

# **North Country EMS Program**



## **Advanced Life Support Protocol Handbook**

**Effective April 1, 2007**

# **NORTH COUNTRY EMS ALS PROTOCOLS**

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## **NORTH COUNTRY EMS Medical Control Agreement**

**As an Advanced Life Support Provider in the NCEMS system, you have agreed to follow the NCEMS ALS protocols and remain in good standing through continuing medical education and skills maintenance. The NCEMS system program, in turn, agrees to authorize you to practice in our system of Medical Control.**

**This system is responsible to provide you with medically sound prehospital protocols and consistent Medical Control by physicians knowledgeable in emergency medicine and familiar with the NCEMS protocols. You agree to utilize and follow the NCEMS ALS protocols and NCEMS Medical Control.**

**If you deviate from the protocols in such a way as to endanger or potentially endanger patient care or employ a skill improperly, the Regional Medical Director may subject you to a restriction to practice at the ALS level. If your privileges are restricted, the procedures outlined in the NCEMS CQI Manual will be followed. If you have any questions or concerns, please contact the NCEMS Program Agency office at 866-475-3977 or (315) 379-3977.**

**At any time you may consult with Medical Control for direction if you are unsure of how to further proceed. Once Medical Control has been contacted, they are ultimately responsible for subsequent treatment options. The ALS provider shall always employ GOOD CLINICAL JUDGEMENT. Remember that every patient does not clearly fit into one treatment protocol and, in some cases multiple protocols may need to be used. If Medical Control orders appear inappropriate to the ALS provider, the provider should clarify the orders and the patient's condition with the Medical Control Physician. If the Medical Control Physician does not alter or retract the orders, the provider should carry them out unless they are out of the scope of practice of the provider. After the call, the discussion should be documented and presented to the Service and/or Regional Medical Director.**

**It is further agreed that a NYS PCR or other NYS approved documentation device shall be completed for every patient.**

## BODY SUBSTANCE ISOLATION

Body Substance Isolation should be used for all patient contacts if the health care provider may be exposed to blood, or other body fluids. Body Substance Isolation assumes that all patients are carriers of infectious contagious diseases.

### General recommendations

- ◆ Gloves should be worn when handling blood, body fluids, mucous membranes, non-intact skin, and body tissues. New gloves should be worn for each patient contact. Hands must be washed after glove removal.
- ◆ If a splash of blood or body fluid is anticipated, a full-face shield or goggles and a facemask should be worn.
- ◆ If emergency ventilatory support is necessary, a resuscitation mask should be used.
- ◆ Do not recap needles. Promptly place disposable sharps in a designated puncture resistant container.
- ◆ Place all soiled linen in a clear, plastic bag before sending it to the laundry.
- ◆ Use a solution of 1 part household bleach to 100 parts water to clean equipment, clean up spills, and decontaminate walls and other objects soiled with blood or body fluids.
- ◆ If your skin has a break, cut, abrasion, or dermatitis, use gloves and avoid any contact with blood or body fluids.
- ◆ Be vaccinated against Hepatitis B.
- ◆ Exposure to and possible contamination from blood or body fluids should be reported to your agency's designated officer.
- ◆ Patients should be asked if they are allergic to Latex. Non-Latex equipment should be utilized on all patients that have Latex allergies.

**Since there is no reliable, immediate means to identify infected patients, prehospital care providers should be equally cautious when caring for all patients.**

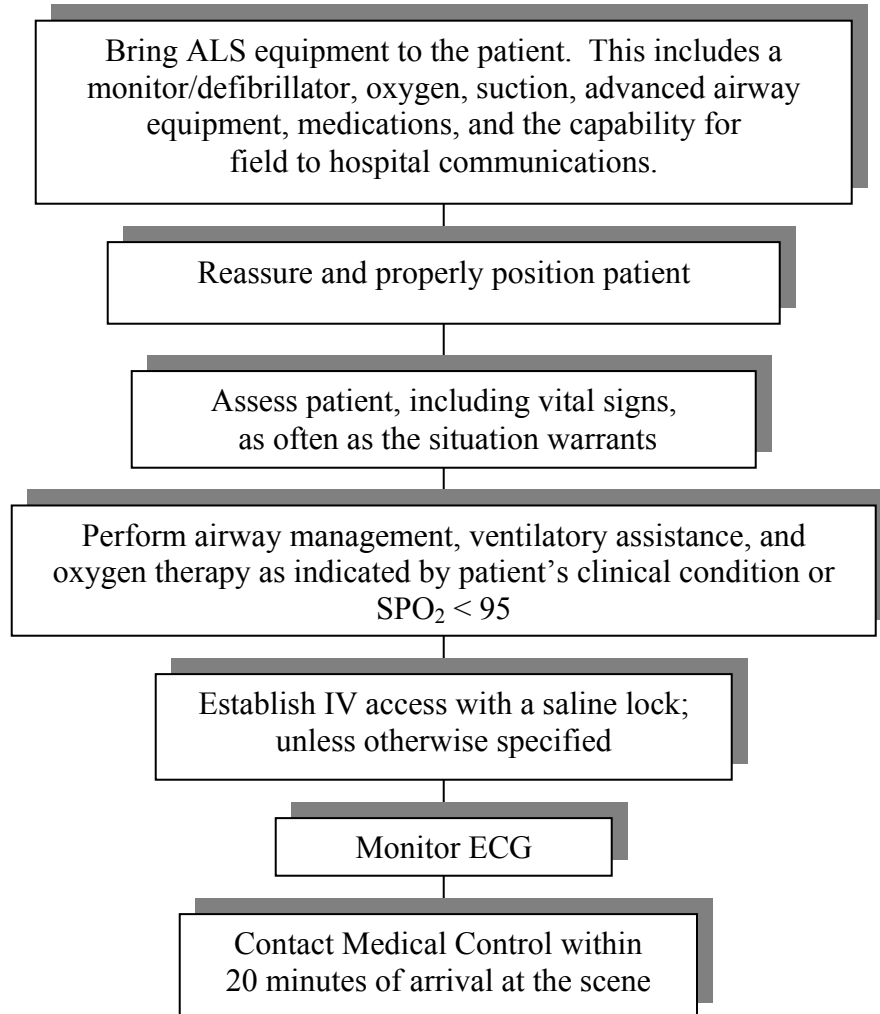
ALL  
**BOLD UNDERLINED**  
PROTOCOL ITEMS  
REQUIRE A MEDICAL CONTROL  
ORDER FOR ALL PROVIDERS.

ALL ITEMS SIMPLY UNDERLINED REQUIRE  
MEDICAL CONTROL ORDERS FOR ALL LEVELS  
EXCEPT PARAMEDICS.

**The use of additional medical interventions, equipment and adjuncts may be authorized by the North Country REMAC on an agency based assessment after approval by the Service Medical Director. Commercial devices must be FDA approved. Contact the North Country EMS Program Agency for the procedure necessary for your specific request. REMAC Policy # 96-02 provides a guide, but does not assure REMAC approval.**

## ROUTINE MEDICAL CARE

The following procedures will be performed on all medical emergencies requiring Advanced Life Support.



ADULT

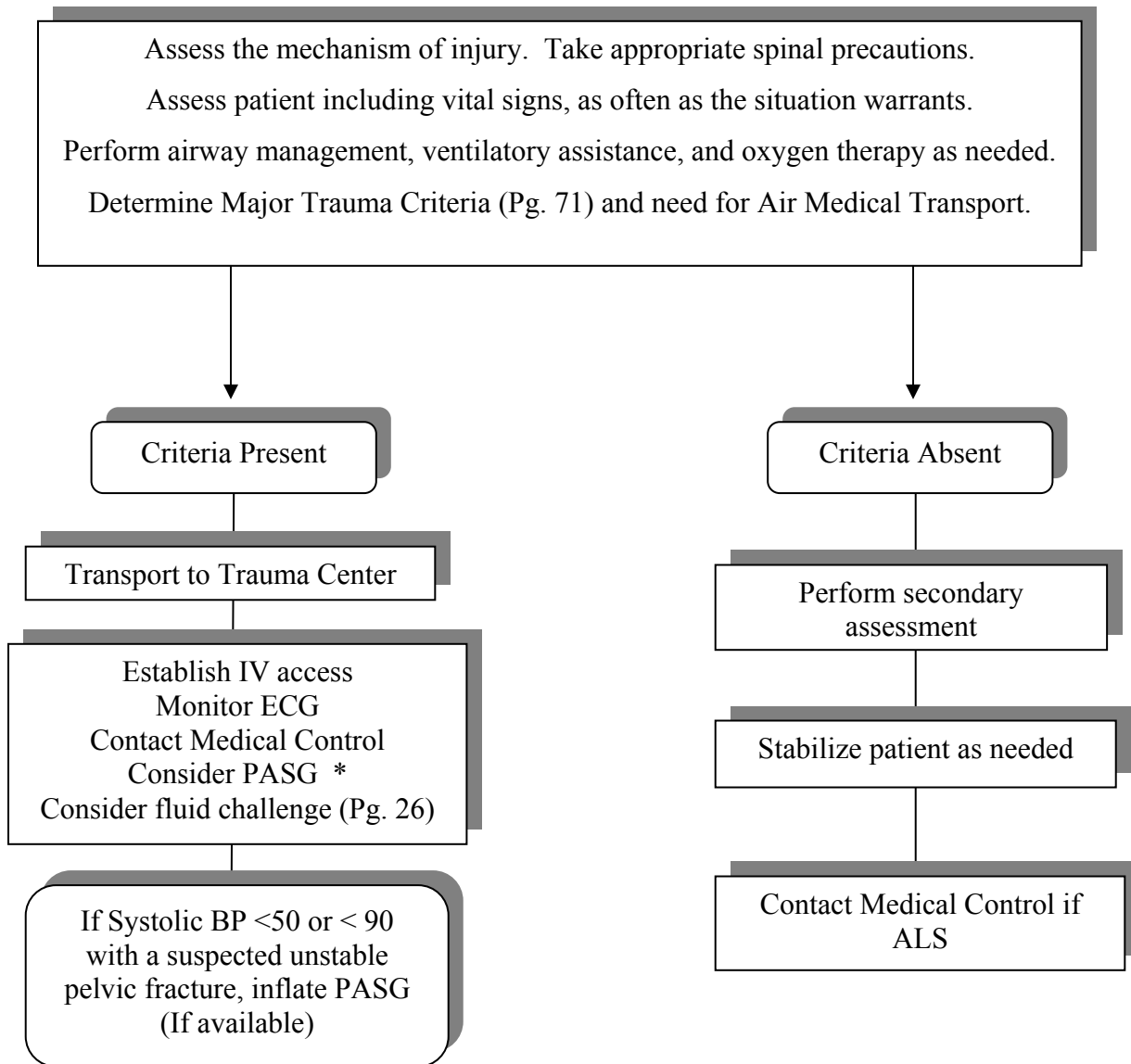
ILS units may institute ECG monitoring after transport is initiated if requesting ALS interface.

### **Multiple Patient Procedures**

If a potential multi-casualty incident (MCI) exists, contact the Dispatch Control Center and Resource Hospital as soon as possible.

The Medical Control Physician is authorized to make all protocols standing orders during the MCI.

# ROUTINE TRAUMA CARE



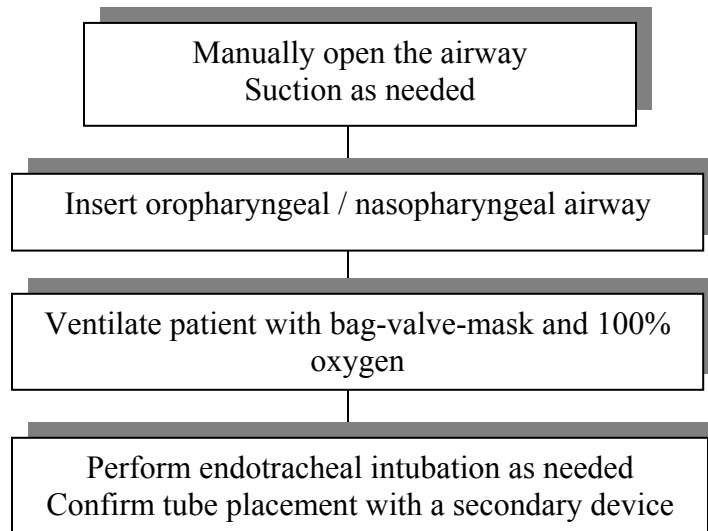
ADULT

**If total time to Trauma Center exceeds the Golden Period ( $\leq 90$  minutes), the patient should be taken to the nearest hospital.** Total time is defined as the period from the occurrence of the incident to the estimated time of arrival at the medical facility.

