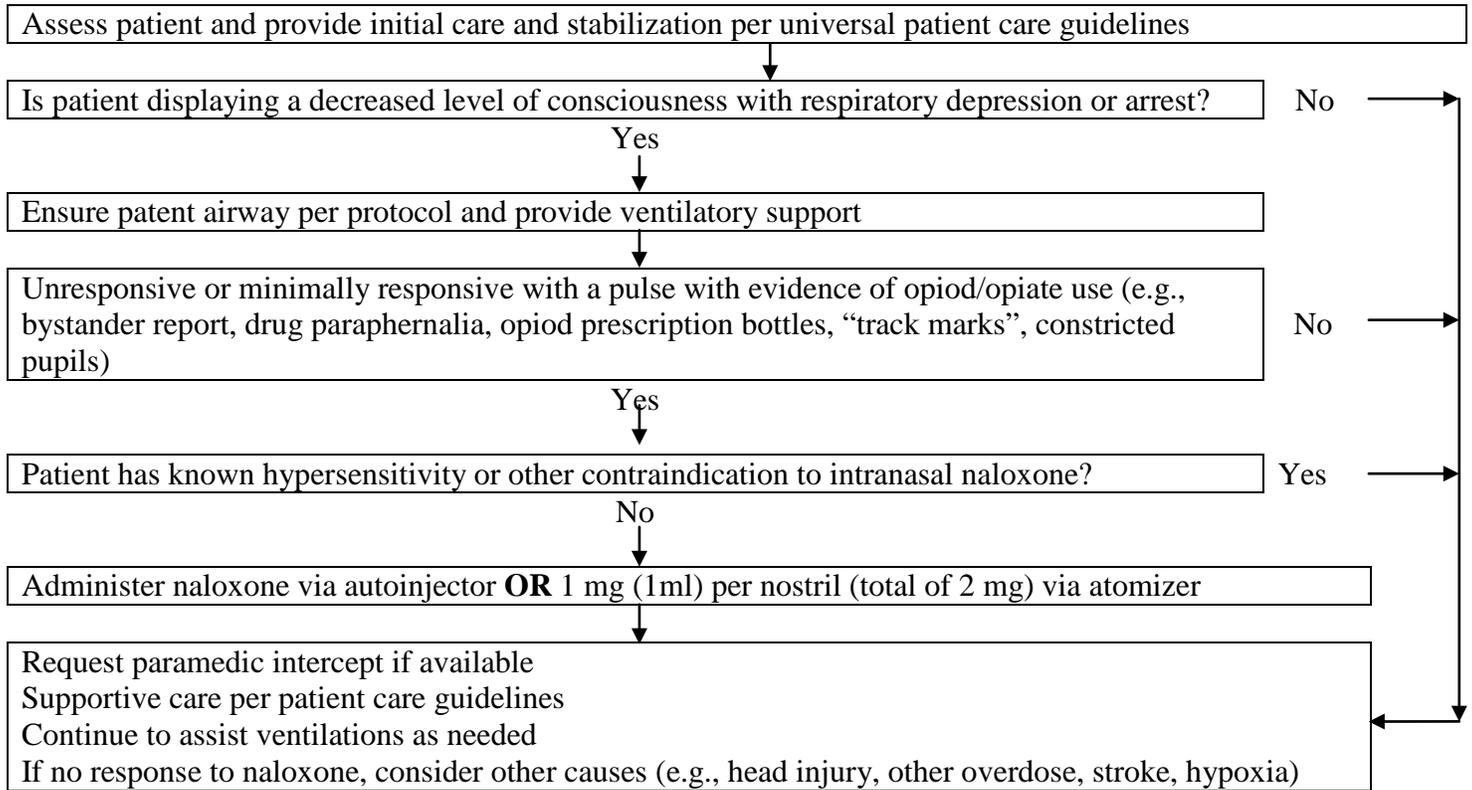


### PEARLS

It is essential to obtain the following information on all drug overdoses and poisonings:

- Name and ingredients of the substance(s) taken.
- The amount taken.
- Approximate time substance was taken.
- Method of substance abuse: ingestion, injection, inhalation, or topical transmission.
- Look for the container(s) of substance ingested and if appropriate transport with patient.
- Reason for the ingestion: e.g., suicide, accidental overdose, or mixture of incompatible substances.
- Vomiting prior to arrival.
- Remove topical contaminant as completely as possible, flush with water At the earliest convenience contact Poison Control directly or through Medical Control 1-800-222-1222

## Naloxone Administration Protocol



### PEARLS

- If no pulse, withhold naloxone and begin CPR.
- Continue to provide respiratory assistance as needed.
- If respirations adequate, provide supportive care.
- Naloxone is for depressed respirations, not depressed mental status.
- Opiate use alone (without depressed respirations) does not merit the use of Naloxone.
- Naloxone is not effective against overdose from non-opiate drugs.

# Behavioral Emergencies

## Behavioral Emergency Guidelines

EMS providers may use physical restraints on patients who pose a danger to themselves or others.

Providers should make every effort to ensure that law enforcement and adequate assistance are present when attempting to restrain a violent or combative patient.

Only the minimum amount of restraint necessary to protect providers and the patient should be used.

Providers should first attempt to verbally calm the patient down. If the patient does not comply, physical restraint may be attempted.

Providers should assess the patient for medical conditions that could be contributing to the patient's behavior. If an assessment cannot be performed prior to physical restraint, it should occur as soon as possible after restraint is applied when it is safe and feasible.

Physical restraints must be soft in nature and pose no threat to the patient's safety. Only the extremities shall be restrained and these restraints must be assessed every five minutes.

Patients must never be hog-tied, restrained in a prone position with hands tied behind their backs or placed between backboards or mattresses. No restraint shall ever be tied around the head, neck or chest. A surgical mask, spit shield, or an oxygen mask may be placed loosely on the patient to prevent spitting.

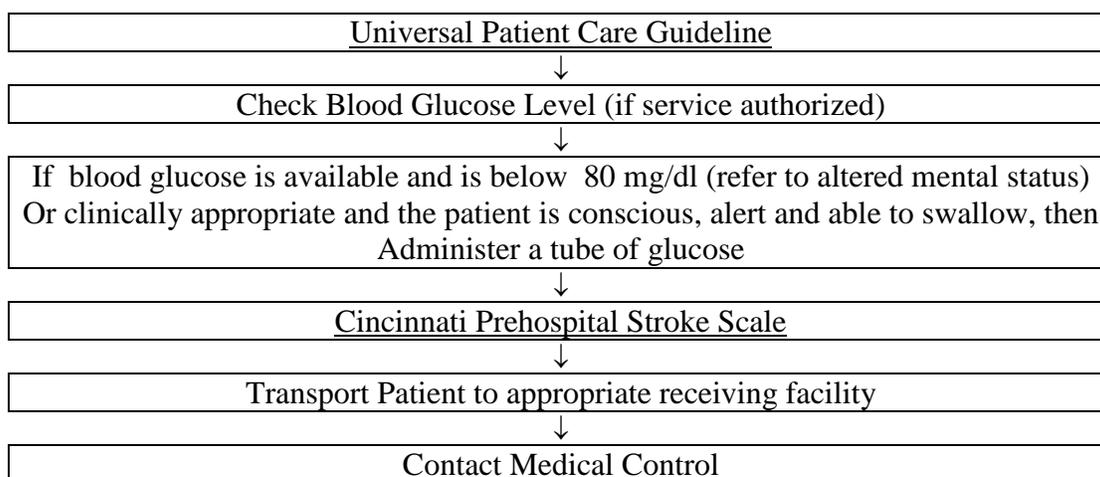
Handcuffs may only be used by law enforcement or correction officials on patients in their custody. If the law enforcement officer insists that the patient remain handcuffed during transport, they must accompany the patient.

All restrained patients must have continual reassessment of vital signs and neurovascular status of distal extremities. Documentation must include justification for restraint, type of restraint used, restraint procedure, results of continual reassessment, and any other care rendered.

Do not hesitate to involve medical direction in any call involving restraint.

Consider calling paramedic intercept for chemical restraint.

## Stroke Guideline



### Pearls

Brief history focusing on time of onset of symptoms, when was the last time the patient was symptom free?

Transport patient and witness if possible

#### Cincinnati Prehospital Stroke Scale:

- Assess for new unilateral arm drift
- Assess speech – slurred or inappropriate words?
- Assess for new facial droop

Contact receiving hospital for ‘Acute Stroke Alert’ and include following information:

- Time of symptom onset
- Description of neurologic deficits (Cincinnati stroke scale)
- Blood glucose level

Early notification to the receiving hospital is essential to ensure the immediate availability of an appropriate in-hospital response.

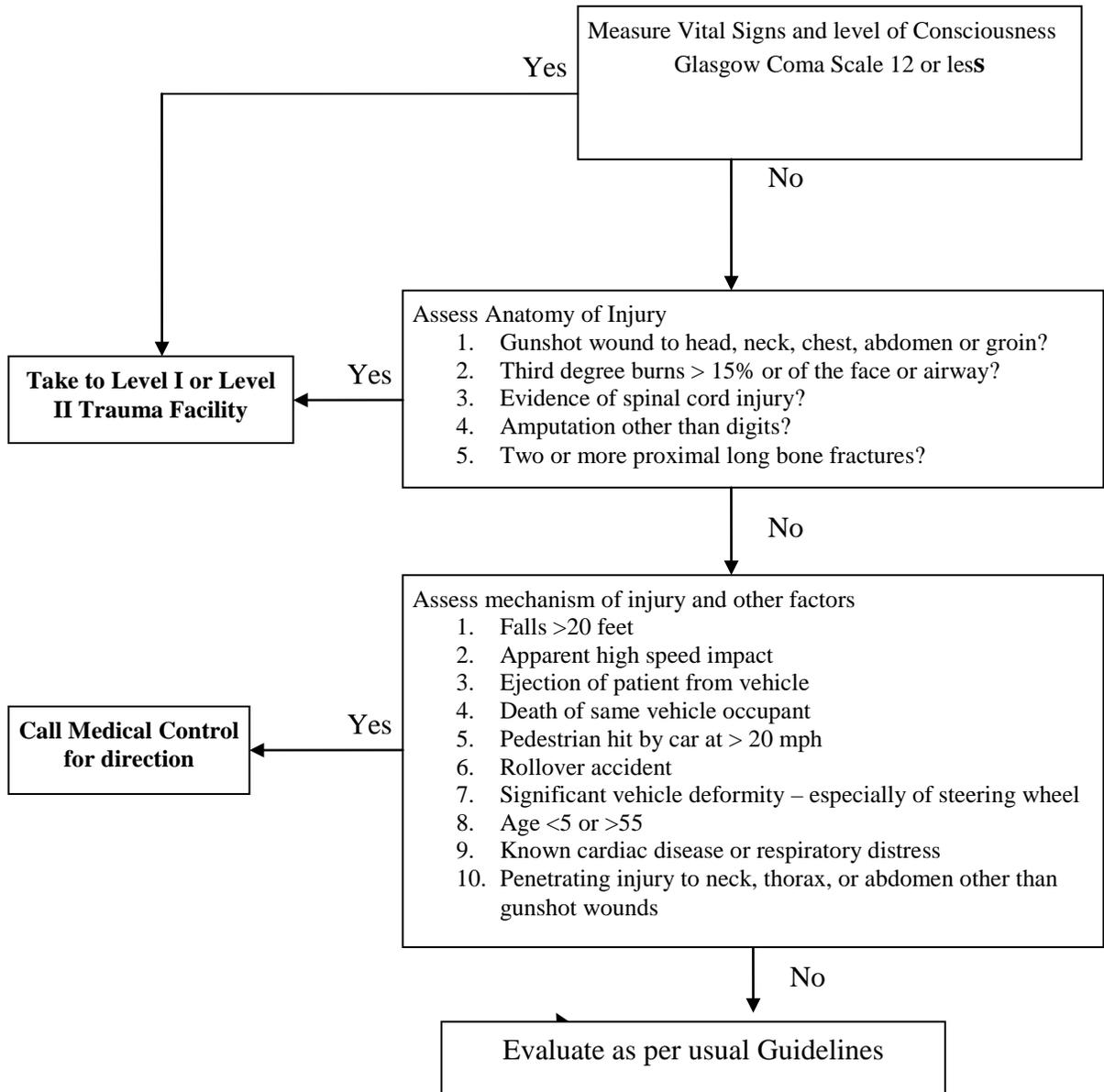
Patient must be able to self administer oral glucose.

- Consider Paramedic Intercept

# Adult Trauma Guidelines $\geq$ 13 years Old

## Injured patient Triage Guidelines \*

When transport to a Level I or II Trauma facility is indicated, but the ground transport time to that hospital is judged to be greater than twenty (20) minutes, determination of destination hospital shall be in accordance with medical control.



### PEARLS

- Severely injured patients <13 years should be taken to a Level I or II facility with pediatric resources including pediatric ICU.
- All EMS providers transporting trauma patients to hospitals shall provide receiving hospital with a complete OEMS approved patient care form *prior to departing from the hospital*.

**WHEN IN DOUBT, CONSULT WITH MEDICAL CONTROL**

\*State of Connecticut Regulation of Department of Public Health, Concerning Statewide Trauma System: Section 19a-177-5.