**Except for prolonged extrication, on-scene time should not exceed 10 minutes.**

**Take all patients in cardiac arrest or with an unmanageable airway to the nearest hospital.**

# AIRWAY MANAGEMENT



ADULT

**EMT-I**      **Age  $\geq$ 16 years**

May attempt orotracheal intubation on patients in respiratory arrest. In trauma, manual stabilization is required.

**EMT-CC**      **Any Age**

May attempt orotracheal intubation on all patients that have an altered mental status, a respiratory rate  $< 10$ , and that tolerate an oropharyngeal airway. In trauma, manual stabilization is required.

**EMT-P**      **Any Age**

May attempt orotracheal intubation on all patients requiring definitive airway management. If direct laryngoscopy is impossible, digital intubation may be attempted. In trauma, manual stabilization is required.

- SPO<sub>2</sub> monitoring is required. It is considered an important vital sign for proper airway management and the standard of care for all patients requiring ALS.
- Patients that are intubated with a cuffed ET tube require secondary confirmation with an esophageal detector device. End-tidal CO<sub>2</sub> detection is required for all patients via colorimetric device or capnography. Wave form capnography is preferred.
- Document methods used to verify ET tube placement on PCR.

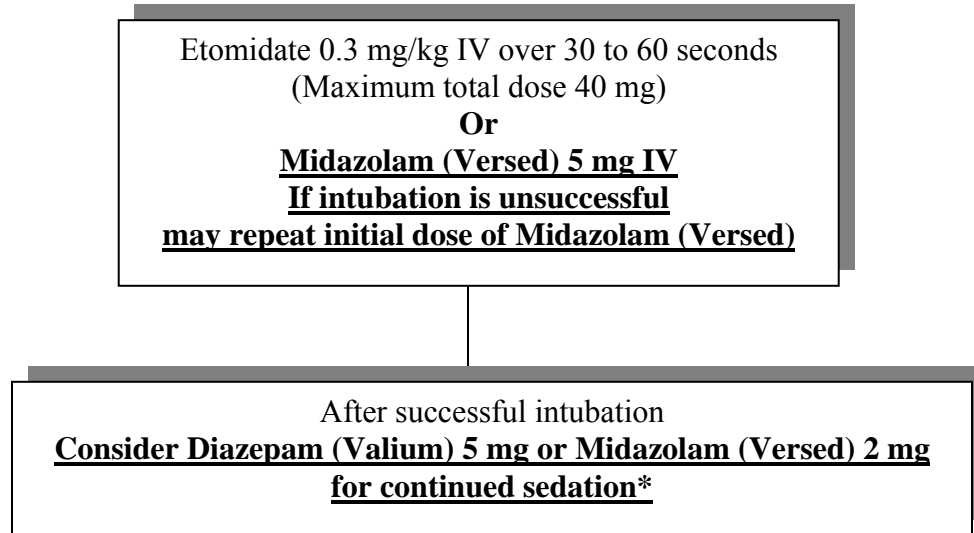
# FACILITATED INTUBATION

For patients requiring sedation prior to intubation, Paramedics may perform the following procedures.

Indications are:

Need for airway control in patients that are combative or have a gag reflex.

**EMT-P**

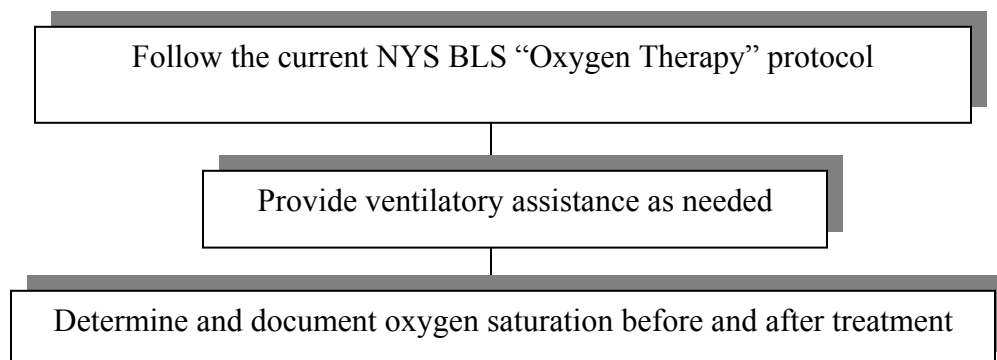


ADULT

- SPO<sub>2</sub> monitoring is required, it is considered an important vital sign for proper airway management and the standard of care for all patients requiring ALS.
- Patients that are intubated with a cuffed ET tube require secondary confirmation with an esophageal detector device. End-tidal CO<sub>2</sub> detection is required for all patients via colorimetric device or capnography. Wave form capnography is preferred.
- Document methods used to verify ET tube placement on PCR.

\* If you do not carry controlled substances, consider interface with an ALS unit that carries them.

## OXYGEN THERAPY



ADULT

## IV / IO THERAPY

**EMT-I age  $\geq 16$**

**EMT-CC age  $\geq 5$ , and age  $< 5$  with a Medical Control order**

**EMT-P all ages**

- ◆ Establish IV access with a saline lock on all appropriate medical and traumatic emergencies, unless otherwise specified.
- ◆ External Jugular access is acceptable in critical patients when other access is not available or the time to find other access would jeopardize patient outcome.

### **EMT-CC / EMT-P ONLY**

- ◆ To infuse IV medications:
  1. Access the saline lock
  2. NS or LR 250 ml and a microdrip set (60 drops/ml)
  3. After administration of IV medications, flush with 3-5 ml NS
- ◆ To infuse IV drip medications, access the saline lock with NS or LR, 250 ml and a microdrip set (60 drops/ml).
- ◆ To perform a fluid challenge, access the saline lock with NS or LR, 1000 ml, macrodrip set (10-15 drops/ml) and a pressure infuser device (or BP Cuff), run at specified rate.
- ◆ **Adult IO:** Standing order for patients that present unconscious/unresponsive with a SBP  $< 100$ . All others patients require medical control consultation.
- ◆ **Adult IO removal devices must be transferred with the patient to their destination.**

### **Special ILS Procedures**

ILS providers may establish IV access on medical emergencies only under the following conditions:

- ◆ The ILS agency is a non-transporting rescue unit awaiting arrival of a dispatched ALS unit.
- ◆ The ILS unit will be transporting and the IV can be started enroute.
- ◆ Per Medical Control order.
- ◆ Under the direction of ALS personnel.

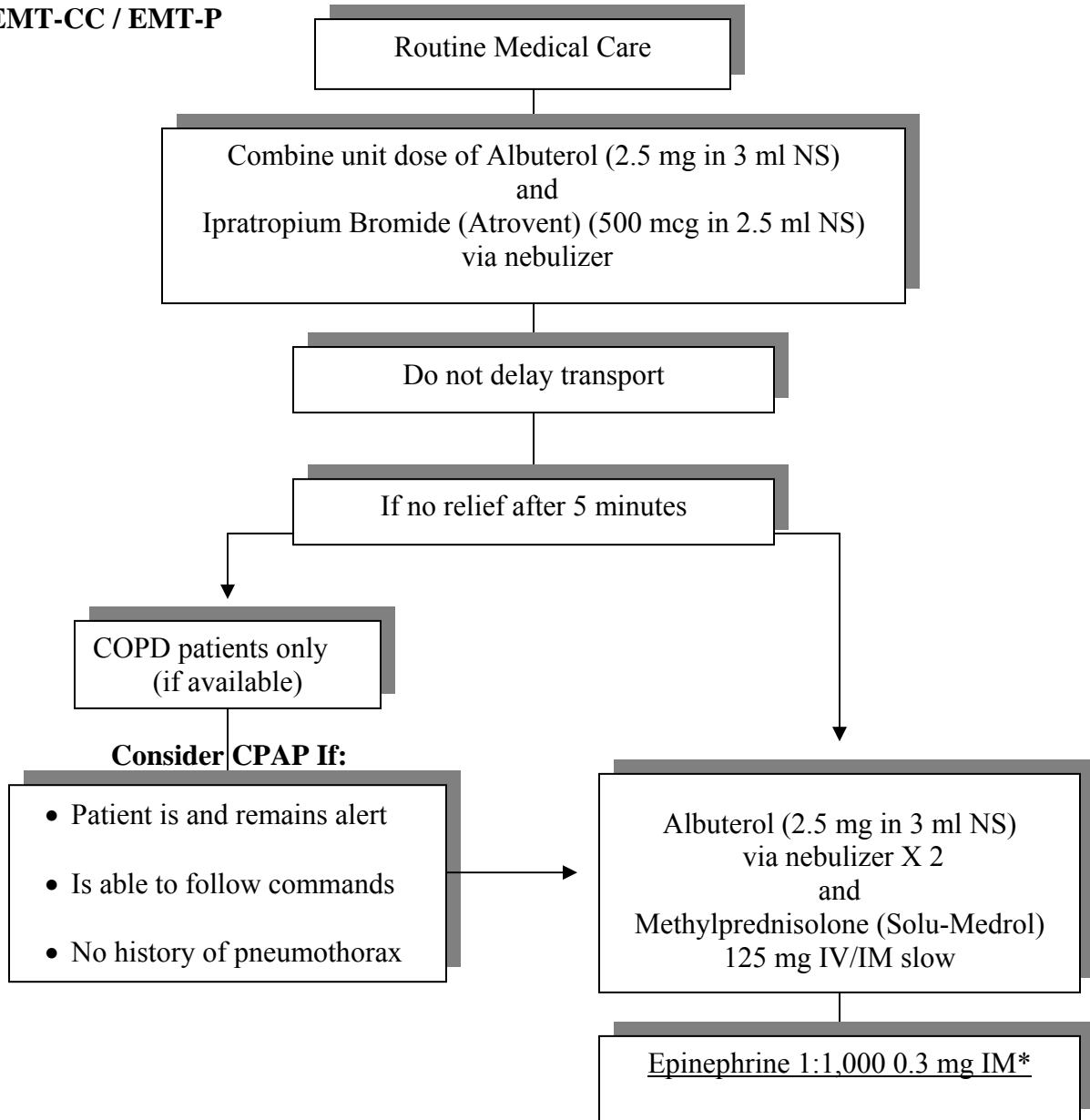
### **Critical Patients**

No more than 90 seconds attempting IV/EJ then go to IO.

# RESPIRATORY DISTRESS

Intervention for patients experiencing moderate to severe respiratory distress with wheezing presumed to be secondary to a reactive airway

EMT-CC / EMT-P



ADULT

**You may begin nebulizer therapy prior to establishing IV access.**

**\* Consider risk vs. benefit for all patients that are > 50, have cardiac history or are pregnant. Is this patient in a critical condition?**

# AIRWAY OBSTRUCTION

**EMT / EMT-I / EMT-CC / EMT-P**

Follow NYS BLS Protocols

**EMT-I / EMT-CC / EMT-P**

Use direct laryngoscopy and Magill forceps

If unsuccessful, insert an ET tube in attempt to push through the obstruction or push it into the right mainstem bronchus\*

If unsuccessful, continue efforts and transport

**EMT-P**

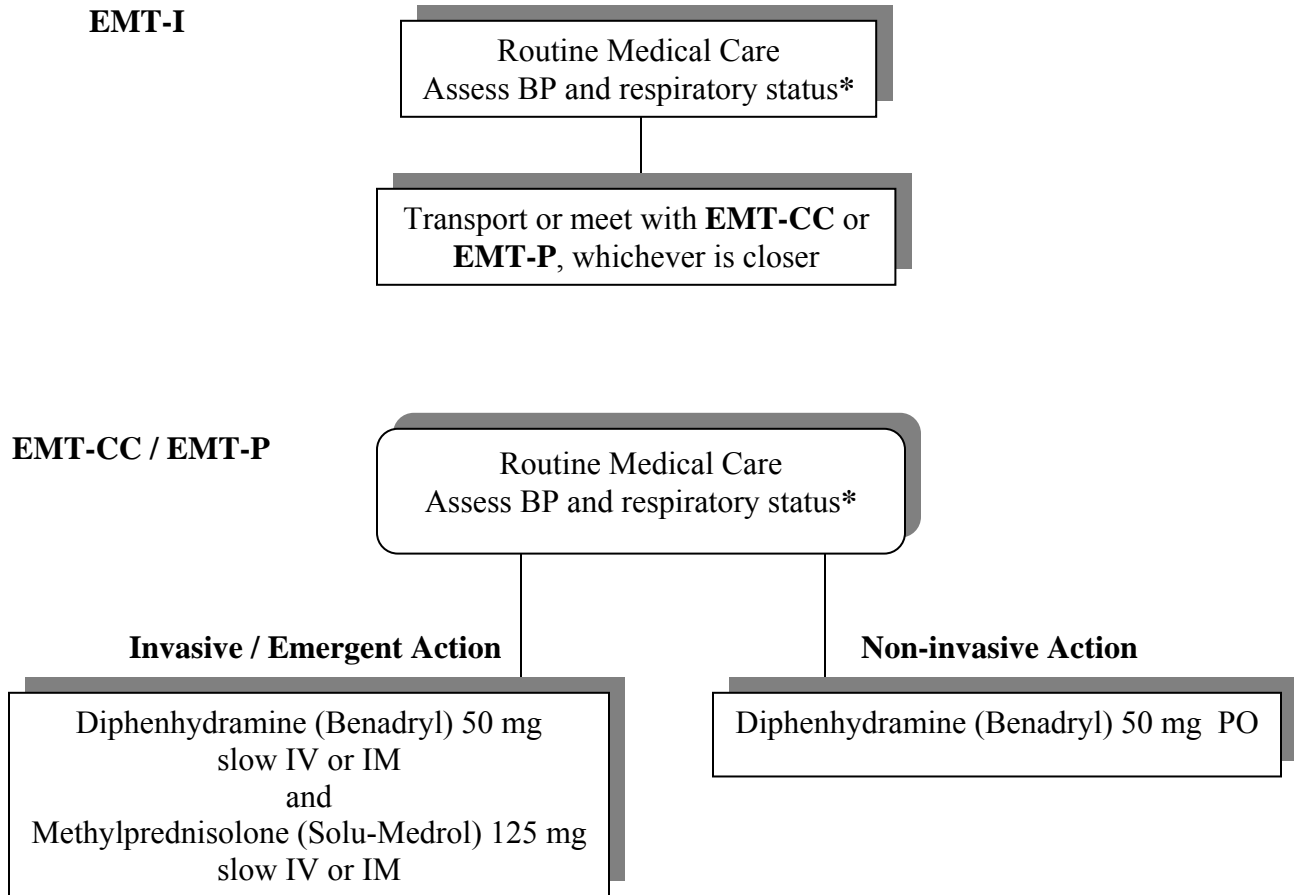
Perform needle cricothyroidotomy (Pg. 28)

**ADULT**

\* Once tube has been inserted, leave in to assist with ventilations.

# ALLERGIC REACTION

**Stable Hemodynamics** (SBP > 100) with minor or moderate skin manifestations (itching, rash, blotches, hives, urticaria), and **no respiratory compromise**.



**ADULT**

\* **Systolic BP < 100 with respiratory compromise**  
**Refer to Anaphylaxis Protocol (Pg. 12)**

# ANAPHYLAXIS

**Unstable Hemodynamics** with hypotensive patient (SBP < 100) or impending upper airway obstruction (stridor) and/or respiratory distress (wheezing)

**EMT / EMT-I**

Routine Medical Care

Consider Epinephrine Autoinjector (If available)\*

Transport or meet with **EMT-CC** or **EMT-P**, whichever is closer

Run IV wide open with Normal Saline or Ringers Lactate

ADULT

**EMT-CC / EMT-P**

Epinephrine 1:1000 0.3 mg IM\*

Diphenhydramine (Benadryl) 50 mg IV/IM  
and  
Albuterol (2.5 mg in 3 ml NS) via Nebulizer  
and  
Methylprednisolone (Solu-Medrol) 125 mg IV/IM slow

Fluid Challenge (Pg. 26)

Repeat Epinephrine 1:1000 0.3 mg IM  
Or  
Epinephrine 1:10,000 0.5 - 1 mg IV  
(2 mg ET)

## Medical Control Option

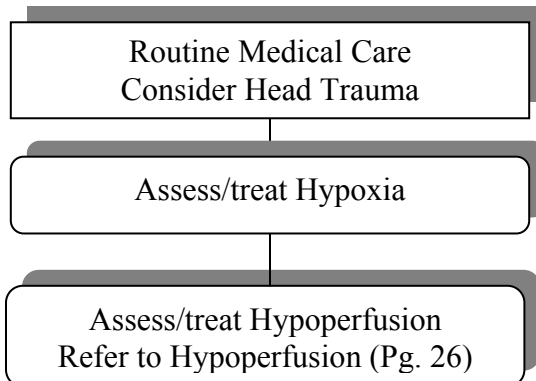
Dopamine Drip 2-10 mcg/kg/min  
Glucagon 1mg IM for patients on Beta Blockers

**Consider immediate drug therapy prior to IV access in critical patients**

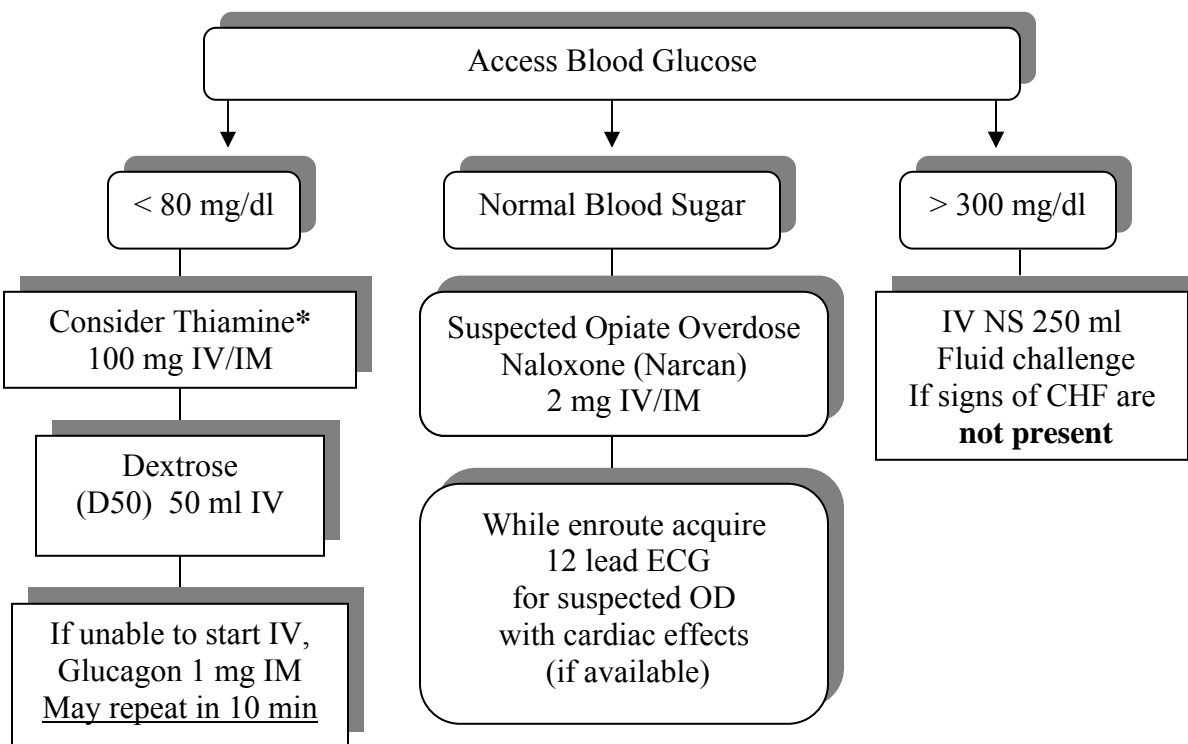
**\* Consider risk vs. benefit for all patients that are > 50, have cardiac history or are pregnant. Is this patient in a critical condition?**

# ALTERED MENTAL STATUS

## EMT-I



## EMT-CC / EMT-P



### Medical Control Option

Suspected Sympathomimetic OD (Cocaine or Amphetamines) Benzodiazepines  
 Suspected Tricyclic OD Sodium Bicarb  
 Suspected Beta Blocker OD Glucagon  
**Dose to be determined by Medical Control**

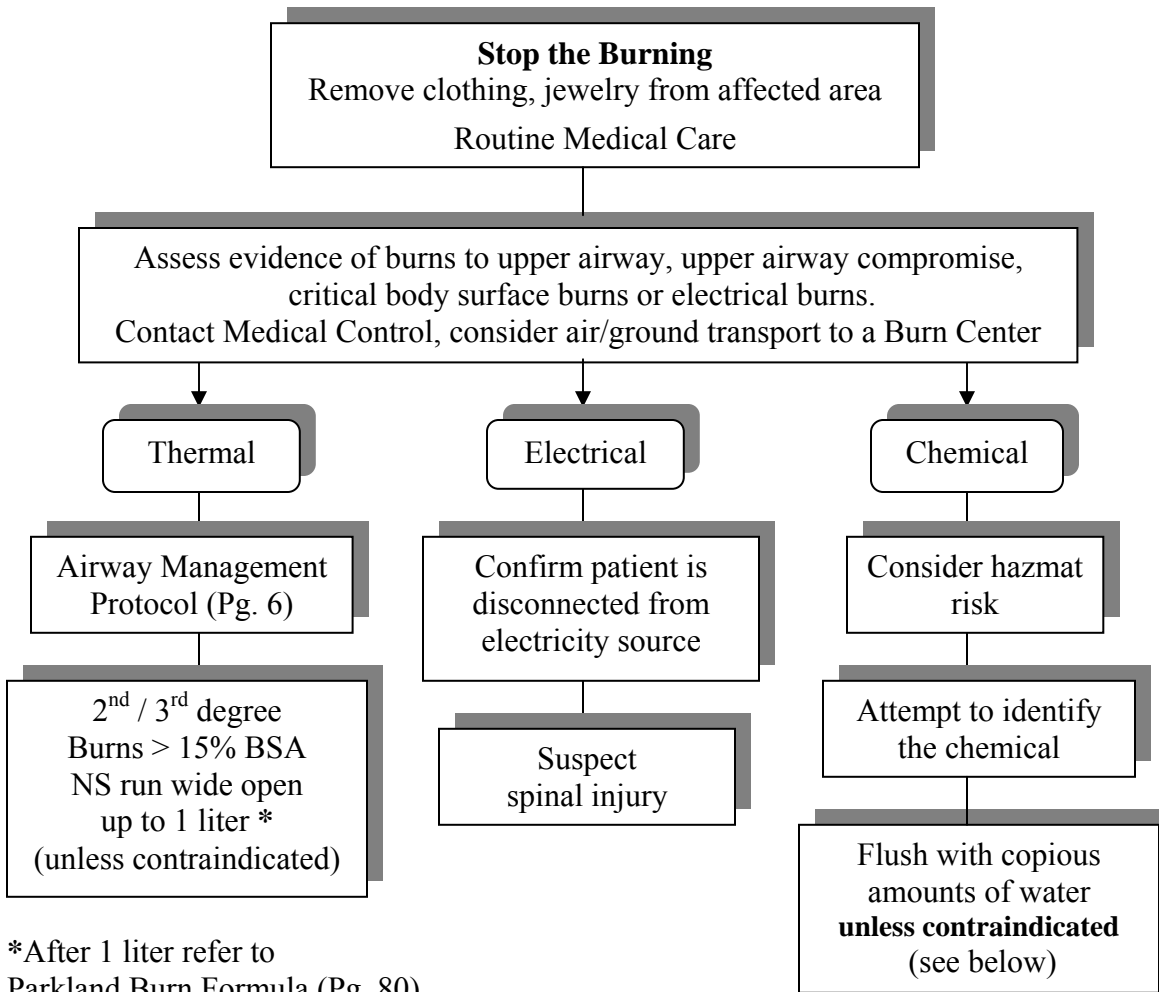
Dextrose/Glucagon may be repeated after 10 minutes for blood sugar below 80 mg/dl.

\* Thiamine should be administered prior to D-50 when you suspect alcoholism or malnutrition

ADULT

# BURNS

## EMT-I / EMT-CC / EMT-P



\*After 1 liter refer to Parkland Burn Formula (Pg. 80) and contact Medical Control.