## Management of the Trauma Patient

Scene Assessment  
Initial Patient Assessment  
Stabilize C-Spine during assessment  
Open airway using Modified Jaw thrust, if indicated  
Consider Rapid Extrication

↓  
Manage Patient Airway /Administer Oxygen /Ventilate  
Determine Patient's Hemodynamic Status ( Vital signs)  
Control External Bleeding with Direct Pressure

↓  
Maintain SpO<sub>2</sub> >94% (Utilize Pulse Oximetry)  
Complete Spinal Immobilization as per Selective Spinal Immobilization Guideline

### Injury Specific Treatments

- Head Injury –ventilate 350-500ml at rate 10 / min. If herniation signs develop, increase rate to 20/min
- Chest Wound –apply 3 sided dressing. Release dressing if S&S of Tension Pneumothorax occurs.
- Flail Chest – Airway management with BVM support
- Apply a bulky dressing to the flail segment for stabilization
- Abdominal Evisceration –apply  
Moistened NS sterile occlusive dressing.
- Impaled Objects –do not remove &  
stabilize in place
- Extremity Fractures – check  
neurovascular status & immobilize
- Isolated Femur Fracture –Traction  
Splint
- Pelvic Fx with hypotension –  
consider pelvic binder
- Pregnant Pt – check externally for  
Contractions, vaginal bleeding, amniotic fluid. If hypotensive elevate right side of backboard
- Bleeding Control – Direct Pressure, Tourniquet

↓  
Begin Transport to Trauma Center according to the guidelines outlined in the State of Connecticut Injured Patient Triage Guideline

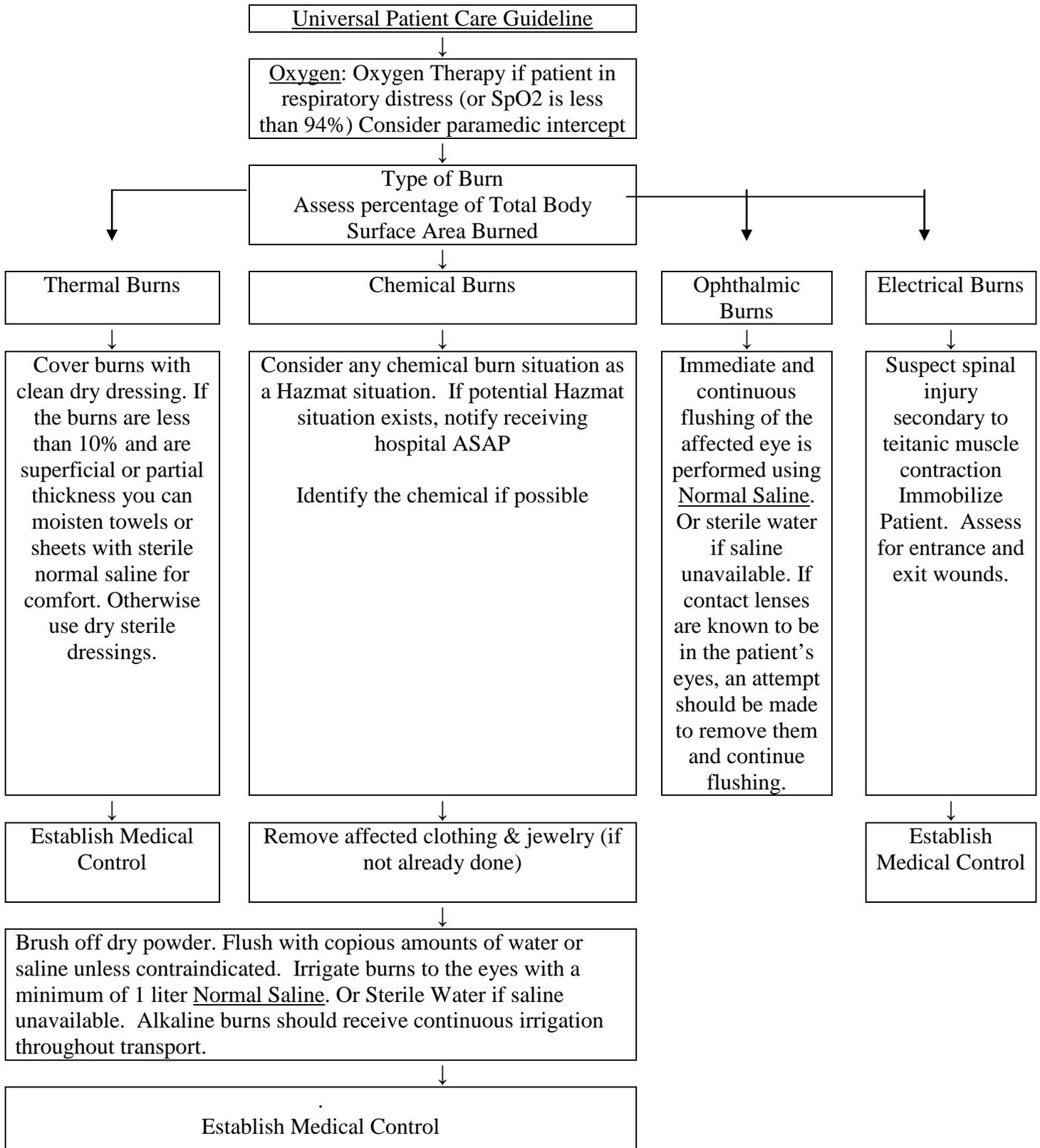
- Call for Paramedic Intercept

## Management of the Trauma Patient Continued

### **PEARLS**

- Indications for Spinal Immobilization - any Blunt Injury above Clavicle , Unconscious Patient, Multi-System Trauma, Neck Pain, High Speed Crash, Complaints of Extremity numbness /tingling , GSW involving Torso
- Vital signs include Blood Pressure, Pulse ( rate, strength and location), Respiratory Rate, Skin ( color, moisture and temperature), Pain Level & Glasgow Coma Scale
- To control hemorrhage direct pressure is the 1<sup>st</sup> choice. Do not elevate extremity or use pressure points. The use of tourniquets must be considered in severe hemorrhage if direct pressure fails. If a tourniquet is applied it should be just proximal to site of hemorrhage & tightened until bleeding stops. Mark time of application on tourniquet leave site exposed for visual monitoring of hemorrhage
- Straighten severely angulated fractures if distal extremity has signs of decreased perfusion

# Burns



## Burns Continued

### PEARLS

- Call for Paramedic Intercept

#### For Chemical Burns:

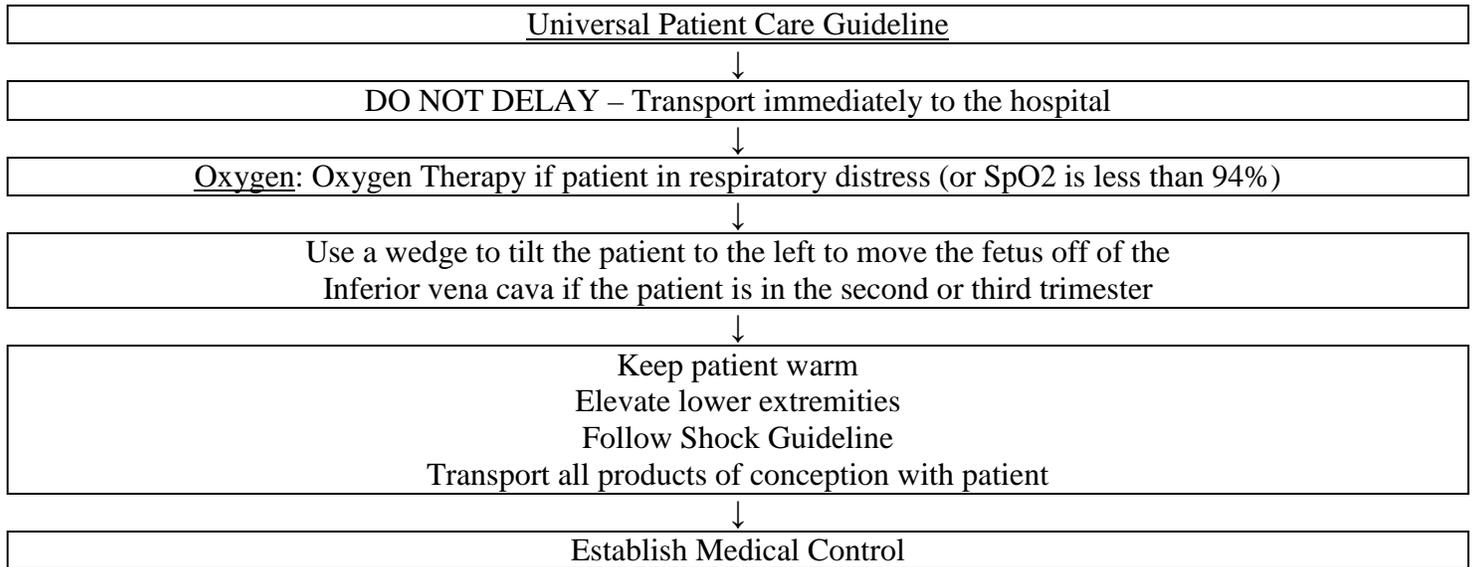
- Try and obtain name of the chemical or its I.D.
- Phosphorus burns should not be irrigated, brush chemical off thoroughly.
- Hydrofluoric Acid burns - be aware of cardiac implications due to induced hypocalcemia and the need for immediate contact with Medical Control.
- Upon receiving the patient consider that they may still be contaminated

#### Electrical Burns:

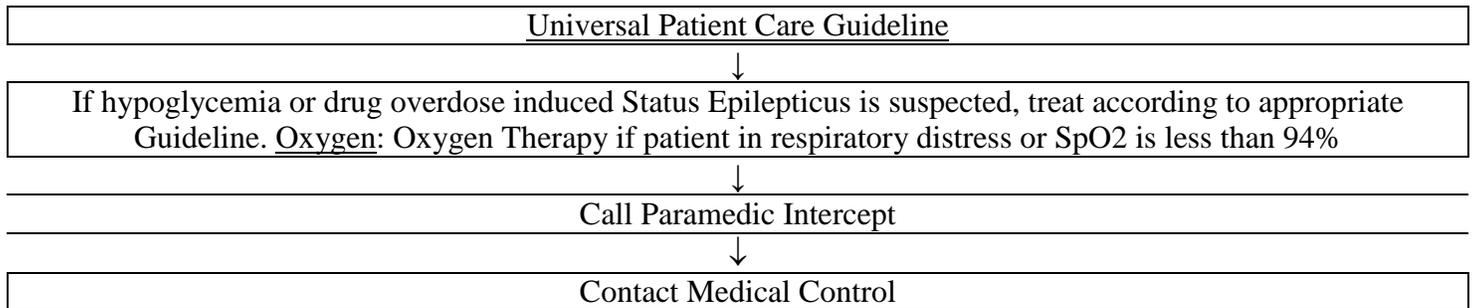
- Without placing self at risk, remove patient from the source of electricity or have the power cut off.
- Treat any trauma secondary to electrical insult as per Guideline

# OB/GYN Guidelines

## Antepartum Hemorrhage (2<sup>nd</sup> & 3<sup>rd</sup> Trimester)



## Pregnancy Induced Hypertension and Seizures (eclampsia / Toxemia)

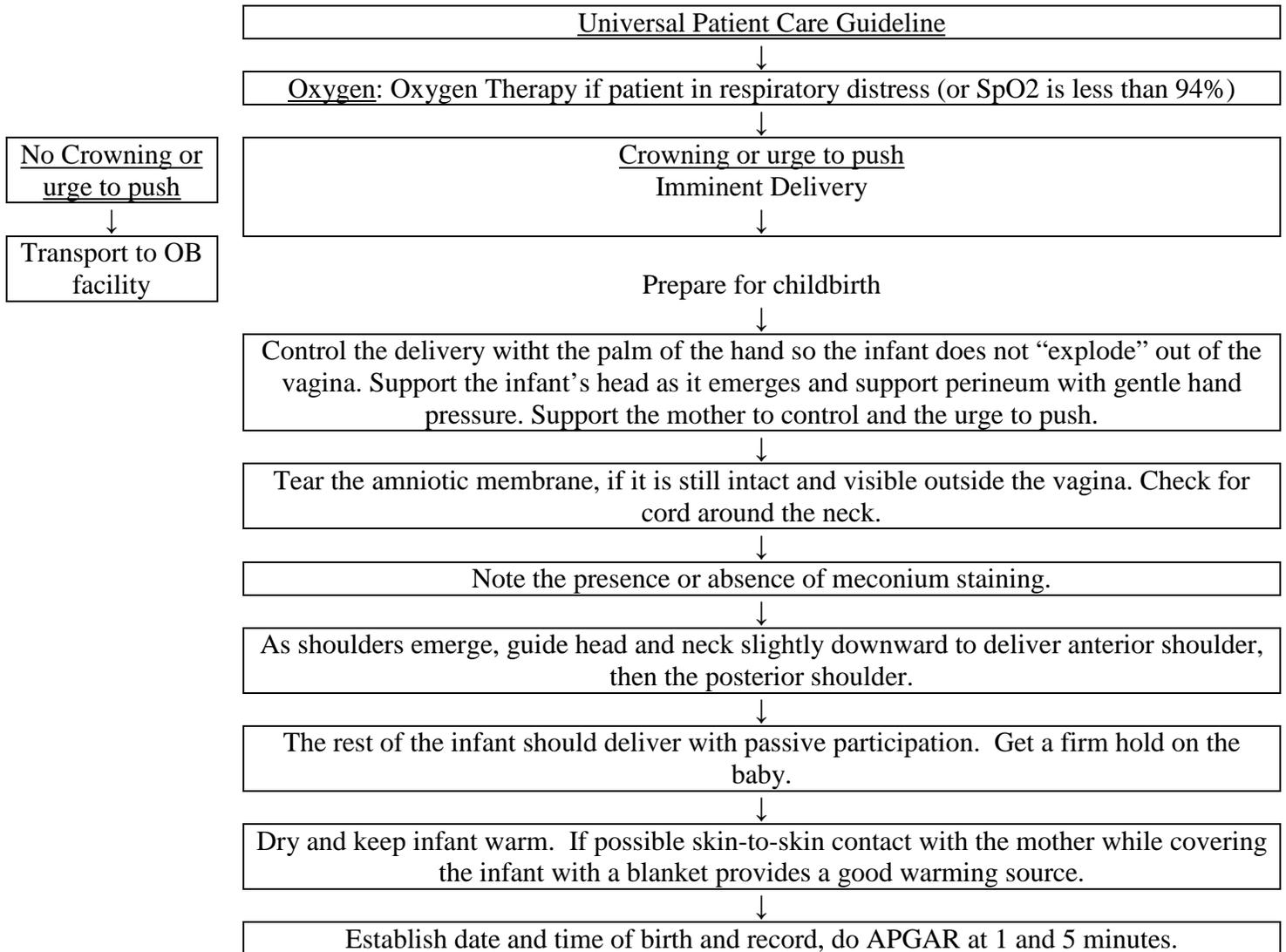


These seizures can occur up to four weeks post partum.

### PEARLS

- Eclampsia is preceded by preclampsia which consists of hypertension, potential altered mental status and diffuse edema. Gentle ALS transport should be considered for these patients.
  - Call for Paramedic Intercept

## Emergency Child Birth



- Call for Paramedic Intercept

Suctioning with a bulb-syringe should only be performed in the presence of secretions or obstructions.

## Delivery Complications

### Nuchal Cord

(cord around baby's neck)

Universal Patient Care Guideline



Emergency Delivery Guideline



Slip two fingers around the cord and lift over baby's head.



If unsuccessful: Double clamp cord, cut cord between clamps with sterile scissors (blunt side next to baby, never use a scalpel) allow cord to release from baby's neck.



Continue with normal delivery guideline.



Contact Medical Control

- Call for Paramedic Intercept

### Prolapsed Cord

(Cord presenting before the baby)

Universal Patient Care Guideline



Elevate mother's hips in knee-chest position or left side down in Trendelenberg position.



Protect cord from being compressed by placing a sterile gloved hand in vagina and pushing up firmly on the presenting part of the fetus



Palpate cord for pulsation



Keep exposed cord moist and warm.



Keep hand in position and transport immediately.