## EMT-CC / EMT-P



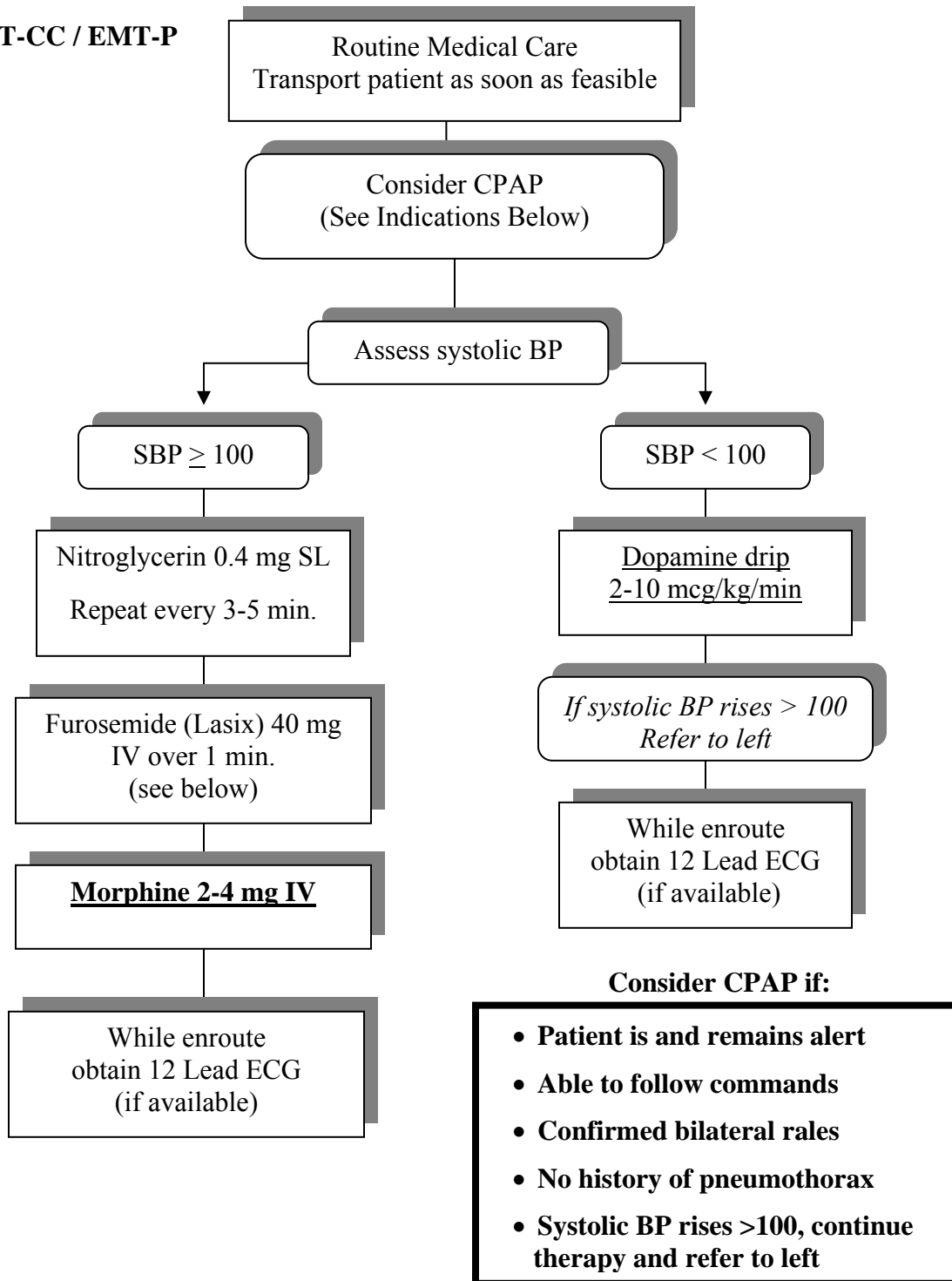
**Burn assessment methods can be found on Pg. 80.**

**Phosphorous burns** should not be irrigated with water. Brush chemical off thoroughly.  
**Hydrofluoric Acid burns** - Be aware of cardiac implications due to induced hypocalcemia. Contact Medical Control and obtain 12 lead ECG's.

ADULT

# CARDIAC - PULMONARY EDEMA

EMT-CC / EMT-P

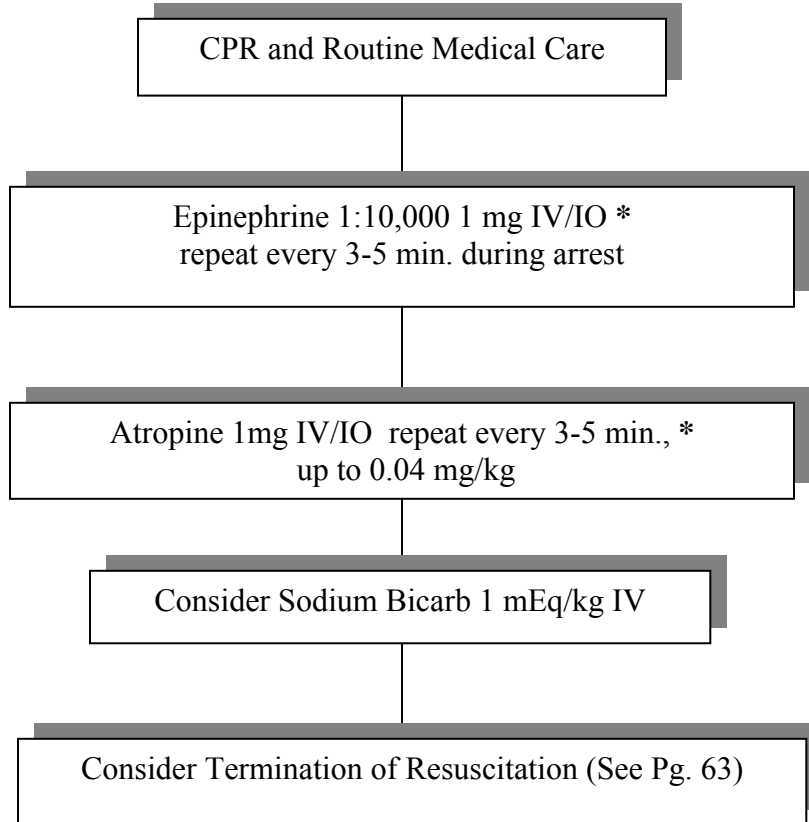


ADULT

- Nitroglycerine is contraindicated in patients who have taken Erectile Dysfunction medication within 24 hours.
- Do not delay initial Nitroglycerin therapy to establish IV access.
- Administer patient's usual dose of Furosemide (Lasix) if greater than 40 mg, not to exceed 100 mg.
- CHF vs. Pneumonia: If clinical impression is unclear, consider using Nitro and withholding Lasix or contact Medical Control.

# CARDIAC - ASYSTOLE

EMT-CC / EMT-P



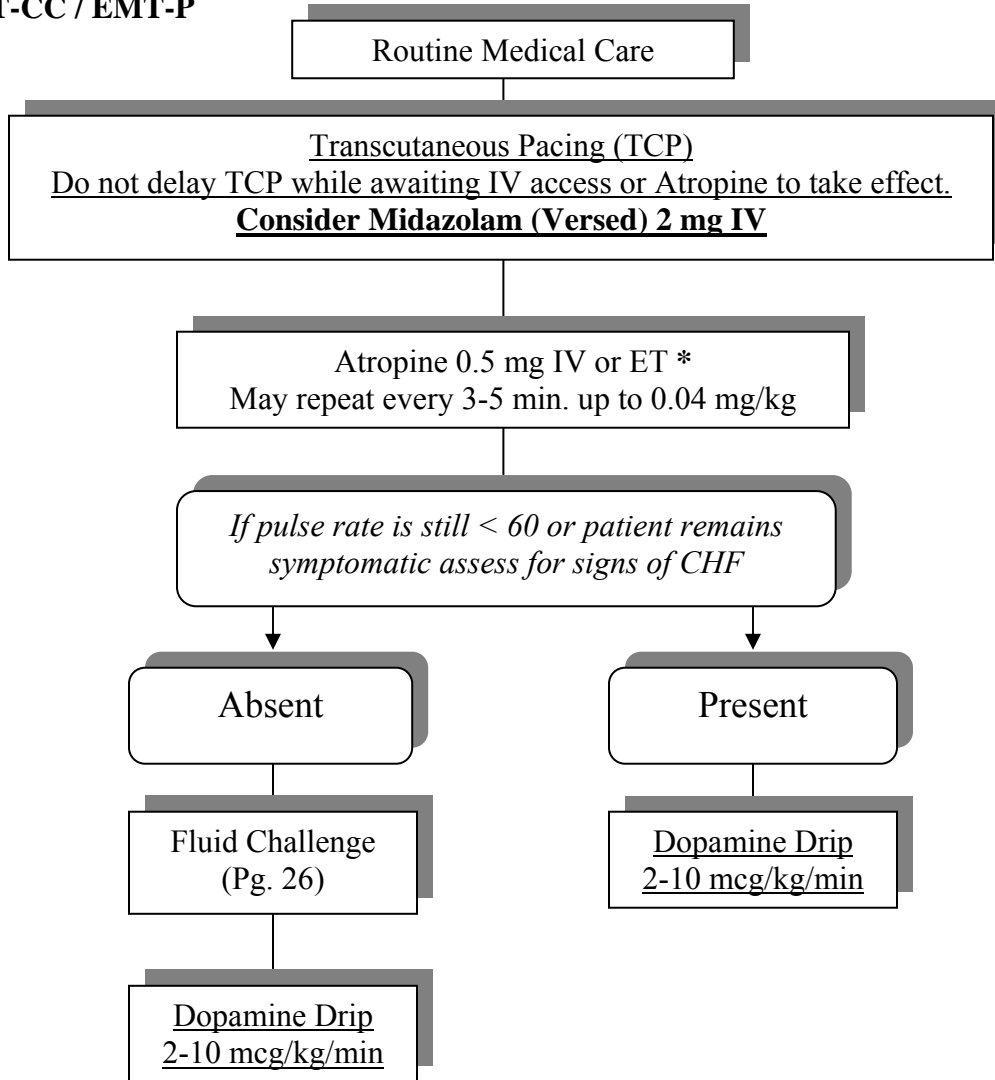
ADULT

**\* Endotracheal tube should be considered a last resort medication route. All ET medications should be double the IV dose and mixed in 5-10 mls normal saline.**

# CARDIAC - SYMPTOMATIC BRADYCARDIA

Symptomatic bradycardia is defined as a pulse rate  $< 60$  with a systolic BP  $< 100$ , with serious signs and symptoms, including chest pain, SOB, altered mental status, signs of CHF or hypoperfusion.

EMT-CC / EMT-P



ADULT

## Medical Control Options

Chronic Renal Failure Sodium Bicarb  
Suspected Beta Blocker OD Glucagon

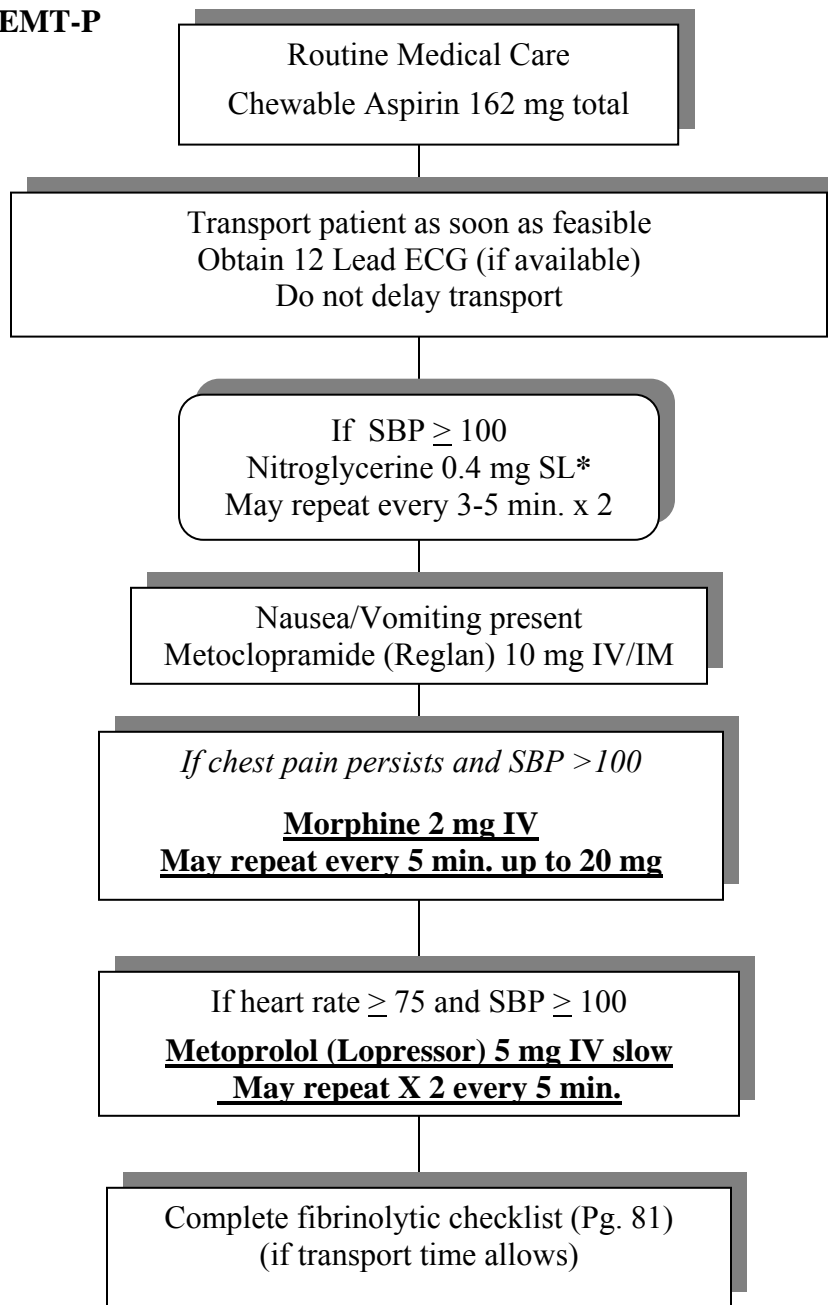
Dose to be determined by Medical Control

**\*Atropine should be used with caution in cases of suspected myocardial infarction.  
Atropine is contraindicated in high degree blocks and heart transplant patients.**

# CARDIAC – ACUTE CORONARY SYNDROME (ACS)

(Suspected Cardiac Chest Pain)

EMT-CC / EMT-P



ADULT

\* Do not delay initial Nitroglycerin therapy to establish IV access.