Contact Medical Control



Do not remove hand until relieved by OB personnel.

- Call for Paramedic Intercept

## Delivery Complications continued

### Breech Birth

(legs or buttocks presenting first)

Universal Patient Care Guideline



Emergency Delivery Guideline



Never attempt to pull baby from the vagina by the legs or trunk.



After shoulders are delivered, gently elevate the trunk and legs to aid in delivery of head (if face down)



Head should deliver in 30 seconds, if not; reach 2 fingers into the vagina to locate the baby's mouth. Fingers in mouth will flex baby's head and should assist in spontaneous delivery. If not: Press vaginal wall away from the baby's mouth to create an airway. If head does not deliver in 2 minutes, keep your hand in position and transport ASAP.



**ESTABLISH MEDICAL CONTROL**

- Call for Paramedic Intercept

### Extremity Presentation

Universal Patient Care Guideline



Proceed immediately to the hospital  
Place in Trendelenberg Position



Establish Medical Control



Do not attempt out of hospital delivery



Encourage mother to perform slow deep breathing

## Postpartum Care of the Mother

Universal Patient Care Guideline



Emergency Delivery Guideline



Massage the fundus of the uterus



Placenta should deliver within a few minutes to up to 30 minutes. DO NOT pull on cord to facilitate placental delivery. If delivered bring the placenta to the hospital, do not delay on scene waiting for the placenta to deliver.



If the perineum is torn and bleeding, apply direct pressure with trauma dressing to outside of vagina only. DO NOT PACK VAGINA. Observe for excessive bleeding

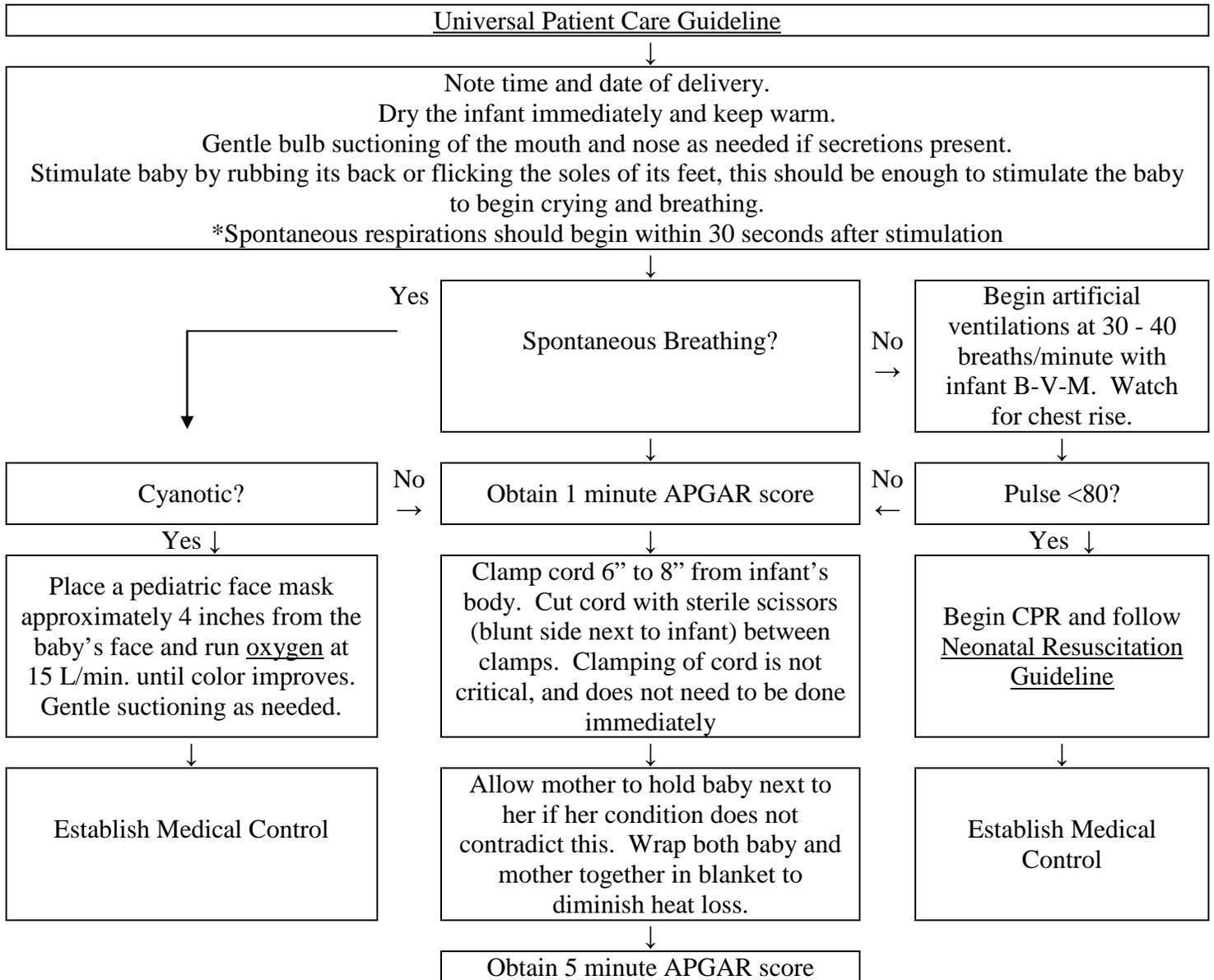


Consider putting the infant to breast if mother will breastfeed



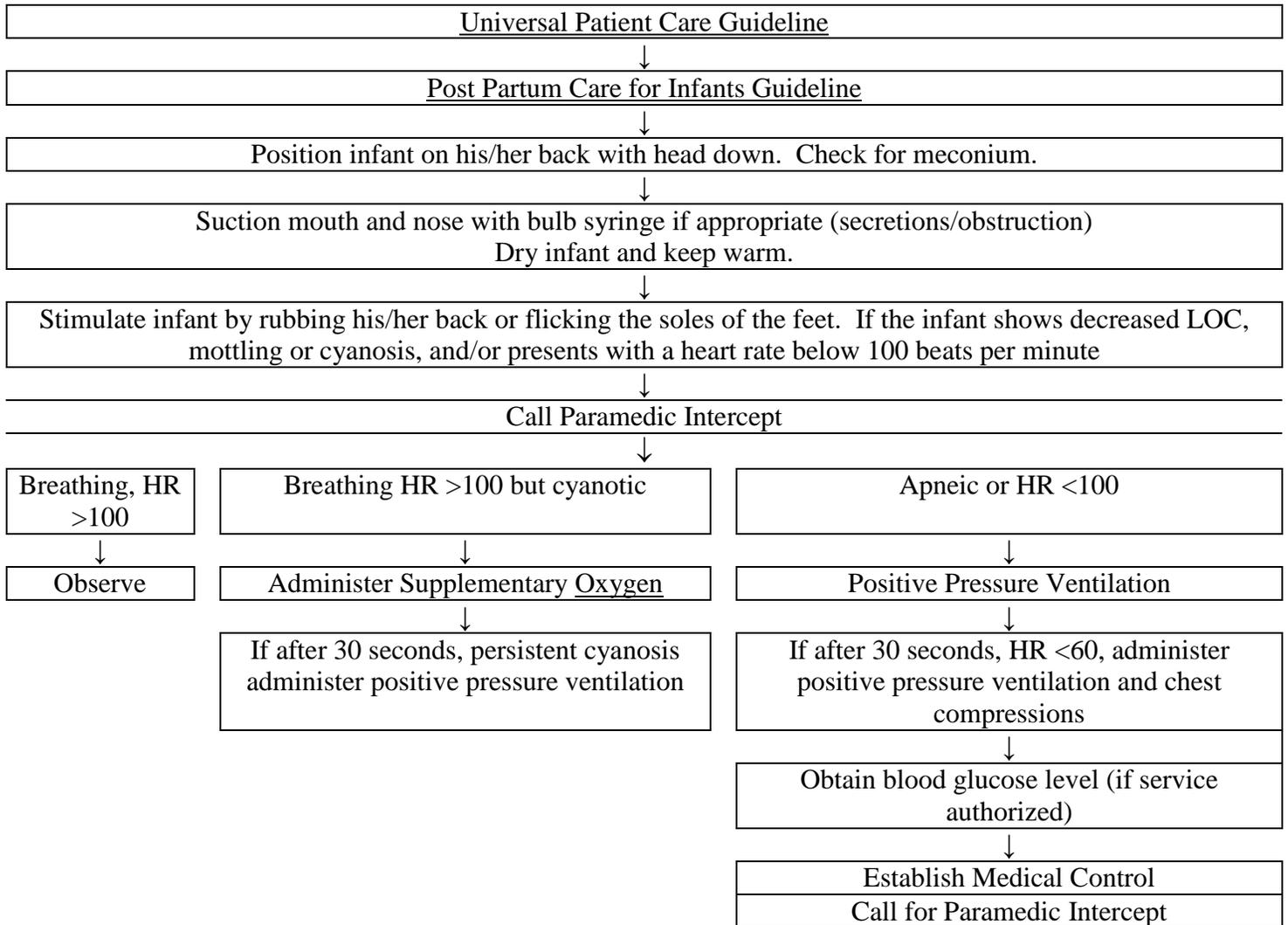
Establish Medical Control

## Post Partum Care of the Infant



If there is any bleeding from the cord clamp, reclamp again in close proximity to the "leaking" clamp.  
 IF the umbilical cord is not clamped, keep the infant level with mom. This will prevent infant CHF (blood from mom to baby) or infant anemia (blood from baby to mom).

## Neonatal Resuscitation



## Trauma in Pregnancy

Universal Patient Care Guideline



Adult Trauma Management Guideline



Rapidly assess fetal viability - is uterus (fundus) above (viable) or below the umbilicus (non-viable fetus).



Treat mother aggressively for injuries based on mechanism of injury.  
Follow Trauma Guideline with the following considerations.



Oxygen: Oxygen Therapy if patient in respiratory distress (or SpO<sub>2</sub> is less than 94%)



Check externally for uterine contractions.



Check externally for vaginal bleeding and amniotic fluid leak (Broken water).



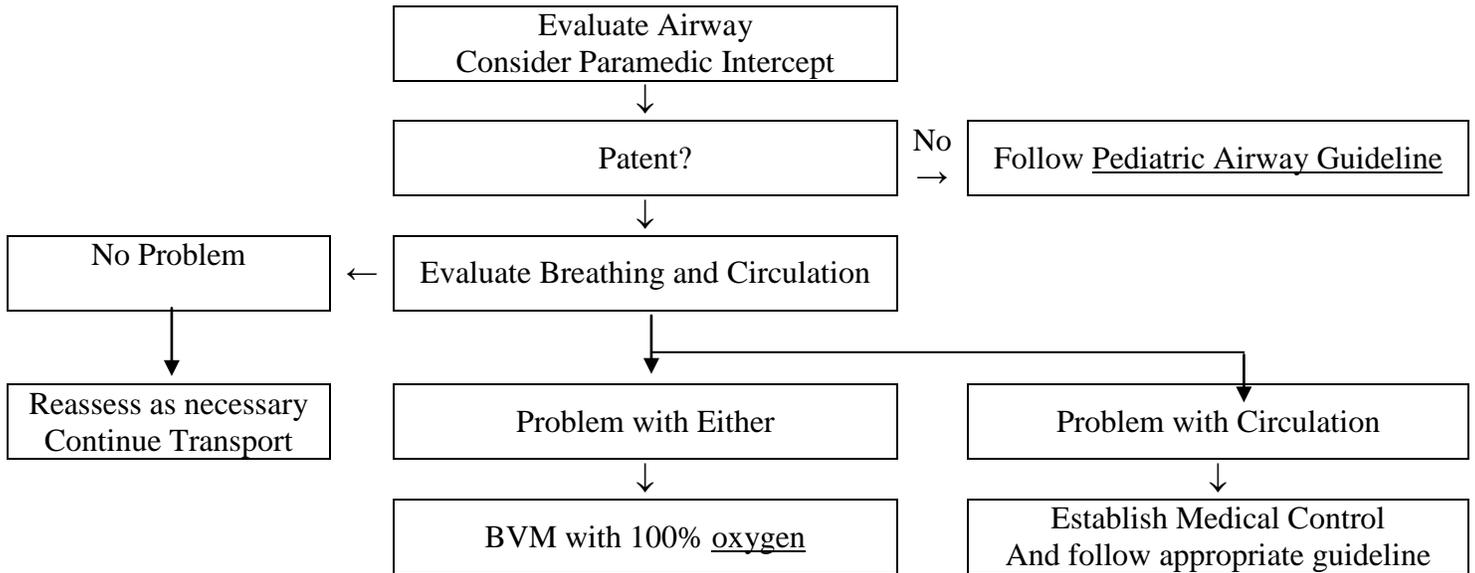
If patient becomes hypotensive while supine on backboard elevate right side of backboard (to relieve pressure on the inferior Vena Cava by uterus).