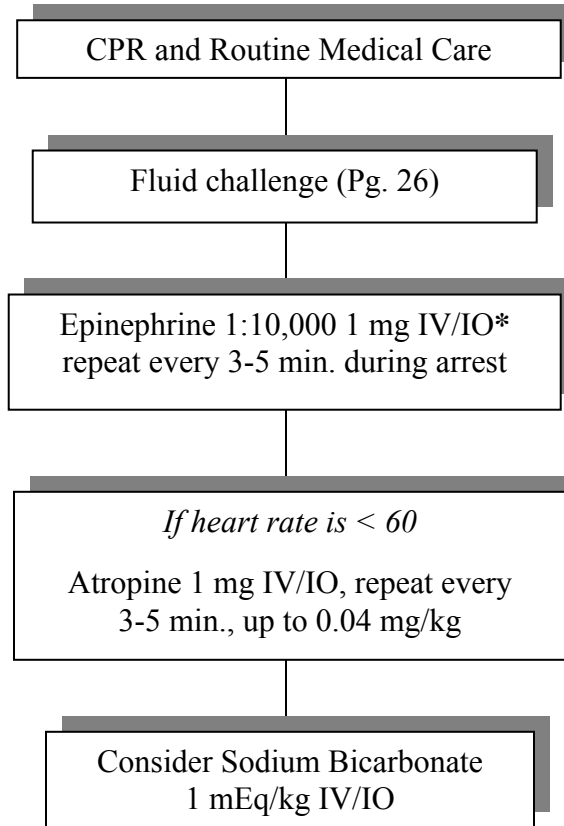
Nitroglycerine is contraindicated in patients who have taken Erectile Dysfunction medication within 24 hours.

If SBP  $<$  100 without Altered Mental Status; consider Medical Control consultation for Nitroglycerine administration.

# CARDIAC - PULSELESS ELECTRICAL ACTIVITY (PEA)

PEA includes EMD, idioventricular rhythms, ventricular escape rhythms, and post defibrillation idioventricular rhythms

EMT-CC / EMT-P



ADULT

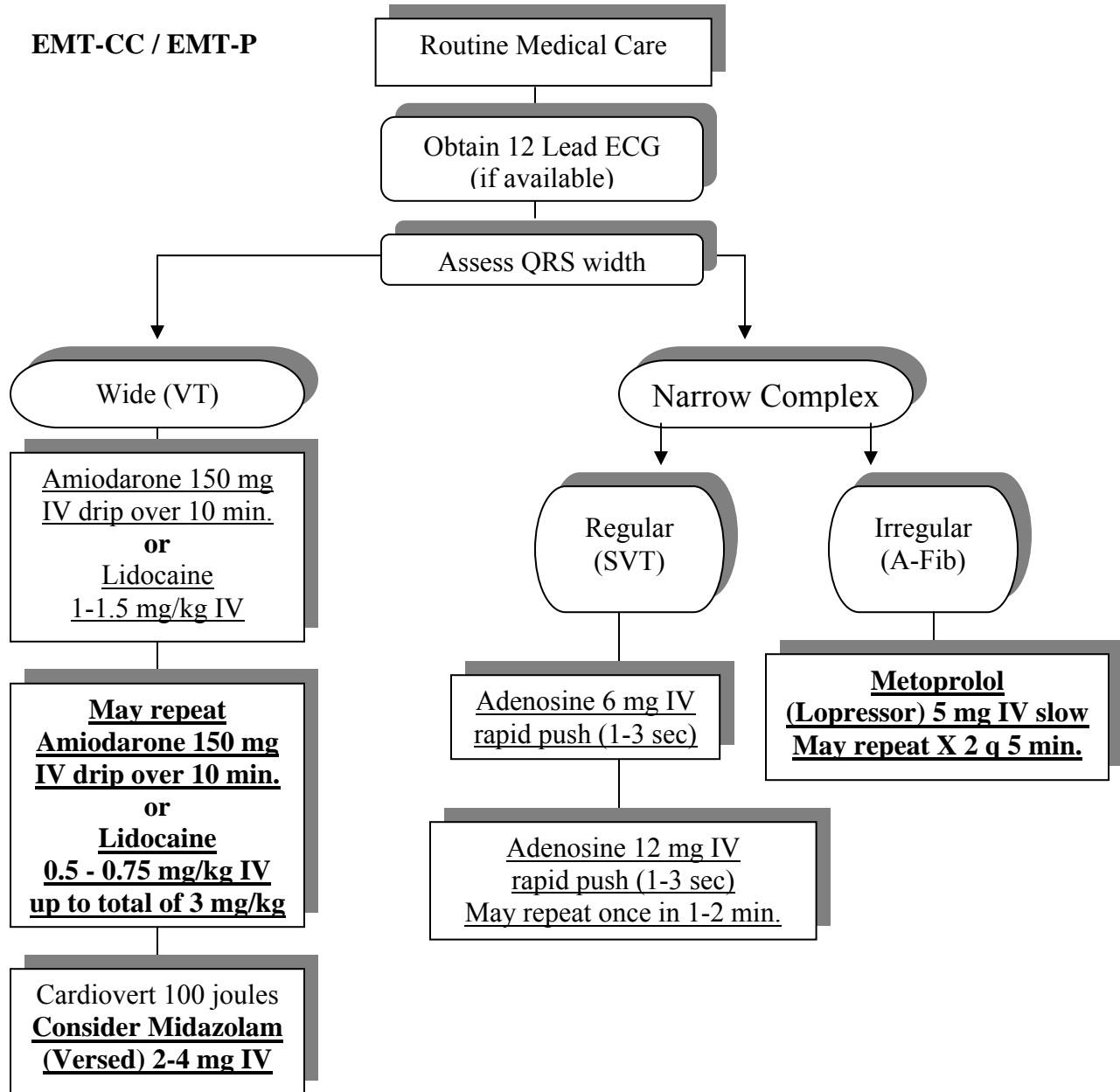
### Consider the Causes for PEA

✓ Hypovolemia	✓ Toxins
✓ Hypoxia	✓ Tamponade, cardiac
✓ Hydrogen Ion (acidosis)	✓ Tension Pneumothorax
✓ Hypo / Hyperkalemia	✓ Thrombosis
✓ Hypoglycemia	✓ Trauma
✓ Hypothermia	

**\*Endotracheal tube should be considered a last resort medication route. All ET medications should be double the IV dose and mixed in 5-10 ml normal saline.**

# CARDIAC - STABLE TACHYCARDIAS

If systolic BP < 100, chest pain, hypoxia, a decreased mental status, or signs of CHF are present **refer to unstable tachycardias. (Pg. 21)**



**ADULT**

All joules listed are Monophasic settings. Biphasic units should be set at manufacturer equivalent.

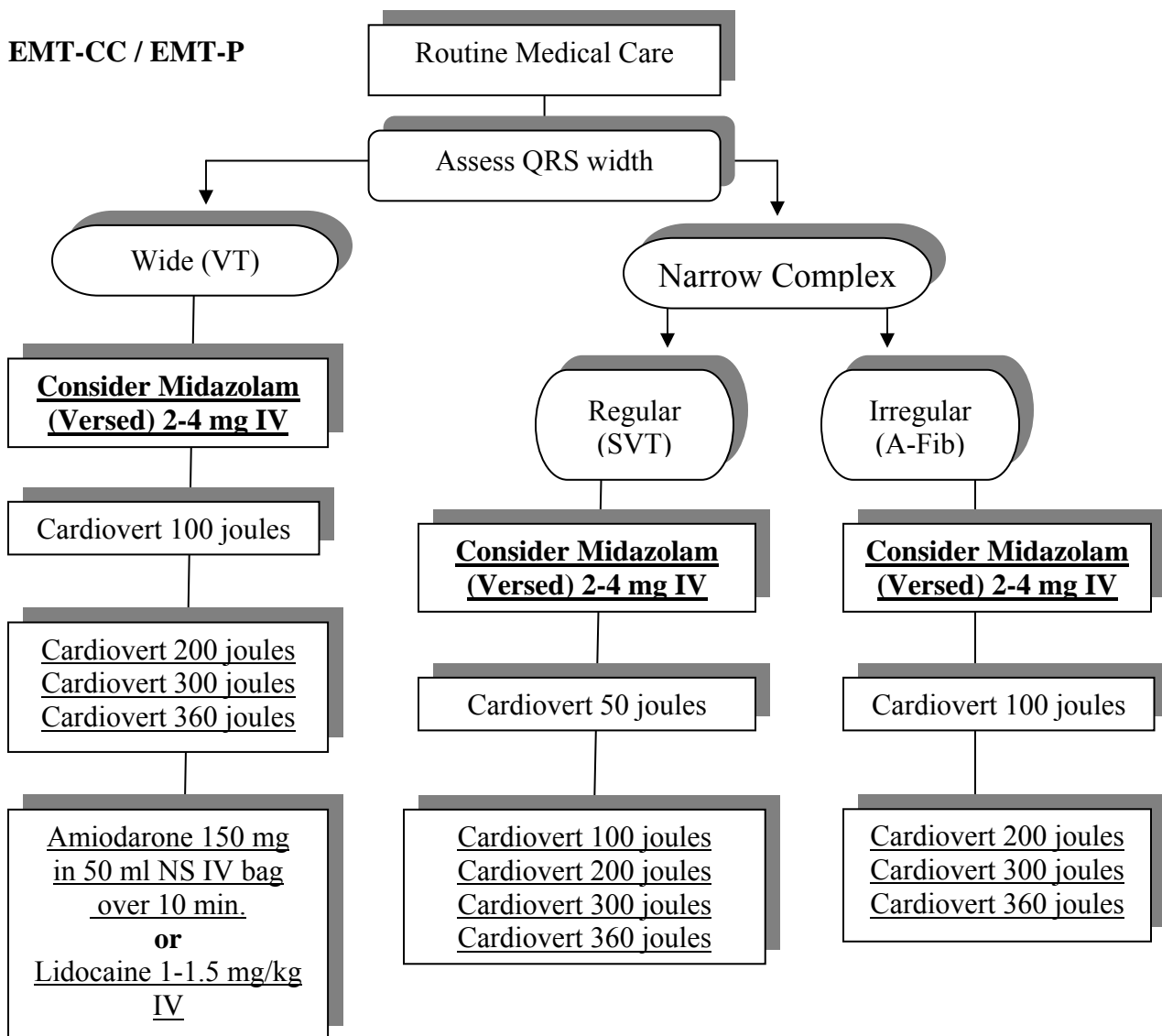
If unsure if VT or SVT, administer Adenosine as above after Lidocaine or Amiodarone therapy.

Amiodarone drip – 150 mg in 50 ml NS IV bag, run wide open.

In Torsades de pointes, administer Magnesium Sulfate 1-2 grams in 50 ml over 1-2 minutes as the first line antiarrhythmic drug.

# CARDIAC - UNSTABLE TACHYCARDIAS

An unstable patient is defined as a systolic BP < 100, chest pain, hypoxia, a decreased mental status, or signs of CHF.