### PEARLS

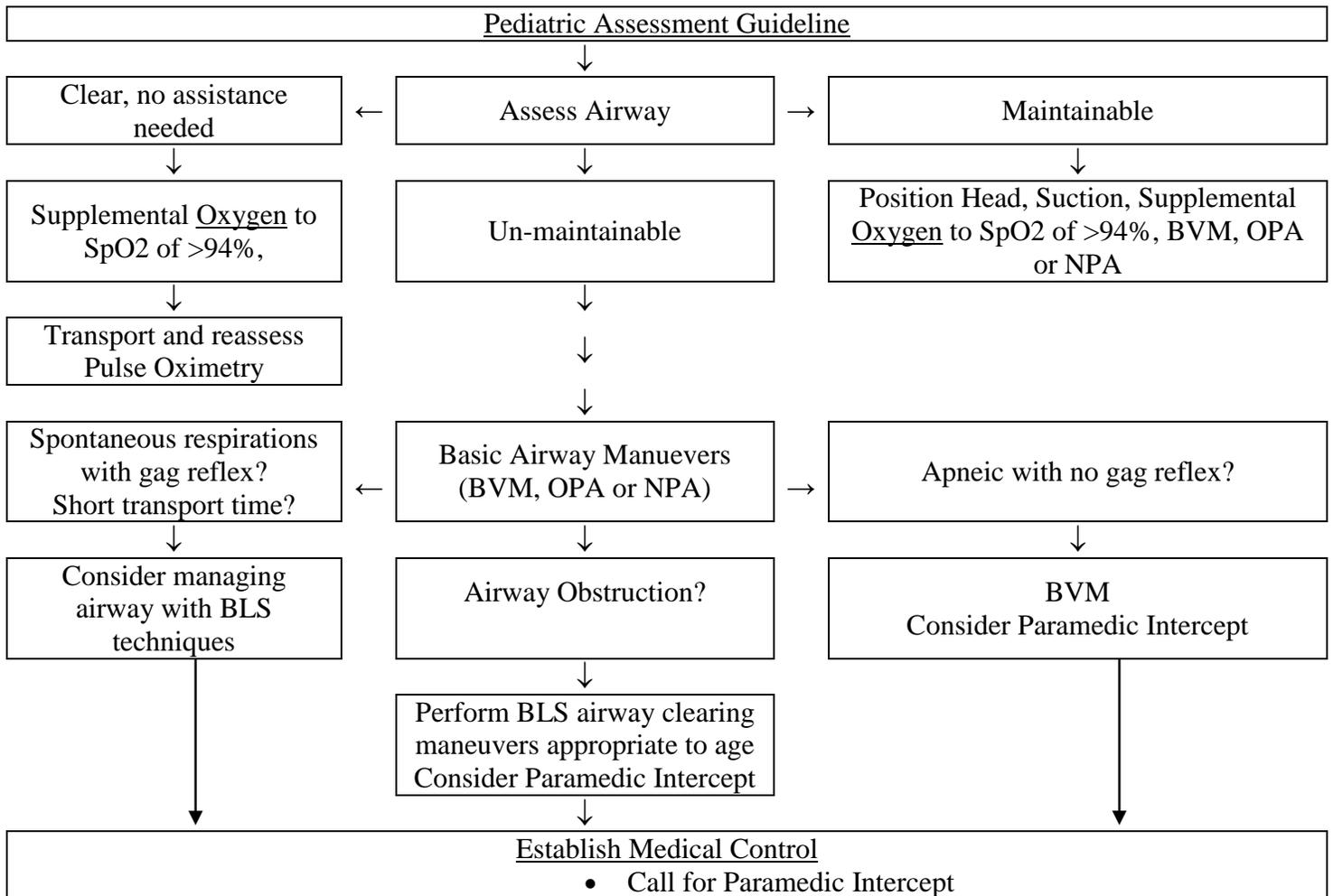
- The most common cause of fetal death is maternal death.
- Fetus may be in jeopardy while mother's vital signs appear stable.
  - Call for Paramedic Intercept

# Pediatric Medical Guidelines

## Pediatric Assessment



## Pediatric Airway Algorithm



## Pediatric Respiratory Distress

### Pediatric Assessment Guideline



Determine the appropriate weight of the patient  
If more than 50 kg (110 pounds), treat as an adult.  
(Use pediatric resuscitation tape if weight unavailable)



Ensure patency of airway  
Assess respiratory rate and effort



If airway is obstructed follow Obstructed Airway Guideline



Assess for sign of respiratory distress  
Use of accessory muscles, stridor, retractions, nasal flaring or noisy respirations



Administer oxygen to SpO<sub>2</sub> of >94% in the least irritating manner possible



Allow the children to assume the most comfortable position for themselves  
as practical and safe during transport



See Guidelines for Croup/Epiglottitis or Pediatric Asthma if indicated  
If patient requires ventilatory assistance, remember:  
DO NOT OVER EXTEND NECK  
Ventilate with a BVM  
Follow Pediatric Airway Guideline  
Arrange Paramedic Intercept



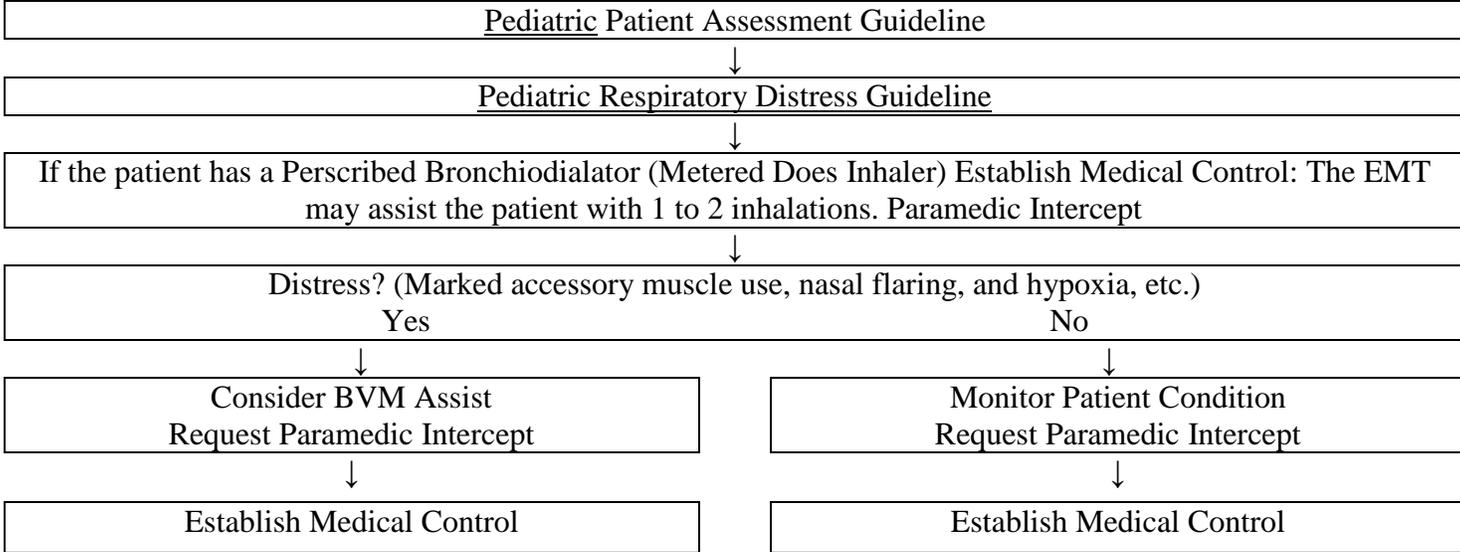
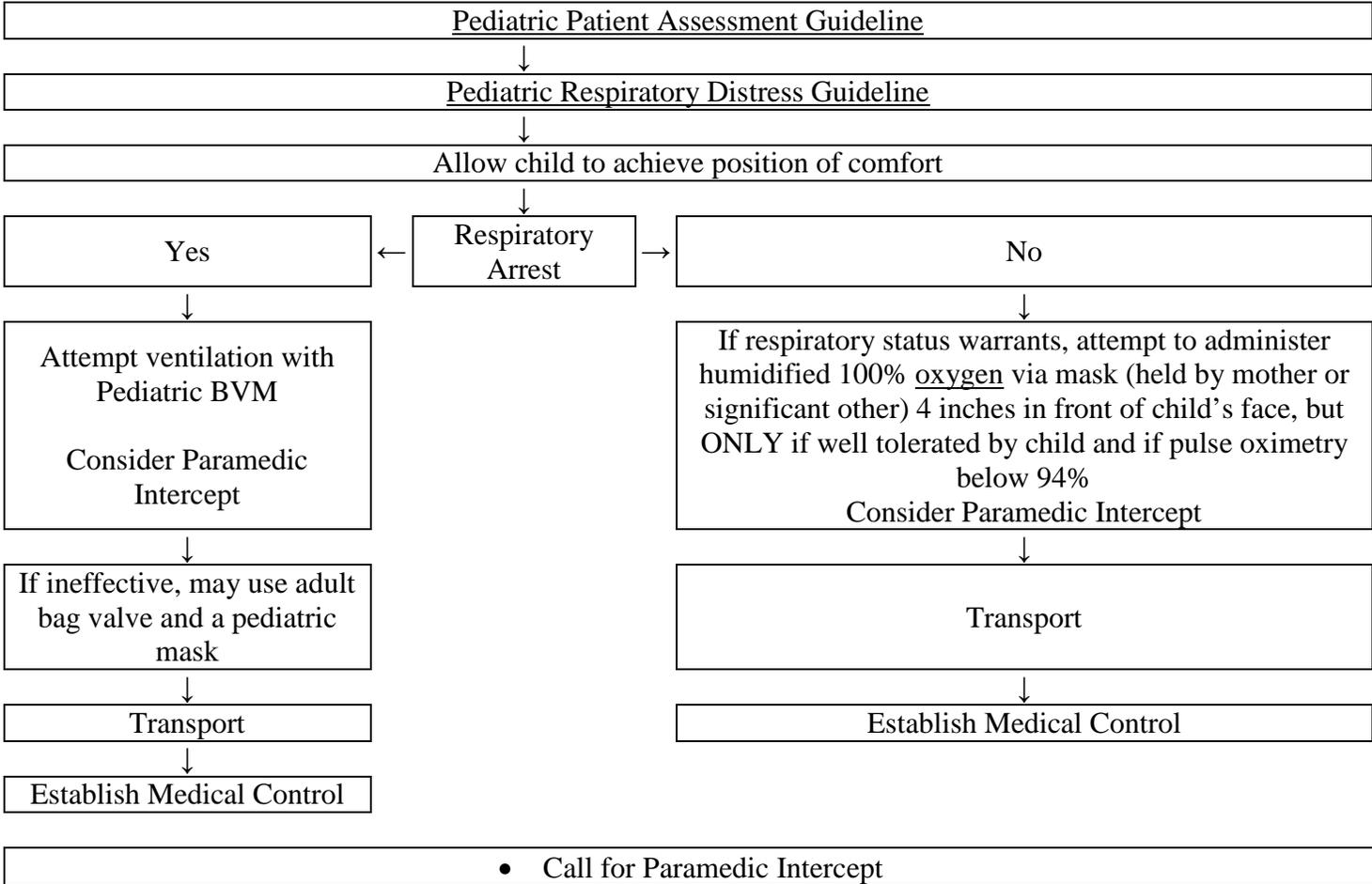
Early transport of the pediatric patient is critical



### Establish Medical Control

- Call for Paramedic Intercept

# Pediatric Asthma Suspected Croup or Epiglottitis



Obtain history and assess respiratory status to include:

- Presence of stridor
- Respiratory rate and effort
- Drooling or mouth breathing
- Degree of cyanosis
- Increased skin temperature
- DO NOT LOOK IN THE MOUTH
- **IMPORTANT KEEP PATIENT CALM AND UPRIGHT**

## Pediatric Allergic Reaction

Stable Hemodynamics without Respiratory Impairment  
Minor or moderate skin manifestations. Blood pressure appropriate for age by formula or length based tape.  
Signs of adequate perfusion are present (appropriate mental status, skin color, temp, capillary refill, etc.)



Pediatric Patient Assessment Guideline



Universal Patient Care Guideline

Avoid parenteral medication if possible to reduce patient discomfort and stress.



Oxygen as needed and tolerated if SpO<sub>2</sub> <94%



Monitor Patient Condition.  
If respiratory impairment or hemodynamic instability develop or patient condition worsens, move to anaphylaxis guideline.  
Consider Paramedic Intercept

## Pediatric Anaphylaxis

Pediatric Assessment Guideline



Oxygen per guideline and  
Pediatric Airway Guideline  
Consider Paramedic Intercept



Administer Epi-Pen Jr. if under 30kg, Standard Epi-Pen if over 30kg  
For anaphylaxis patients who has at least two of the following criteria:

- Hypotension (according to formula or length based tape)
- Difficulty in breathing or wheezing
- Hives, redness and/or itching
- Difficulty in swallowing

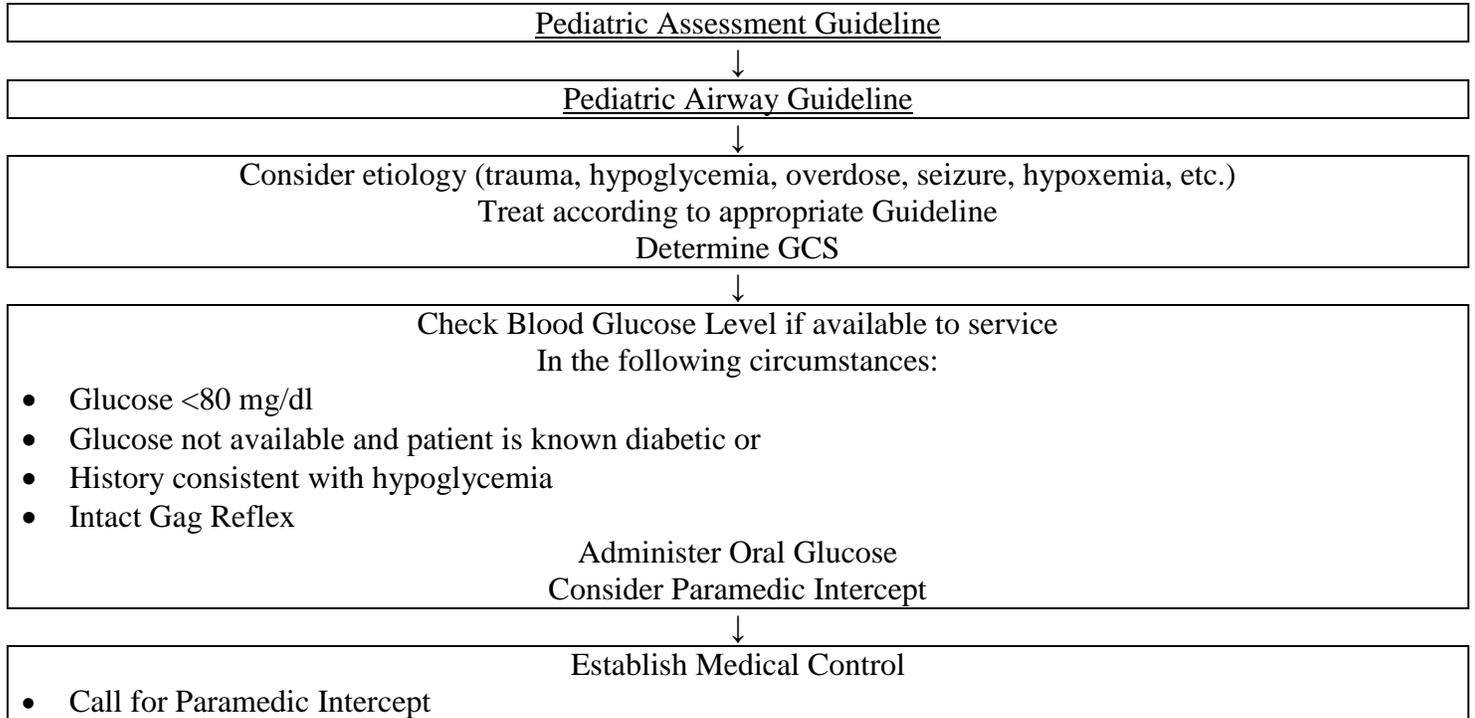


Establish medical Control  
Possible Physician orders:  
Repeat Epinephrine Pen JR or Epi-Pen IM