**ADULT**

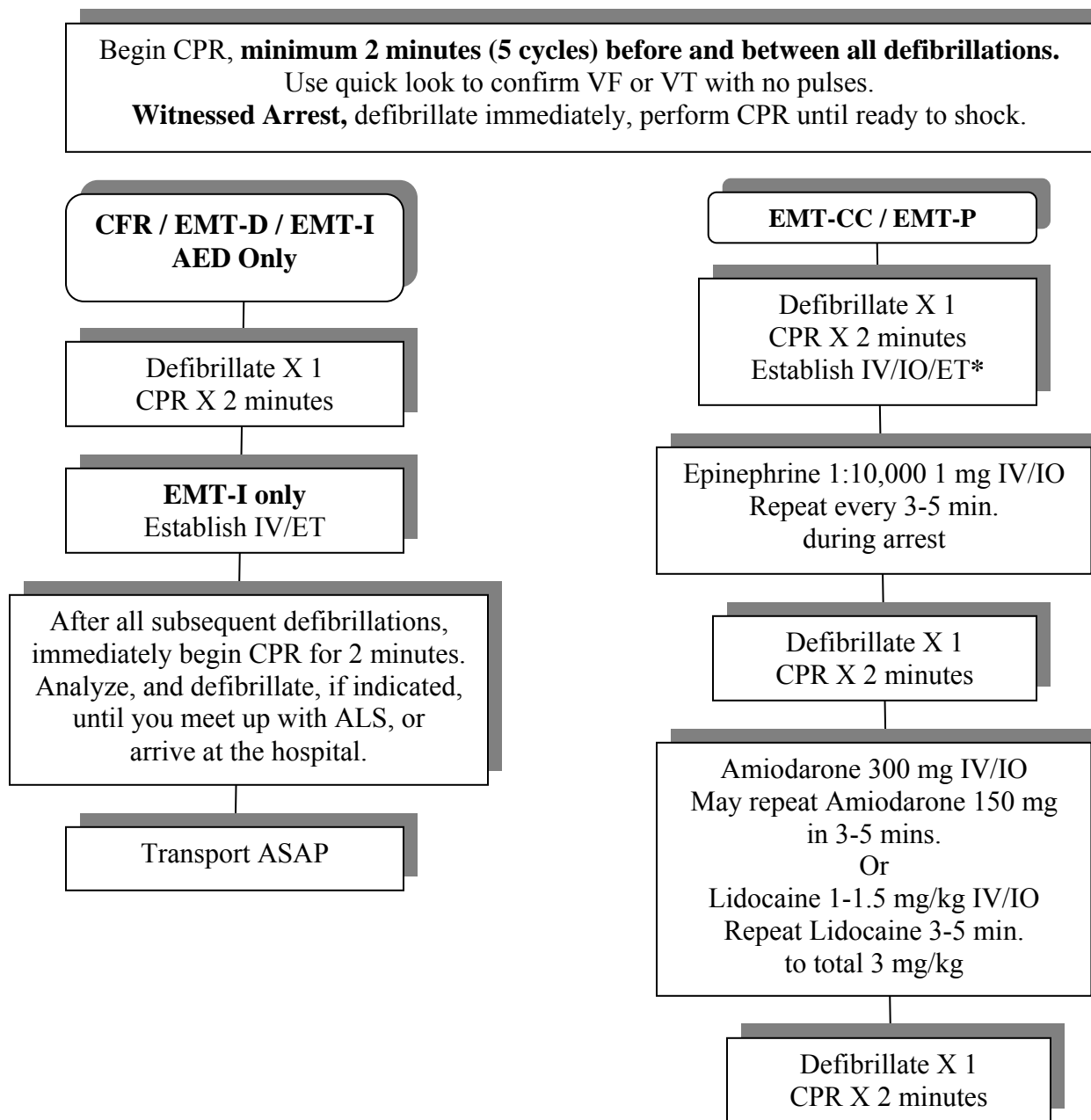
All joules listed are monophasic settings. Biphasic units should be set at manufacturer equivalent.

In Torsades de pointes, administer Magnesium Sulfate 1-2 grams in 50 ml over 1-2 minutes as the first line antiarrhythmic drug.

If Amiodarone converts the dysrhythmia, consider 2<sup>nd</sup> dose, 150 mgs/50 ml NS IV, over 10 minutes.

If Lidocaine converts the dysrhythmia, consider a Lidocaine drip of 2 to 4 mg/min.

## CARDIAC - V-FIB / PULSELESS V-TACH



ADULT

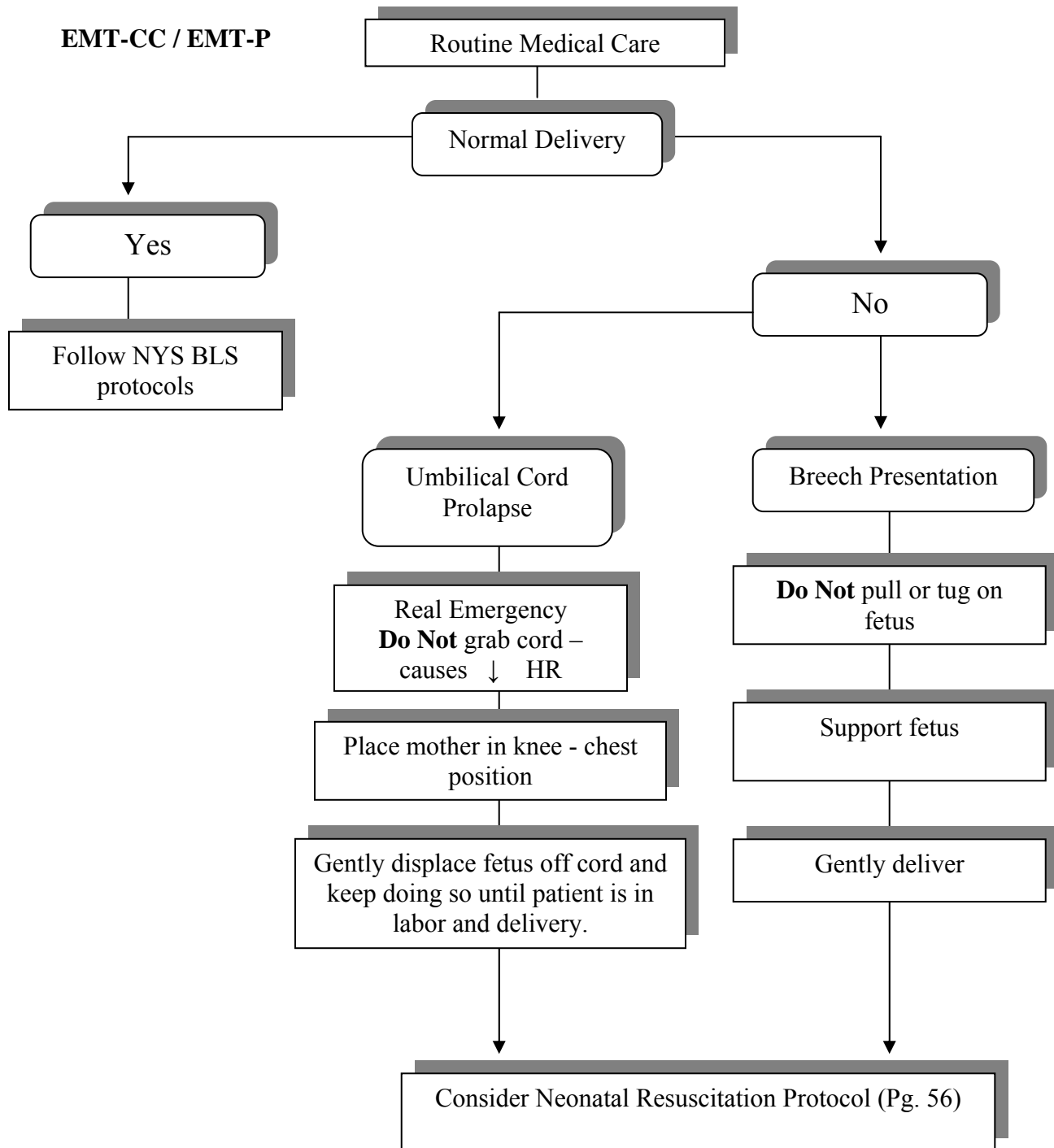
**All defibrillations shall be at: Monophasic 360 joules or the Biphasic manufacturer equivalent.**

**In Torsades de Pointes, administer Magnesium Sulfate 1-2 grams in 50 ml over 1-2 minutes as first line antiarrhythmic drug.**

**Consider Sodium Bicarbonate 1 mEq/kg IV for known pre-existing hyperkalemia, acidosis or upon return of spontaneous circulation after long arrest interval and patient is intubated.**

**Endotracheal tube should be considered a last resort medication route. All ET medications should be double the IV dose and mixed in 5-10 ml normal saline.**

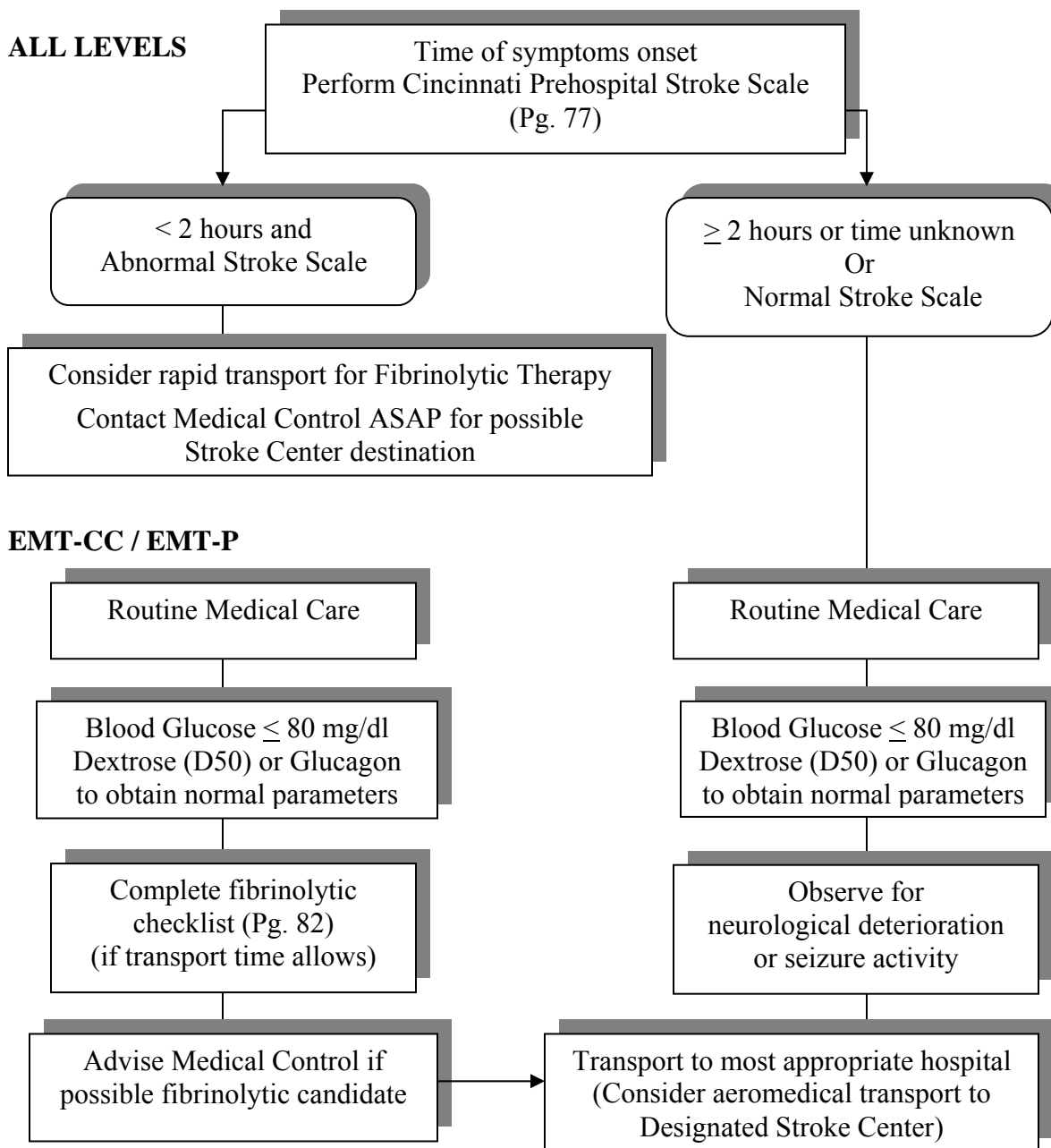
# EMERGENCY CHILDBIRTH



**ADULT**

## SUSPECTED STROKE

All patients with stroke symptoms in which onset can be confirmed < 2 hours should be given high priority and quick transport.



ADULT

**Bring witness or family member to ED to answer questions relating to the patients past medical history.**

**Transport with head elevated at 30° when patient condition will tolerate.**

**If extreme hypertension, systolic BP > 200 or diastolic > 120, contact Medical Control.**

# HEAD TRAUMA

EMT-I / EMT-CC /  
EMT-P

Routine Trauma Care  
Consider aeromedical transport

If Glasgow Coma Score is less than 8, and one or more of the following signs / symptoms of brain herniation is present:

- Active Seizures
- Fixed or asymmetric pupils
- Neurologic posturing
- Hypertension and Bradycardia (Cushing's reflex)
- Intermittent apnea
- Further decrease in GCS score of 2 or more points

Hyperventilate with BVM at 20/min.

**Caution:**

**Do not hyperventilate unless the above criteria are met.**

Blood Sugar < 80 mg/dl  
Administer D50 to obtain normal parameters

Nausea/Vomiting present  
Metoclopramide (Reglan) 10 mg IV/IM

ADULT

**EMT-I**     **Age ≥16 years**  
May attempt orotracheal intubation on patients in respiratory arrest. **Manual stabilization is required.**

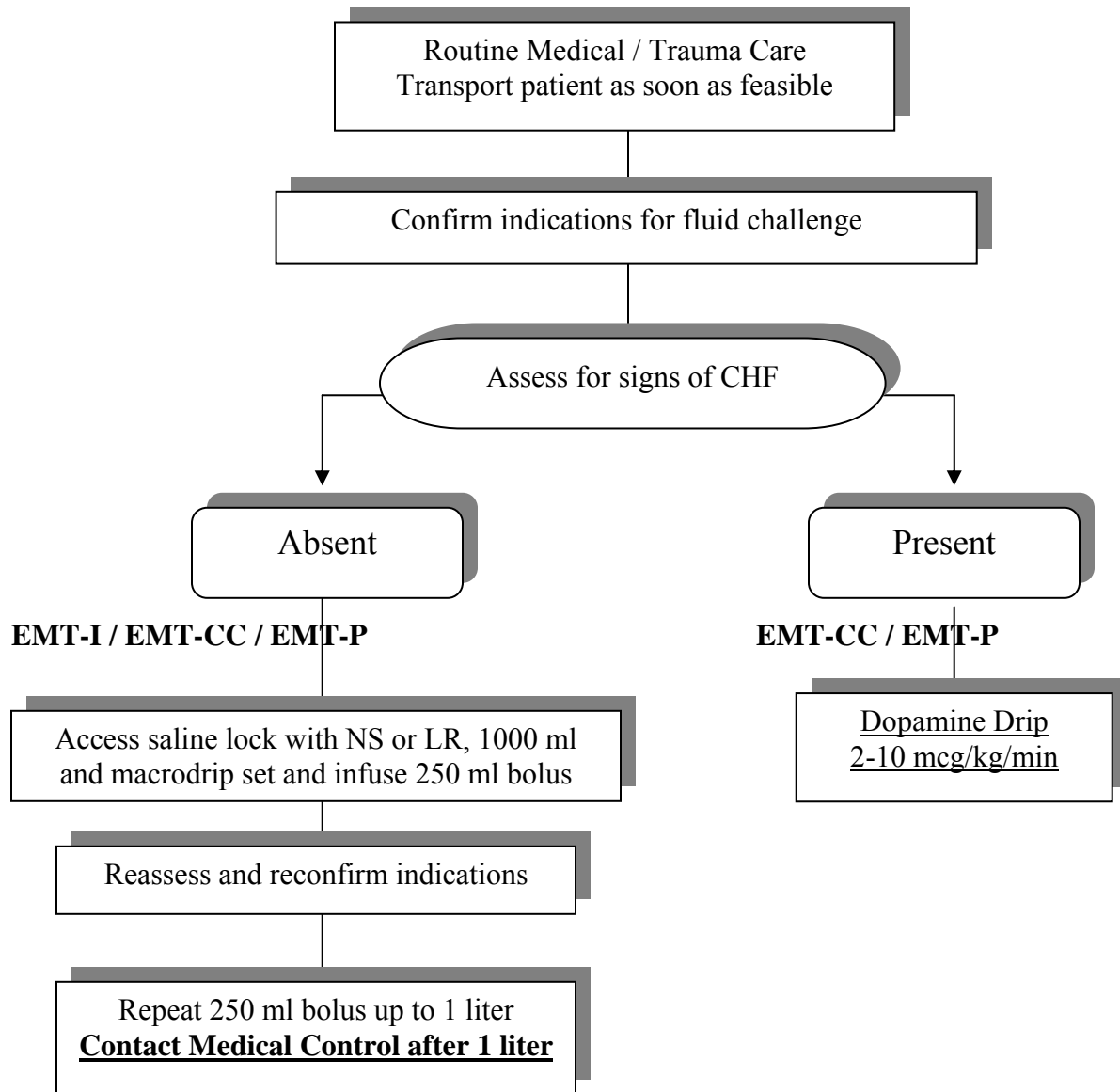
**EMT-CC**     May attempt orotracheal intubation if patient is in respiratory arrest.  
May attempt orotracheal intubation if patient has an altered mental status, respiratory rate < 10, and tolerates an oropharyngeal airway.  
**Manual stabilization is required.**

**EMT-P**     May attempt orotracheal intubation on all patients requiring definitive airway management. If direct laryngoscopy is impossible, digital intubation may be attempted. If the patient requires sedation prior to intubation, refer to the Facilitated Intubation protocol (Pg. 7).  
**Manual stabilization is required.**

# HYPOPERFUSION

(Fluid Challenge)

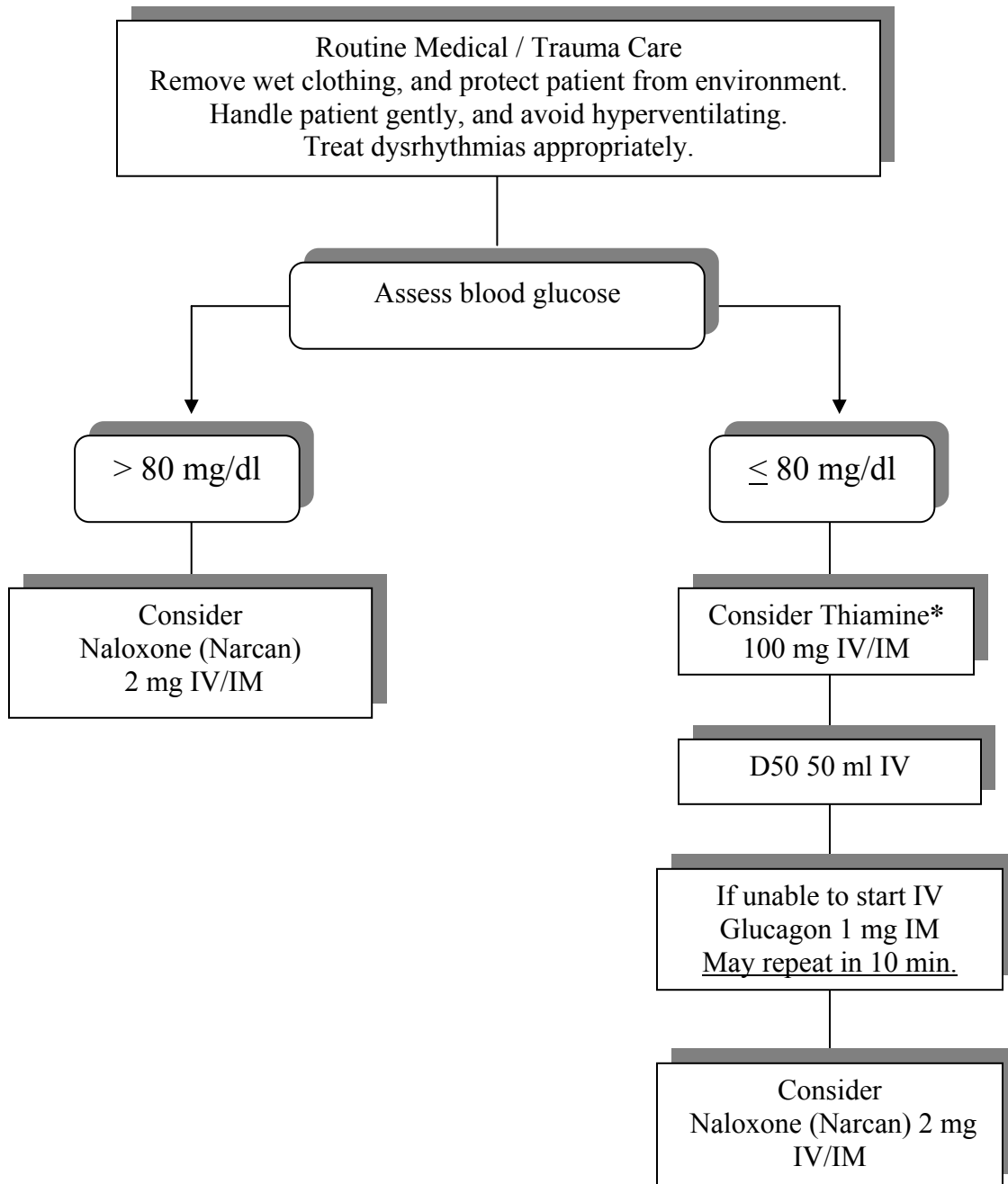
Hypoperfusion is defined by the following signs: altered mental status, tachycardia, diaphoresis, pallor, systolic BP < 100.



ADULT

**Late stage pregnancy can compromise venous return by compression of the vena cava by the enlarged uterus. Patients should be turned onto their left side.**

# HYPOTHERMIA



ADULT

★ In cases of hypothermic cardiac arrest, contact Medical Control prior to any medication administration and before deciding that resuscitation attempts are contraindicated.

\* Thiamine should be administered prior to D-50 when you suspect alcoholism or malnutrition

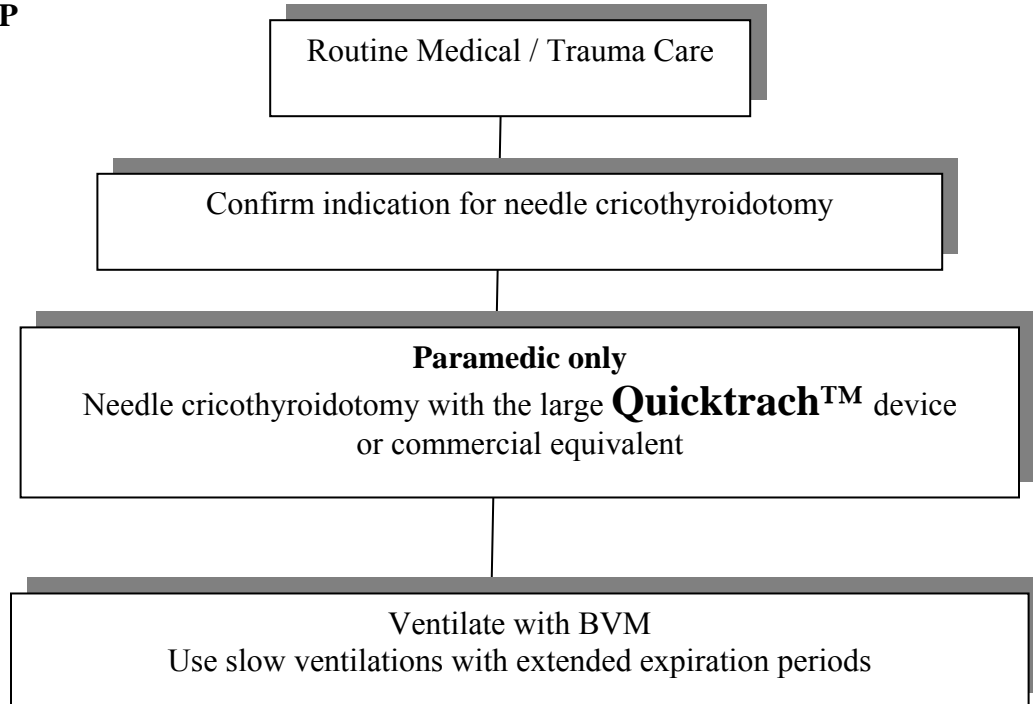
# NEEDLE CRICOTHYROIDOTOMY

**Standing Order to be performed by Paramedics only.**

Indications:

- **Respiratory arrest or near respiratory arrest patient in which an airway cannot be secured with intubation.**
- Situations in which standard endotracheal intubations cannot be performed:
  - Excessive oropharyngeal hemorrhage
  - Massive traumatic or congenital deformities
  - Complete airway obstruction precluding ET tube placement
- Cervical spine fractures with respiratory embarrassment in patients who cannot be endotracheally intubated.