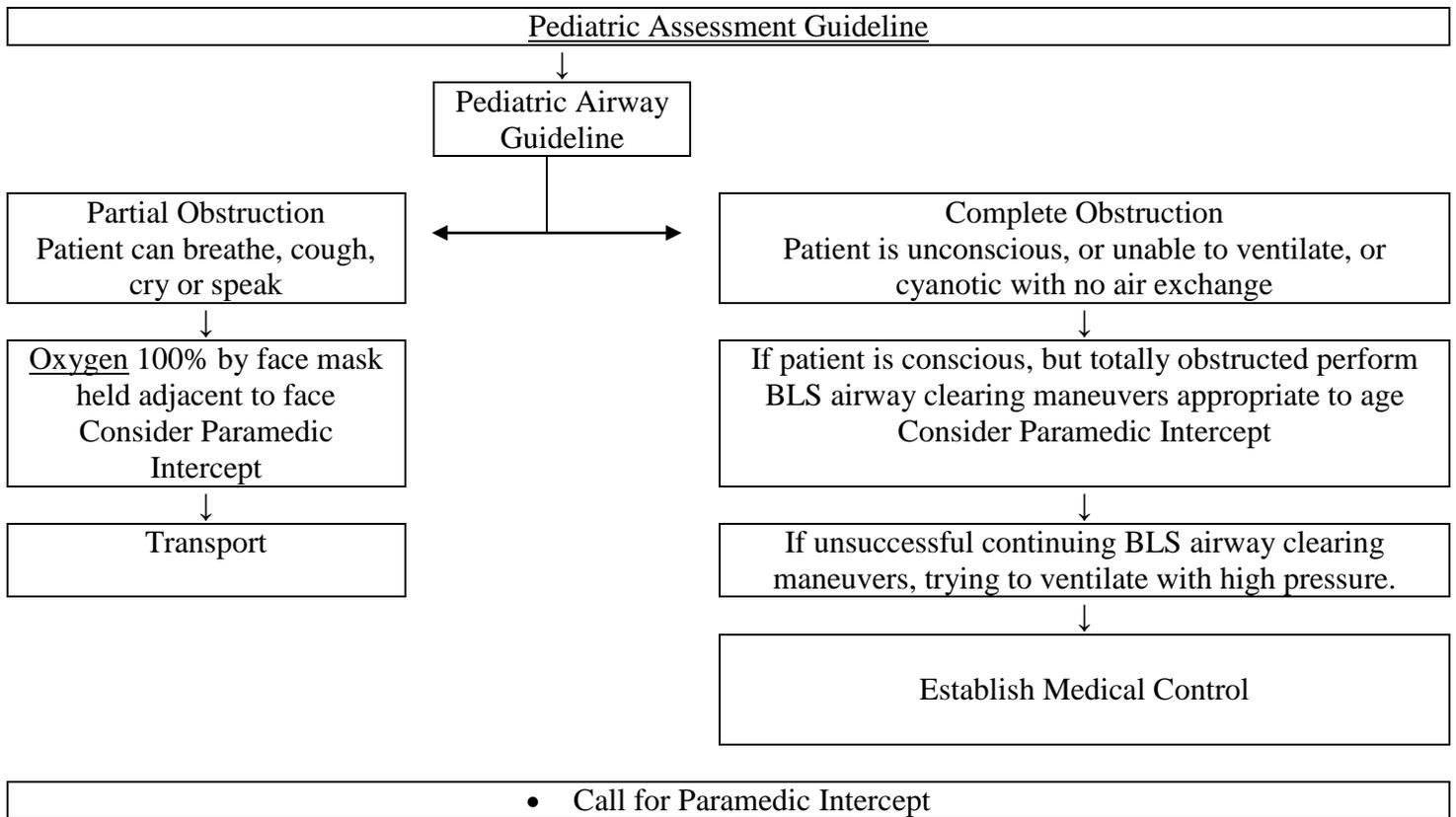
Call for Paramedic Intercept

Unstable Hemodynamics - hypotensive patient according to normal values for age and weight; pending upper airway obstruction with wheezing and/or stridor; or severe obstruction with wheezing and/or stridor; or severe respiratory distress.

## Pediatric Altered Mental Status / Hypoglycemia / Coma



## Pediatric Obstructed Airway



## Pediatric Seizures / Status Epilepticus

### Pediatric Patient Assessment Guideline



If post-trauma  
Cervical and full spinal immobilization as appropriate while maintaining airway



Closely assess respiratory activity. Use blow-by oxygen.  
Assist ventilations with BVM and 100% O<sub>2</sub> as necessary. Maintain SpO<sub>2</sub> of >94%  
Suction as necessary.



Check Blood Glucose Level if available to service



If glucose level <80 and patient awake with an intact gag reflex, administer: oral glucose

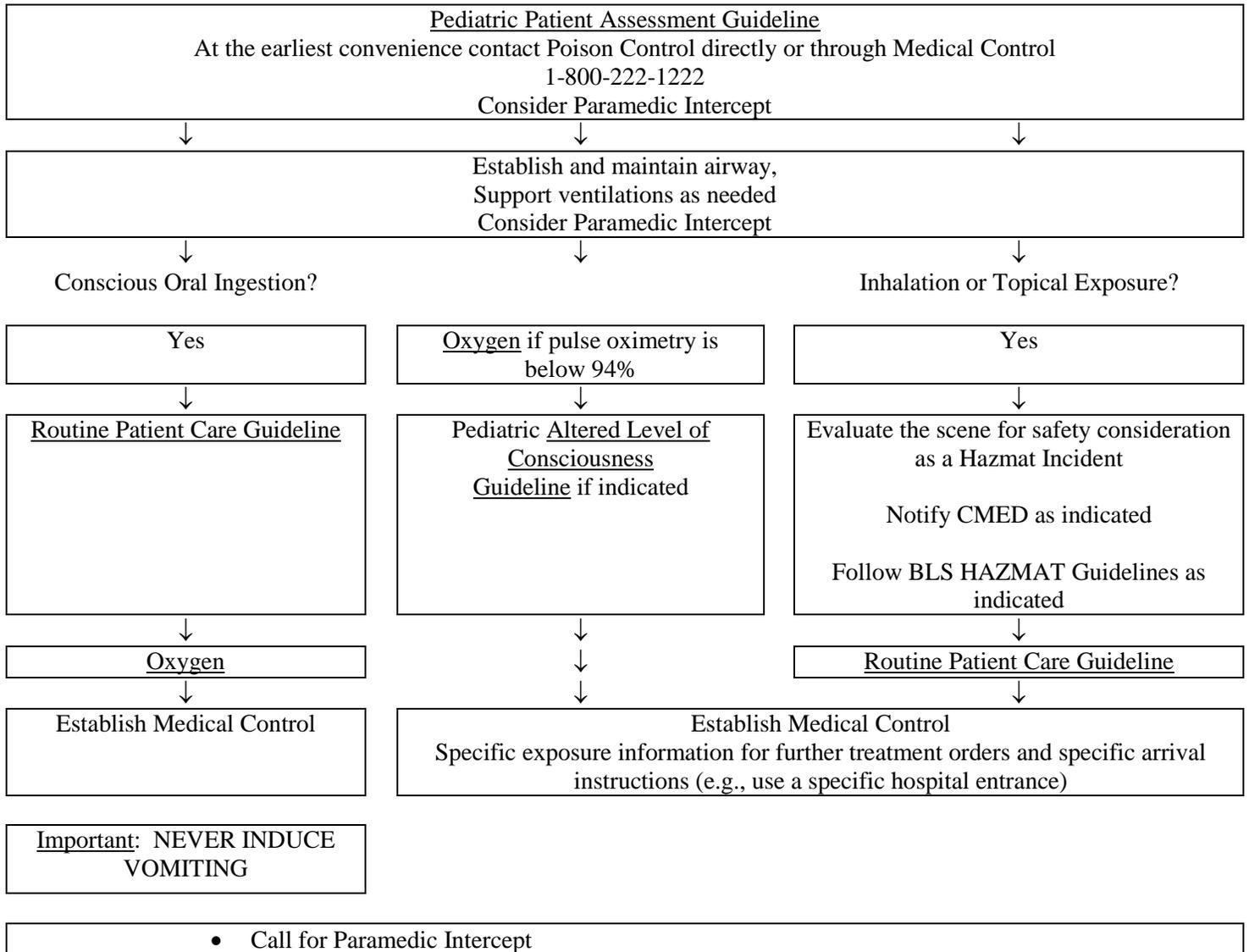


Establish Medical Control

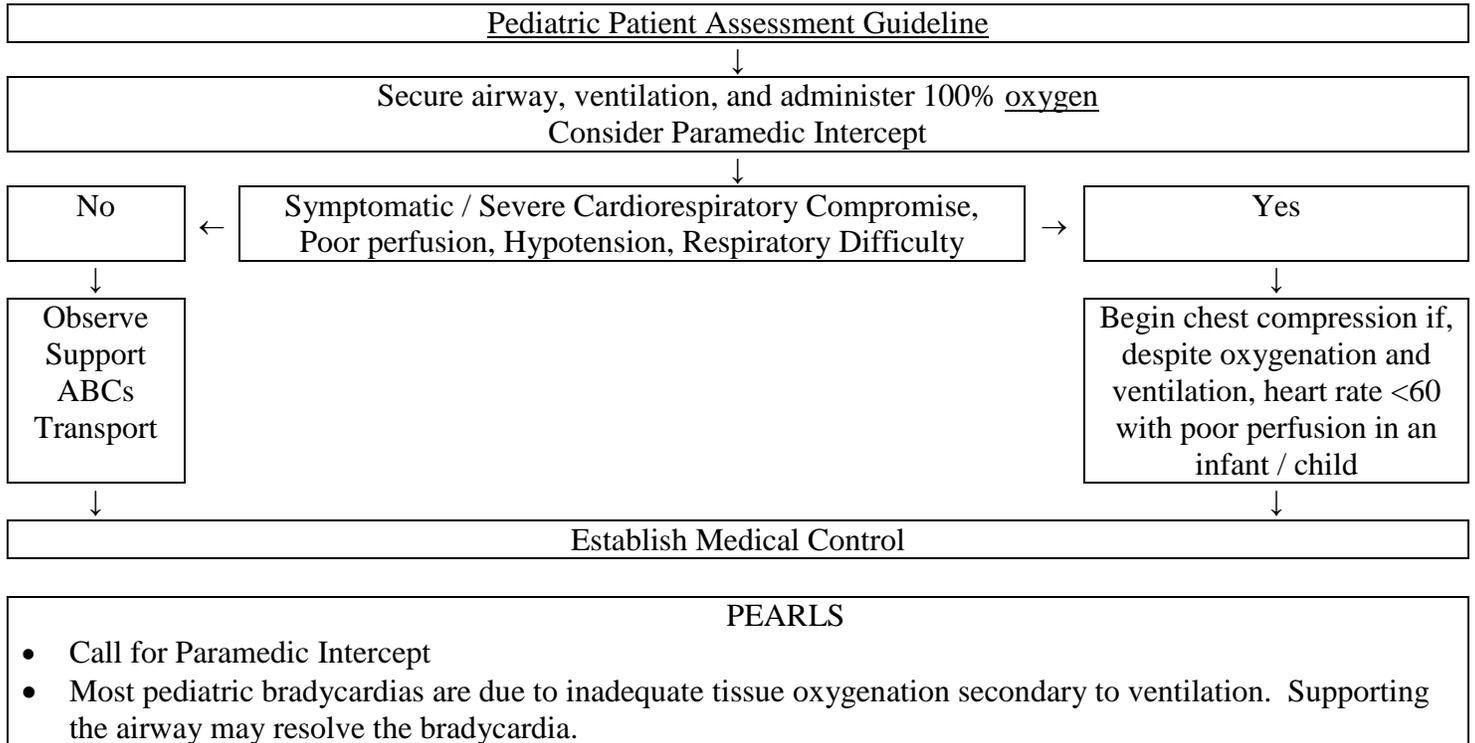
### PEARLS

- Call for Paramedic Intercept
- Initiate treatment based on history and clinical presentation. It is essential to make the distinction between focal motor, general motor seizures, and Status Epilepticus.
- Most seizures do not require emergent intervention.
- Perform an initial assessment. Attempt to determine the etiology i.e. whether the patient has a history of diabetes, seizure disorder, narcotic use, head trauma, poisoning or fever.

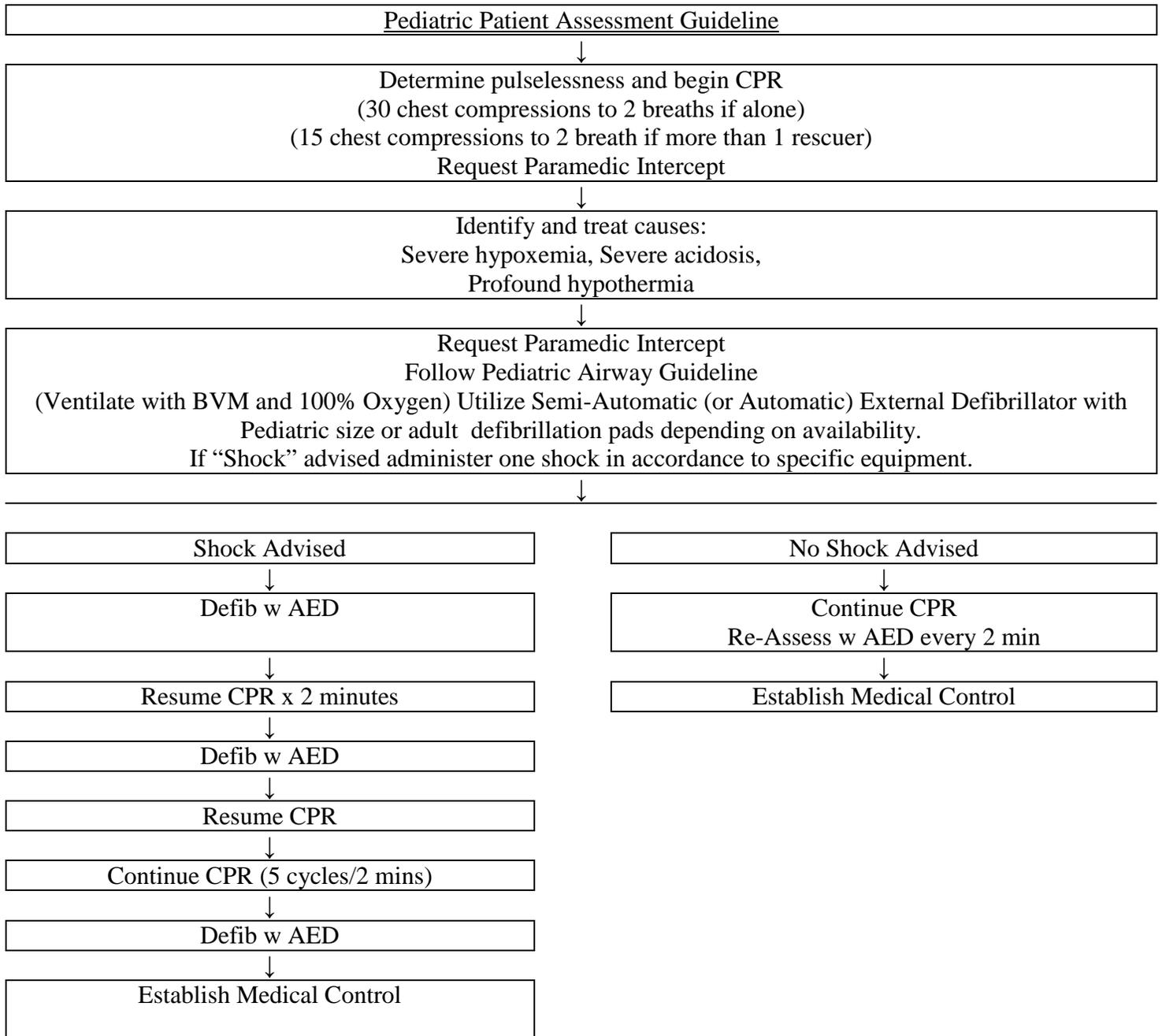
## Pediatric Overdose / Poisoning



## Pediatric Bradycardia

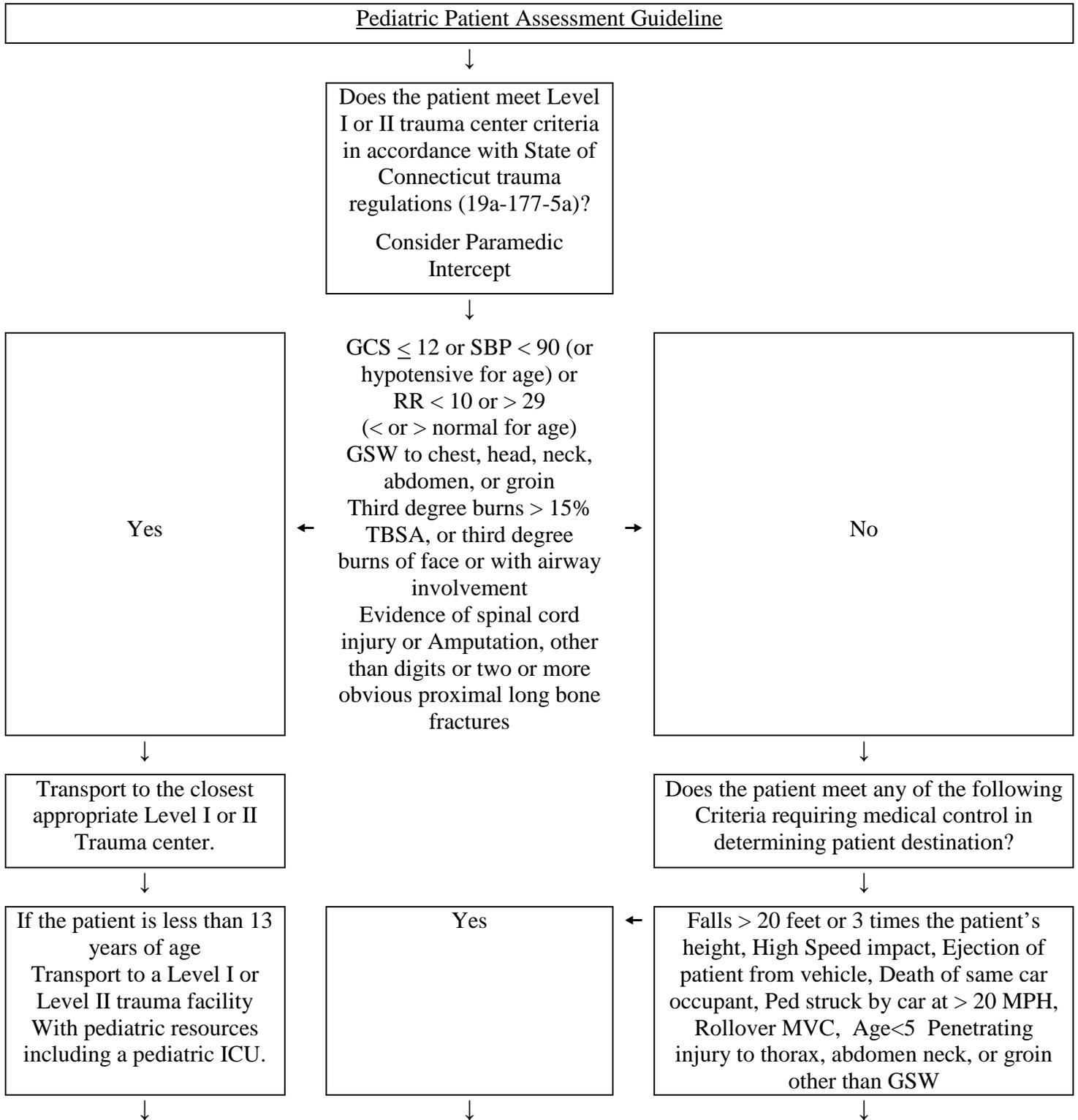


## Pediatric Cardiac Arrest

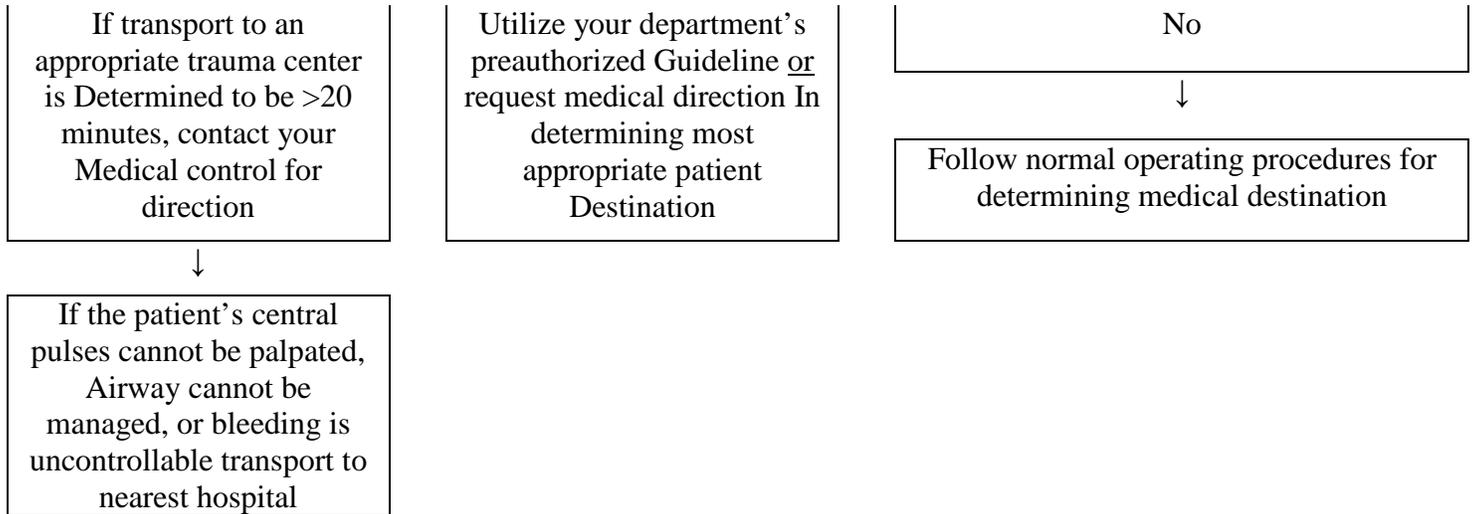


# Pediatric Trauma Guidelines < 13 Years

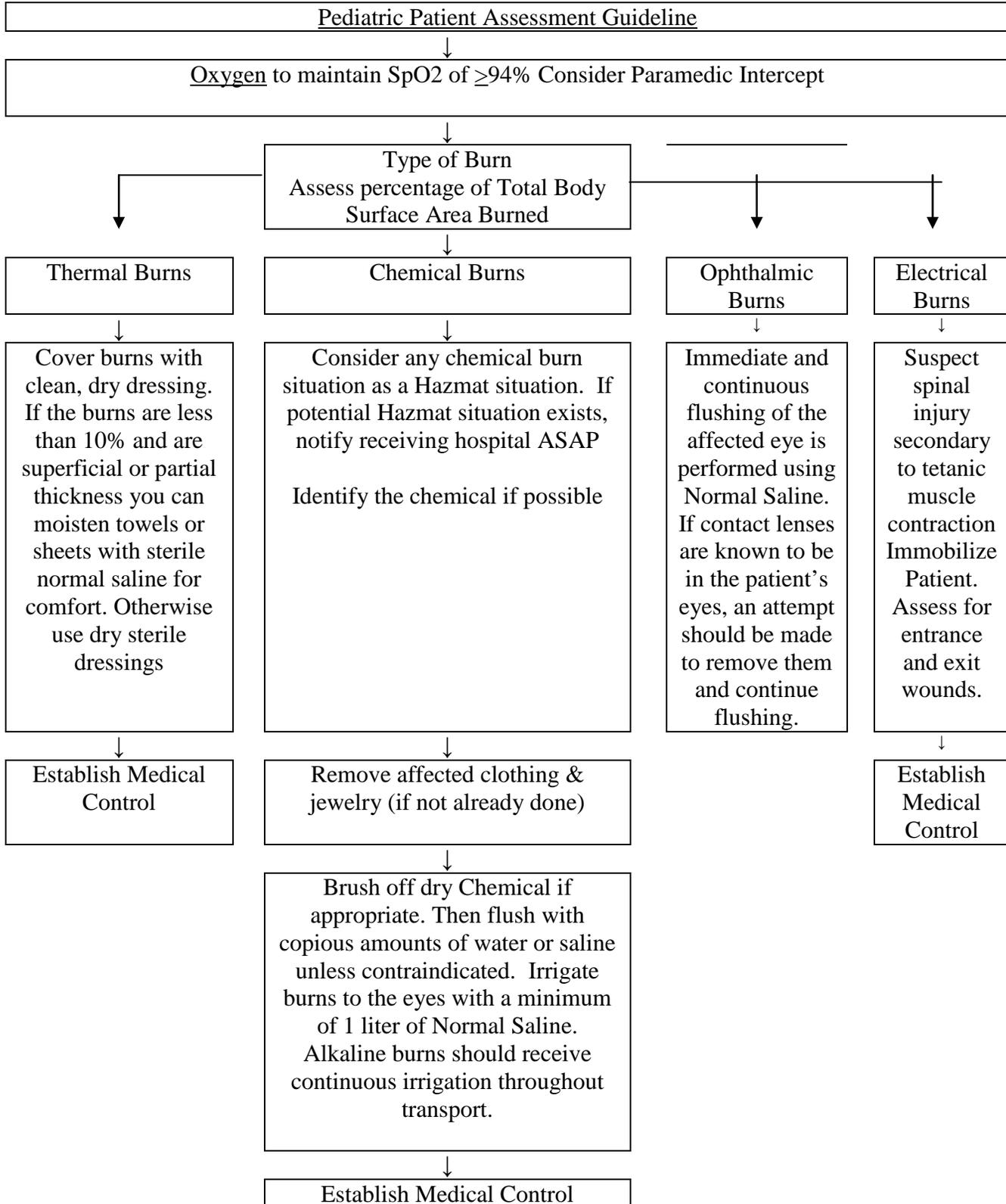
# Pediatric Trauma Triage



## Pediatric trauma triage Continued



## Pediatric Burn Patient



## Pediatric Burn Patient Continued

### PEARLS

- Call for Paramedic Intercept
- The approach to the pediatric burn patient should be similar in your approach to any burn patient, assuring your safety, the patient's safety, stopping the burning process, and airway management all remain paramount.
- Please refer to the *appendix* for the "Pediatric Rule of Nines." Please refer to the Adult Trauma - Burn section of these Guidelines for your "systems" approach to patient care.
- The anatomical map of the pediatric patient changes with age, if in doubt as to the Body Surface Area involved in the burn see the "Rule of Nines."
- Be suspicious for burn patterns that may indicate child abuse, i.e. "stocking" or "glove" pattern burns.

# Appendix

# BLS Procedures

## Cincinnati Stroke Prehospital Stroke Scale

Sign/Symptom: Facial Droop

How Tested: Have patient show their teeth or smile.

Normal: Both sides of the face move equally.

Abnormal: One side of the face does not move as well as the other.

Sign/Symptom: Pronator Drift

How Tested: The patient closes their eyes and extends both arms straight out, palms up, for 10 seconds.

Normal: Both arms move the same, or both do not move at all.

Abnormal: One arm either does not move, or one-arm drifts downward (pronator drift) compared to the other.

Sign/Symptom: Speech:

How Tested: The patient repeats “The sky is blue in Cincinnati.”

Normal: The patient says correct words with no slurring of words.

Abnormal: The patient slurs words, says the wrong words, or is unable to speak.

Patients with 1 of these findings – as a new event – have a 72% probability of an ischemic stroke.

If all 3 findings are present the probability of an acute stroke is more than 85%.

Early notification to the receiving hospital is essential to ensure the immediate availability of an appropriate in-hospital response.

## Pediatric Glasgow Coma Scale

	CHILD	INFANT
Eye Opening	4 - opens spontaneously	4 - opens spontaneously
	3 - opens to speech	3 - opens to speech
	2 - opens to pain	2 - opens to pain
	1 - none	1 - none
Verbal Response	5 - oriented	5 - coos and babbles
	4 - confused	4 - irritable cry
	3 - inappropriate words	3 - cries in pain
	2 - incomprehensible words	2 - moans in pain
	1 - none	1 - none
Motor Response	6 - obeys commands	6 - spontaneous movement
	5 - localizes pain	5 - withdraws to touch
	4 - withdrawal to pain	4 - withdraws to pain
	3 - flexion (pain)	3 - flexion (pain)
	2 - extension (pain)	2 - extension (pain)
	1 - none	1 - none

Changes in neurologic status can be of significance to the trauma surgeon or to the neurosurgeon. Significant alteration can change the outcome for the patient

## Refusal of Medical Assistance

In most cases, patients have a legal right to refuse medical care and transportation to a hospital. However, there are many situations in which a patient's refusal of medical assistance (RMA) may not be legally valid and there is a significant risk of civil liability associated with an invalid RMA. It has been estimated that between 50% and 90% of all litigation against prehospital EMS providers results from cases involving refusal of medical assistance. This Guideline has been developed to provide a standardized process for dealing with RMA cases that minimizes clinical risk to patients and legal risk to paramedics.

There are three components to a valid RMA. Absence of any of these components will most likely result in an invalid RMA. The three components are as follows:

1. **Competence:** In general, a patient who is an adult or a legally emancipated minor is considered legally competent to refuse care. A parent or legal guardian who is on-scene may refuse care on his or her minor children's behalf.
2. **Capacity:** In order to refuse medical assistance a patient must have the capacity to understand the nature of his or her medical condition, the risks and benefits associated with the proposed treatment, and the risks associated with refusal of care.
3. **Informed Refusal:** A patient must be fully informed about his or her medical condition, the risks and benefits associated with the proposed treatment and the risks associated with refusing care.

The paramedic must make every reasonable effort to convince a reluctant patient to accept medically indicated care and transportation to a hospital before accepting a patient's RMA as a final disposition. This includes assessing the patient, advising the patient about the situation and attempting to persuade him/her to accept care and transportation.

1. **Assess the patient.**
  - a. Perform a complete clinical assessment of the patient, including the following:
    - i) Chief complaint and associated complaints
    - ii) History of present illness
    - iii) Past medical history
    - iv) Thorough physical exam, including assessment of mental status and vital signs.
  - b. To the extent possible, assess the patient's legal competence to refuse care.
  - c. Assess the patient's capacity to comprehend the implications of the refusal.
2. **Advise the patient.**
  - a. Explicitly advise the patient of his/her medical condition, the proposed treatment and the risks associated with refusing care.
  - b. Avoid the use of complex medical terminology.
  - c. Explain the limitations of a prehospital clinical assessment.
  - d. Assess the patient's understanding of the situation as you have explained it. Ask the patient to repeat back to you, in his/her own words, what you have just explained to them.
3. **Attempt to persuade the patient.**
  - a. Attempt to convince the patient of the necessity for treatment and/or transport. Candidly reiterate the potential consequences of the RMA. Exploit any uncertainty on the patient's part.

## Refusal of Medical Assistance (continued)

- b. Contact on-line medical control if indicated or mandated. On-line medical control is a resource that may be accessed at any time to assist in preventing an RMA or in determining the need for protective custody as an option.
  - c. Contact police if appropriate. Patients who refuse medical assistance but do not meet the criteria for a valid RMA can be problematic. Consider involving law enforcement in such situations.
4. Documentation: When dealing with patients who are refusing treatment and/or transportation, thorough documentation is especially critical in avoiding significant liability. Using the appropriate report form, the following information should be documented for every RMA case:
- a. Accurate patient information, times of occurrence and date
  - b. A complete physical assessment, including vital signs
  - c. The patient's chief complaint, associated complaints, history of present illness and past medical history.
  - d. Evidence of the patient's capacity to refuse medical assistance
  - e. The patient's signature on the RMA statement
  - f. The signature of a police officer or other reliable witness to the refusal should be obtained on the RMA statement
  - g. Itemized refusals (i.e. refusing an IV, but accepting transport and oxygen) should be documented clearly on the Paramedic Report Form

### Establish Online Medical Oversight, possible Physician Orders may include.

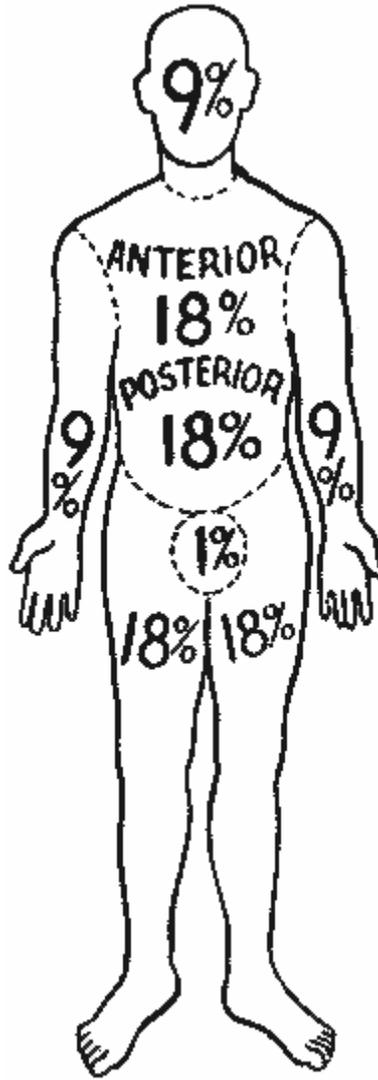
Several situations require the use of on-line medical control to determine disposition. These involve refusal of medical care or transportation by:

1. Patients who have had advanced life support initiated or would require advanced life support intervention based on their chief complaint and assessment.
2. Patients who have suicidal ideation resulting in any gesture or attempt at self-harm, or any verbal or written expression of suicidal ideation regardless of any apparent ability to complete a suicide.
3. Patients who are unemancipated minors (under the age of 18yr) not accompanied by parents.
4. Patients who, for any reason, have an impaired capacity from making informed decisions.
5. Patients who present with an altered mental status or diminished mental capacity, or who present a threat to themselves.
6. Patients whose initial complaint was indicative of stroke, or displayed signs/symptoms of stroke, but has now resolved.

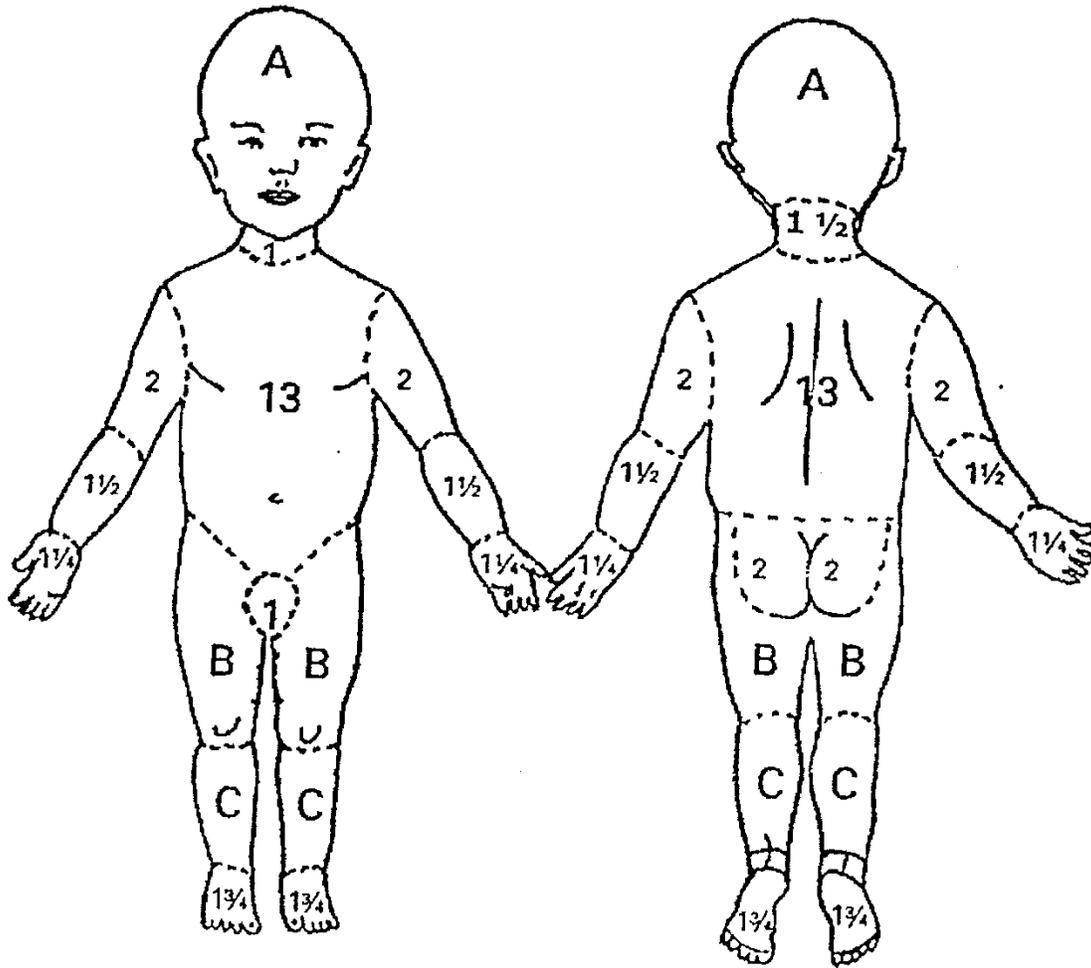
The paramedic must provide Online Medical Oversight with all relevant information and should allow the physician to converse directly with the patient by radio or telephone if necessary. The physician may determine if protective custody is to be pursued via police department. If the patient is allowed to RMA, then the paramedic will document the on-line medical control physician's name on the cancellation or run form.

Document all interaction with law enforcement and the law enforcement officer's name

RULE of NINES ADULT



## Rule of Nines Pediatrics



Area	Age - 0	Age - 1	Age - 5	Age - 10	Age - 15
A = 1/2 of head	9 1/2	8 1/2	6 1/2	5 1/2	4 1/2
B = 1/2 of thigh	2 3/4	3 1/4	4 1/2	4 1/4	4 1/2
C = 1/2 of leg	2 1/2	2 1/2	3	3	3 1/4

Lund and Browder method of calculating pediatric BSA for burns.

## Tourniquet Usage Guidelines

### INDICATIONS

A. A tourniquet should be used to control hemorrhagic wounds that have not responded adequately to direct pressure or in situations of significant extremity bleeding with the need for additional interventions (example: significant extremity bleeding with airway compromise. A tourniquet should be used to quickly control bleeding, freeing up Personnel to concentrate on airway issues.)

### PRECAUTIONS

A. Use BSI

B. A tourniquet applied incorrectly can increase blood loss and lead to death.

C. Applying a tourniquet can cause nerve and tissue damage whether applied correctly or not. Proper patient selection is of the utmost importance.

D. Damage is unlikely if the tourniquet is removed within 2 hours. Low risk to tissue is acceptable over death secondary to hypovolemic shock.

E. Tourniquets should never be covered up by patient clothing or packaging.

### TECHNIQUE

A. Attempt to control hemorrhage with direct pressure or pressure dressing.

- B. If unable to control hemorrhage using the above means, apply a tourniquet, using the procedure below, and minding the above considerations
- Select commercially manufactured tourniquet, blood pressure cuff, or improvised “Spanish Windlass” is applied to the extremity proximal to the wound, preferably on single-bone structures (humerus and femur) above wound. Do not place over joints.
  - Tighten tourniquet until bleeding stops.
  - The time and date of application (“TK 20:30” indicates that the tourniquet was placed at 8:30 pm) should be written on a piece of tape and secured to the tourniquet or written directly on the patient’s skin next to the tourniquet with a permanent marker.
  - The tourniquet should be left uncovered so that the site can be monitored for recurrent hemorrhage.
  - Keep tourniquet on throughout transport – a correctly applied tourniquet should only be removed by the receiving hospital.
  - Continue monitor patient vitals and wound
  - Ensure receiving personnel are aware of tourniquet placement

# Medications

Albuterol  
(Ventolin, Proventil)

Class:	$\beta_2$ Agonist Synthetic sympathomimetic Bronchodilator
Action:	Stimulates $\beta_2$ receptors in the smooth muscle of the bronchial tree.
Indication:	Relief of bronchospasm.
Contraindication:	None for field use.
Precaution:	Patient with tachycardia.
Side effect:	Tachycardia
Dose:	metered dose inhaler, one to two puffs.
Route:	MDI Assist wih patients prescribed medication “medical Control”
Pediatric Dose:	1 – 2 puffs

Aspirin  
(Acetylsalicylic acid)

Class:	Antiplatelet
Action:	Inhibitor of platelet aggregation
Effects:	increase clotting time
Indication:	<u>Chest pain</u> of cardiac origin
Contraindication:	Allergy to aspirin, GI Bleed, recent surgery within 4 weeks
Dose:	325mg tab or 4-baby aspirin (81mg per tab)
Route:	PO
Side Effects:	None with field use

## Epinephrine 1:1,000

Class:	Natural catecholamine, adrenergic
Action:	Stimulates both alpha (α) and beta (β <sub>1</sub> and β <sub>2</sub> ) receptors.
Indication:	Severe allergic reaction, status asthmaticus, laryngeal or lingual edema
Contraindication:	Use with caution in the presence of: Pre-existing tachydysrhythmias Hypertension Significant cardiac history Pregnancy
Side effect:	Tachydysrhythmias Hypertension May induce early labor in pregnancy Headache, nervousness, decreased level of consciousness
Dose:	0.3 mg, 1 Epi-pen 0.15mg EpiPen Jr.
Route:	IM
Pedi dose:	0.01 mg/kg (0.01 ml/kg) to a max. 0.3 mg (0.3ml) 1 Epi-pen Jr.

## Glucose (Oral)

Class:	Carbohydrate
Action:	Simple sugar that serves as primary source of energy for the cells. Increases blood sugar
Indication:	Blood glucose less than 70 mg/dL (if glucometry available to service)
Contraindication:	AMS in know diabetic Unconscious patient, Inadequate gag reflex, Hyperglycemia (If glucometry available to service)
Precaution:	May be aspirated by patient without intact gag reflex Observe patient for choking
Side effect:	Nausea, vomiting
Dose:	1 tube (15 Gm) in small doses
Route:	Buccal
Pedi dose:	½ tube (7.5 Gm) in small doses

Naloxone  
(Narcan)

<b>Class:</b>	Opiate/opioid antagonist
<b>Action:</b>	Reverses the effects of narcotics by competing for opiate receptor sites. Will reverse respiratory depression cause by Opiate/opioid.
<b>Indications:</b>	Suspected overdose with depression of respiration and/or hypoxia
<b>Contraindication:</b>	Known Allergy to naloxone Cardiac Arrest
<b>Side effect:</b>	May cause narcotic withdrawal, including agitation, combativeness, tachycardia, hypertension, nausea and vomiting
<b>Dose:</b>	2.0mg
<b>Route:</b>	IM/IN
<b>Pedi dose:</b>	Infant and toddler: Naloxone 0.5 mg (0.5 mL) per nostril for a total of 1 mg Intranasal Only. Small Child and Larger: Naloxone 1 mg (1 ml) per nostril for a total of 2 mg.

## Nitroglycerin

Class:	Vascular smooth muscle relaxant
Action:	Systemic vasodilator which decreases myocardial workload and oxygen consumption.
Indication:	<u>Angina Pectoris</u>
Contraindication:	Hypotension Children under 12 yrs Use of Erectile Dysfunction drugs within 48 hours In Acute Coronary Syndrome: Severe bradycardia <50 bpm or tachycardia (>100 per minute)
Precaution:	In Acute Coronary Syndrome avoid decreasing blood pressure > 30 mm Hg below baseline
Side effect:	Hypotension, rarely brief asystole, Headache and facial flushing Dizziness, decreased LOC
Dose:	0.4mg may repeat q 3-5 minutes, titrate to pain, effect and blood pressure
Route:	Sublingual - spray or tablet

## Oxygen

Class:	Gas necessary for life
Action:	Odorless, tasteless, colorless gas that that is necessary for life. Brought into the body via the respiratory system and delivered to each cell via the hemoglobin found in RBCs.
Indications:	Any hypoxic patient or patient who may have increased oxygen demands for any reason.
Contraindications:	None for field use
Precautions:	If patient has COPD avoid rebreather or >50% oxygen. However O <sub>2</sub> should never be withheld from any severely hypoxic patient (O <sub>2</sub> sat <90%) In which case provide oxygen titrated to a SAT of >94%. Avoid hyperoxia.
Side effects:	Hypercarbia and somnolence in COPD patients who retain CO <sub>2</sub>
Dose:	Titrate to 94% - 96%
Route:	Inhaled, or delivered via supplemental respiratory drive.

# Policies

## Documentation of Prehospital Care

Documentation of assessments and patient care shall be done on all patients evaluated including, but not limited to: emergency, transfer, patient refusals, downgrades and stand by circumstances.

Documentation of patient care shall be done immediately upon completion of patient care, and/or transfer of care. The only exceptions to this practice are personal safety issues.

The EMS Patient Care Report (PCR) is a medical record and the primary source of information for continuous quality improvement review. Prehospital care personnel shall be responsible for providing clear, concise, complete and accurate documentation. The prehospital provider who authors the report must include his/her name and signature on the report.

When a patient is transported, the PCR will be delivered with the patient to the hospital. Vital information should also be immediately communicated to the Emergency Department staff for efficient and safe transfer of care.

The PCR shall be left at the receiving emergency department. Every effort shall be made to be certain that the nurse/and or physician responsible for care receive the record. In the event the crew is called out of the hospital to respond to an emergency call, the run form must either be faxed to the facility immediately following the call, or hand-delivered. All PCRs must be left within eight hours.

Failure to leave a run form is considered to be just cause for disciplinary action.

Each emergency department shall prominently post in their EMS area their procedure for leaving PCRs. Copy machines will be made available to EMS.

Hospitals may require a second copy of the PCR be left in a designated box for review by the hospital's EMS Clinical Coordinator.

## Police Officer Ordered Transport

In the event the patient/detainee refuses treatment and transportation, but law enforcement orders it, EMS should transport the patient/detainee and document all circumstances in the PCR. In all cases a law enforcement officer should accompany a detainee in the ambulance.

### Law Enforcement Refused Transport

In the event the patient/detainee requests transport, but the law enforcement officer refuses to allow the patient/detainee to be transported, document this fact, including the name of the officer in your report. The officer can legally sign a refusal for a patient/detainee who requests transportation (however in practice this is not done – normally the patient/detainee will sign). Documentation should also include the EMS responder's cautions to the law enforcement officer on the consequences of withholding necessary evaluation and or treatment. The EMS responder should request that the law enforcement officer sign under this documentation. Medical Direction must be contacted (see section below).

### Medical Control

EMS responders are always encouraged to contact Medical Direction to allow the on-line physician to speak directly with the patient/detainee or law enforcement officer in an effort to convince them of the need for further medical evaluation. In all circumstances in which a patient/detainee is given an approved EMS medication such as a breathing treatment or dextrose, and then refuses transport or has transport denied by the law enforcement officer, the EMS responder must contact Medical Direction.

### Scope of Practice

At no time should an EMS responder perform any treatments or evaluation methods beyond their scope of practice such as administering insulin, dispensing or verifying medications.

### Transport Destination

The law enforcement officer may determine the hospital of choice unless it conflicts with patient/detainee need as determined by regional guideline or state regulation. Medical Direction should be contacted with any questions.

CEMSMAC RATIFIED (WITH CORRECTIONS) 4/9/09

## AED Policy regarding 2010 AHA Guidelines

1. Existing AEDs may continue to be used, including those that administer 3 successive shocks.
2. Services are expected to have upgraded their AEDs to administer single shocks before January 1, 2008.
3. If you are given programming options for your AED, it should be to analyze and shock once it is turned on. Please note that this is consistent with current (Guidelines 2010) AHA teachings. Shock energy levels should be in accordance with manufacturer recommendations.
4. When more than one rescuer is present: Upon arrival at a cardiac arrest CPR should be started immediately and continued until the AED pads are in place and the machine is ready to analyze. The AED should be placed on the patient as soon as it is available, regardless of downtime or if the arrest was witnessed or un-witnessed. In cases in which a defibrillator is not immediately available, CPR should be done until such time as a defibrillator is available.
5. When there is only a single rescuer present: Unwitnessed arrests should have the AED placed on the patient if no other help has arrived. (If additional help arrives they should place the AED on the patient as soon as they arrive). Witnessed arrests should have the AED placed immediately.

## Selective Spinal Immobilization

### **I. Scope: Connecticut Certified EMT's through Licensed Paramedic's**

### **II. Purpose:**

- A. The State of CT is supporting efforts to decrease unnecessary immobilizations in the field and reduce the risks and complications associated with this procedure. The intent of this guideline is to decrease injury and discomfort to patients caused by unnecessary spinal immobilization and use of long spine boards.
- B. Studies show that immobilizing trauma victims may cause more harm than good to the patient.
- C. Penetrating trauma victims benefit the most from rapid assessment and transport to a trauma center without spinal immobilization or spinal motion restriction (SMR).
- D. There is evidence that backboards result in harm by causing pain, changing the normal anatomic lordosis of the spine, inducing patient agitation, causing pressure ulcers, and compromising respiratory function.
- E. Backboards should be avoided for spinal immobilization with conscious patients.

### **F. Placing ambulatory patients on backboards is unacceptable.**

### **III. Spinal Injury Assessment**

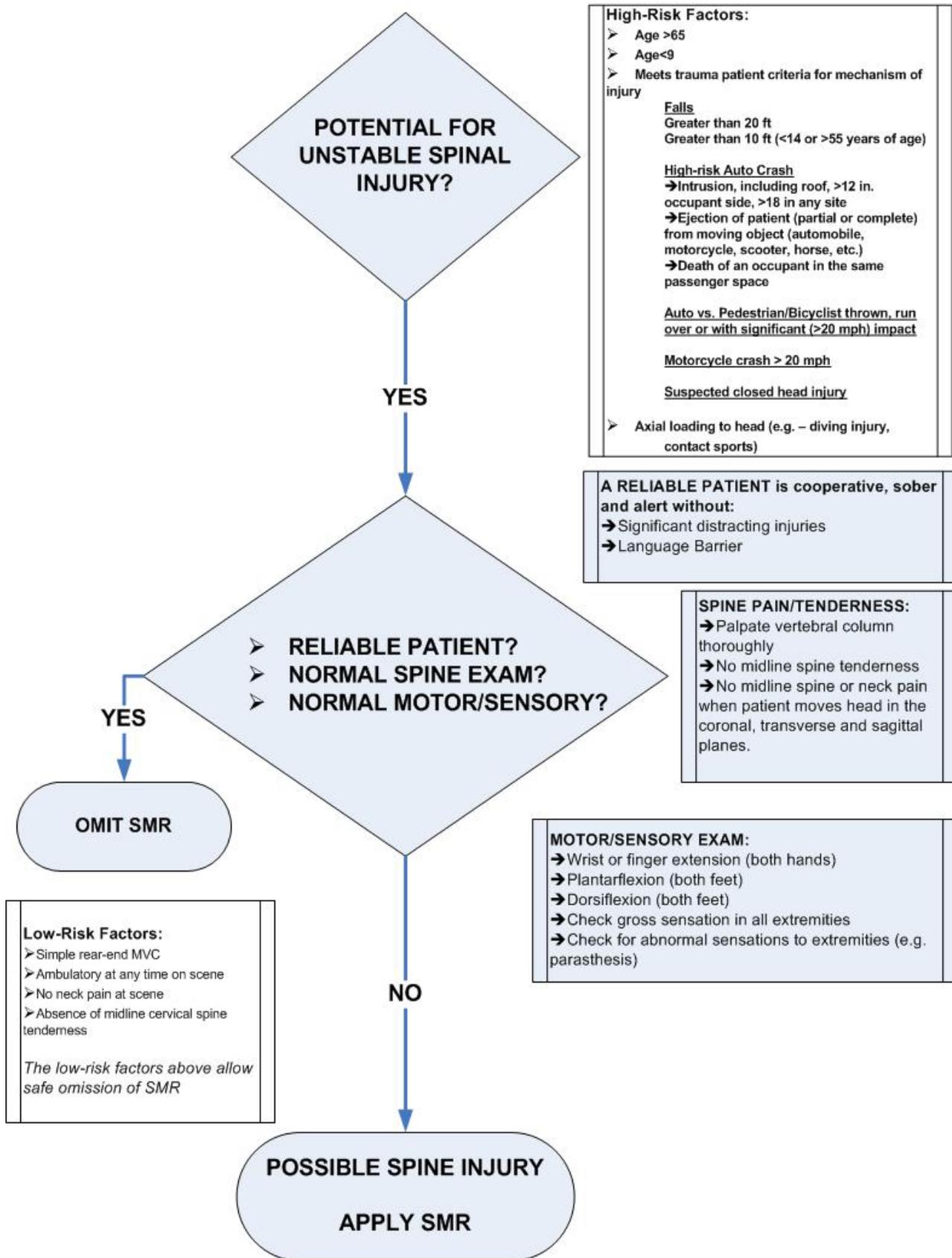
#### **A. Introduction**

- 1. Omit SMR if all assessment criteria are safely assessed and normal
- 2. Consider SMR for a patient who is suspected of having a traumatic unstable spinal column injury. Have high index of suspicion for pediatrics and patients with degenerative skeletal/ connective tissue disorders (i.e. osteoporosis, elderly, previous spinal fractures, etc)
- 3. Penetrating trauma such as a gunshot wound or stab wound should **NOT** be immobilized on a long board. Emphasis should be on airway and breathing management, treatment of shock, and rapid transport to a Level 1 or 2 trauma Center.
- 4. Determination that immobilization devices should be used or removed should be made by the highest level provider on scene.
- 5. If the immobilization process is initiated prior to the arrival and assessment by the highest level of provider, STOP and perform spine injury assessment to determine best course of action.

#### **B. Pediatric Patients and Car Seats**

- 1. **Infants restrained in rear-facing car seat** may receive SMR and be extricated in the car seat. The child may remain in the seat if the SMR is secure and his/her condition allows (no signs of respiratory distress or shock).
- 2. **Children restrained in car seat (with a high back)** may receive SMR and be extricated in the car seat. The child may remain in the seat if the SMR is secure and his/her condition allows (no signs of respiratory distress or shock).
- 3. **Children restrained in booster seat (without a back)** need to be extricated and receive standard SMR procedures

**Helmet removal:** Safe and proper removal of the helmet should be done by two people following steps outlined in an approved trauma curriculum.



#### IV. Spinal Motion Restriction

- A. **INTRODUCTION:** The term spinal motion restriction (SMR) better describes the procedure used to care for patients with possible unstable spinal injuries. SMR includes:
1. Reduction of gross movement by patient
  2. Prevention of duplicating the damaging mechanism to spine
  3. Regular reassessment of motor/sensory function
- B. **PURPOSE:** To decrease the risk of negative effects caused by traditional spinal immobilization while still providing appropriate care to patients with possible spinal injury by implementing alternative methods to achieve SMR
- C. **INDICATIONS:** Any patient identified by State of CT's Spinal Injury Assessment to warrant spinal motion restriction. The spinal injury assessment should be performed prior to application of SMR.
- D. **PROCEDURE:** If patient experiences negative effects of SMR methods used, alternative measures should be implemented.
1. If hard backboard utilized for extrication, Patient should be removed from the extrication device as soon as possible and placed on the ambulance stretcher
    - a) Patients with potential c-spine or spinal column injury should be transported supine directly on flat cot only without a long spine board. If patient was extricated to stretcher on a long spine board, unstrap and log-roll the patient, remove the long spine board for transport, and transport on cot.
    - b) May be left on hard spine board if not for spinal immobilization (e.g. Extremity splinting) or removal would delay transport of an unstable patient.
  2. Patient positions and/or methods/tools to achieve SMR that are allowable (less invasive to more invasive):
    - a) Patient Position: supine, lateral, semi fowler's, fowlers
    - b) Tools/methods to achieve position of comfort include, but not limited to: pillows, children's car seat, scoop, vacuum mattress
  3. Provide manual stabilization restricting gross motion. Alert and cooperative patients may be allowed to self-limit motion if appropriate with or without cervical collar
  4. Apply cervical collar
    - a) Patients who are unable to tolerate cervical collar may benefit from soft collars, pillows or other padding

5. Considerations for patient movement when decision to SMR has been made:
  - a) Keeping with the goals of restricting gross movement of spine and preventing increased pain and discomfort, self-extrication by patient is allowable
  - b) If needed, extricate patient limiting flexion, extension, rotation and distraction of spine

Pull sheets, other flexible devices, scoops and scoop-like devices can be employed if necessary. Hard backboards should only have limited utilization.
6. **ALERT: No standing takedowns of ambulatory patients.** Ambulatory patients who meet the above criteria for cervical immobilization should have c-collar applied and be allowed to sit onto the stretcher.
7. Apply adequate padding to prevent tissue ischemia and increase comfort. *Patients should be allowed to be in position of comfort.*
8. Place patient in position best suited to protect airway
9. Regularly reassess motor/sensory function (include finger abduction, wrist/finger extension, plantar/dorsal flexion and sharp/dull exam if possible)
10. Consider the use of SpO<sub>2</sub> and EtCO<sub>2</sub> to monitor respiratory function
11. Delivery to hospital: movement of patient to hospital stretchers should be done by limiting motion of the spine. Use of slide boards, sheets lifts, etc. should be considered.

#### E. SPECIAL CONSIDERATIONS

1. **Patients with acute or chronic difficulty breathing:** SMR has been found to limit respiratory function an average of 17% with the greatest effect experienced by geriatric and pediatric subjects restricted to a hard backboard. **USE SMR WITH CAUTION *with patients presenting with dyspnea and position appropriately***
2. **Pediatric patients, <9 years of age:**
  - a) Consider use of padded pediatric motion restricting board
  - b) Avoid methods that provoke increased spinal movement
  - c) If choosing to apply SMR to patient in car seat, ensure that proper assessment of patient posterior is performed
3. **Combative patients:** Avoid methods that provoke increased spinal movement and/or combativeness

**Interfacility transports:** Long spine boards do not have a role for patients being transported between facilities. If the sending facility has the patient on OR is asking EMS to use a long spine board for transport, EMS providers