**EMT-P**



ADULT

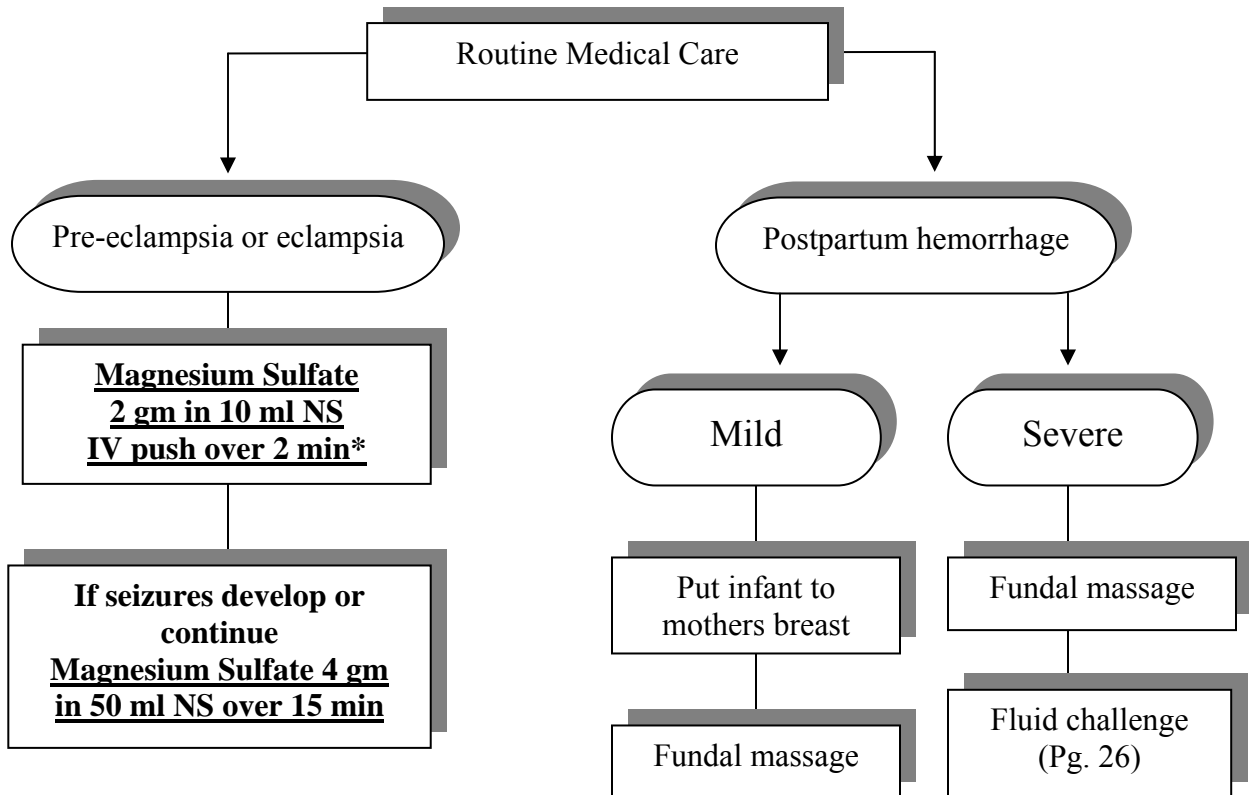
**This is a procedure of last resort and may not provide adequate ventilation for an extended period of time. Rapid transportation to the closest hospital is required for more definitive airway management.**

# OBSTETRIC COMPLICATIONS

Patients with severe pre-eclampsia, eclampsia or postpartum hemorrhage. Severe pre-eclampsia is characterized by systolic BP > 160, diastolic BP > 110 and/or severe headache, visual disturbances, acute pulmonary edema or upper abdominal tenderness.

**For Emergency Childbirth refer to Pg. 23.**

## EMT-CC / EMT-P



ADULT

\* If unable to establish an IV, administer Magnesium Sulfate in 2 doses of 1 gram each in 2 ml NS in the buttocks. Administer 1 dose IM in each buttock.

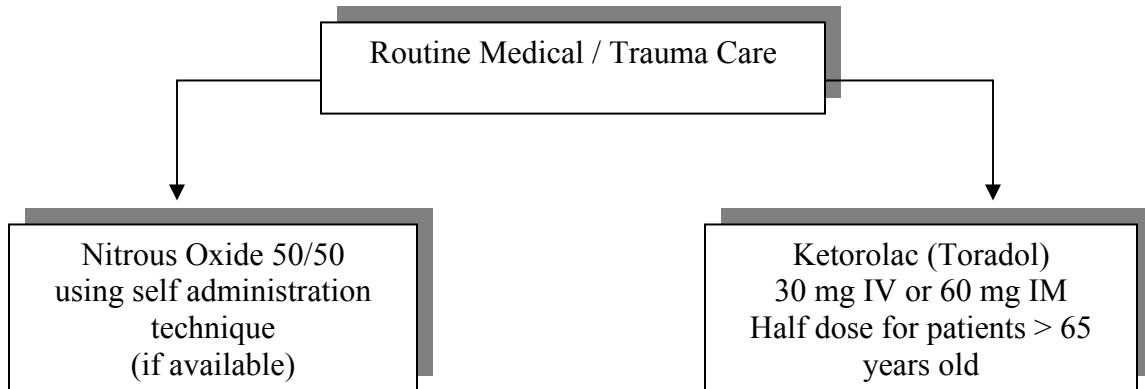
**Late stage pregnancy can compromise venous return by compression of the vena cava by the enlarged uterus. Patients should be turned onto their left side.**

# PAIN MANAGEMENT

(Non Cardiac In Origin)

Indicated for patients experiencing pain due to musculoskeletal injuries, burns (without airway involvement), abdominal pain (without suspected obstruction), kidney stones, renal colic, and cancer pain.

## EMT-CC / EMT-P



ADULT

### Medical Control Option

**Morphine 0.05 mg/kg IV**  
**May repeat every 5 min. up to 20 mg.**

## POISONING / OVERDOSE

History is important. Whenever possible, determine the substance(s) involved and the quantity, time and route they were taken.

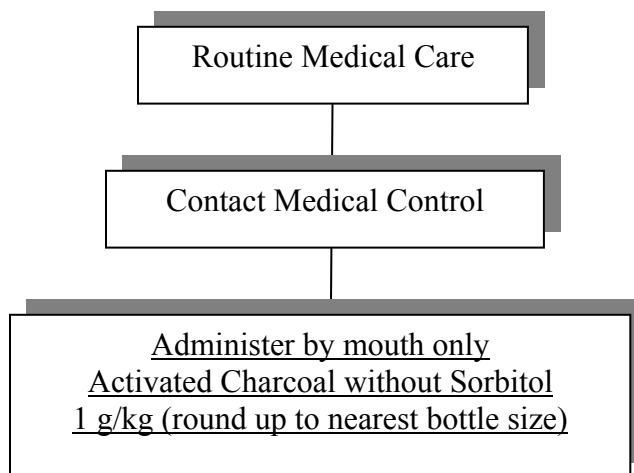
### Indications:

- Poisoning by mouth

### Contraindications:

- Altered mental status
- Ingestion of acid or alkali substances
- Ingestion of hydrocarbons (petroleum)
- Unable to swallow

### EMT-I / EMT-CC / EMT-P



ADULT

## OVERDOSE

### Medical Control Options

Suspected Sympathomimetic OD (Cocaine or Amphetamines) Benzodiazapines  
Suspected Tricyclic OD Sodium Bicarb  
Suspected Beta Blocker OD Glucagon  
**Organophosphate Poisoning** Atropine IV/IM 1-2 mg q 5 mins.  
**Dose to be determined by Medical Control**

**Consider specific antidote.** If possible, see container label and contact Medical Control early to involve Poison Control.

**Rule Out Narcotic OD.** Be aware of increasing use of home dermal pain control patches.

**Suspected Narcotic OD** – Refer to Altered Mental Status (Pg. 13)

**Topical poisons** - Brush away particulate matter before flushing with water.

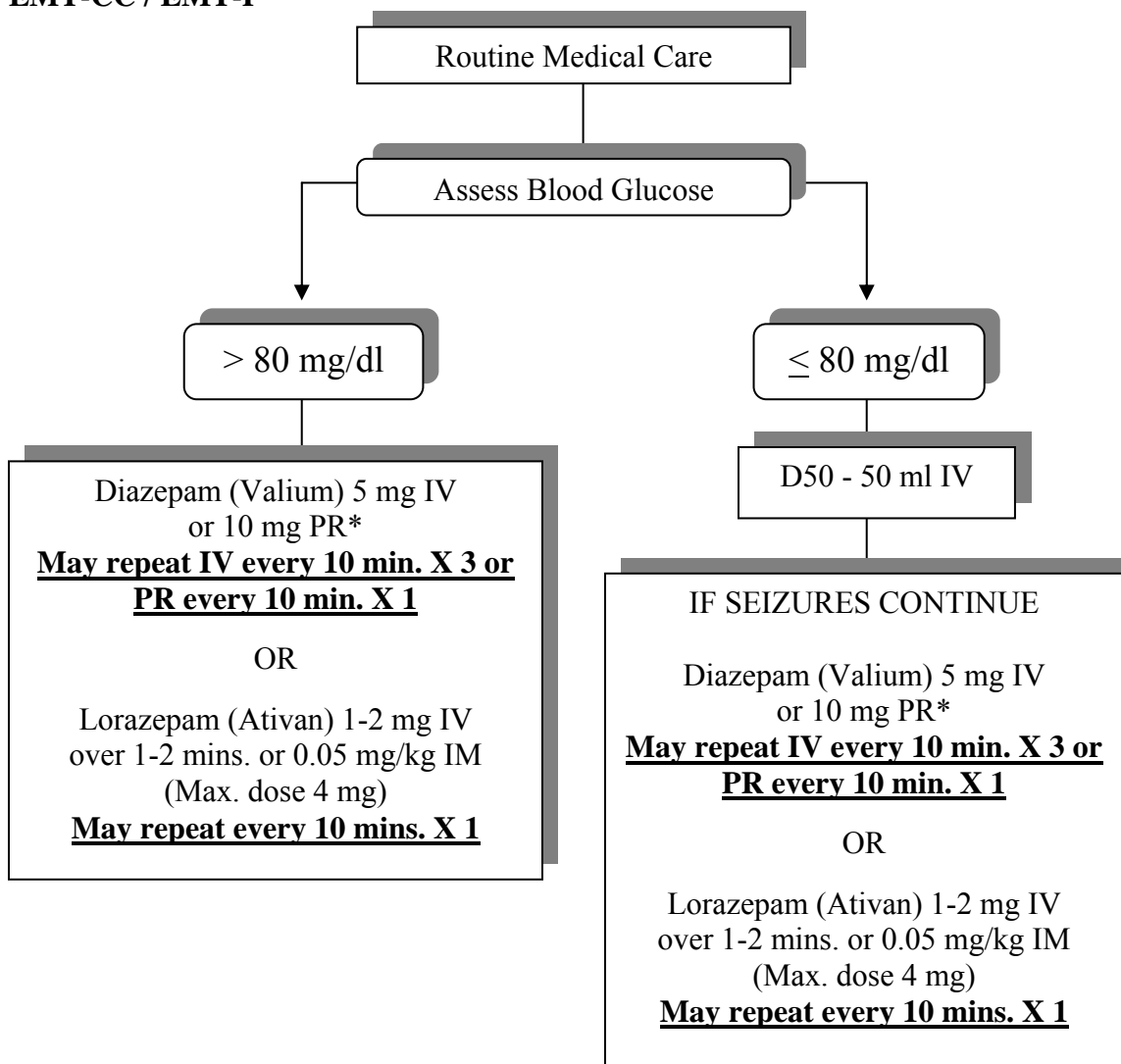
**Carbon Monoxide poisoning** - Pulse Oximetry is unreliable.

**Multiple victims in enclosure** - consider environment and hazmat team.

# SEIZURES

This protocol applies to the patient who is actively seizing.

EMT-CC / EMT-P



ADULT

If IV access is not established, give Glucagon 1 mg IM.

If seizures are the result of pre-eclampsia or eclampsia, refer to Obstetric Complications protocol (Pg. 29).

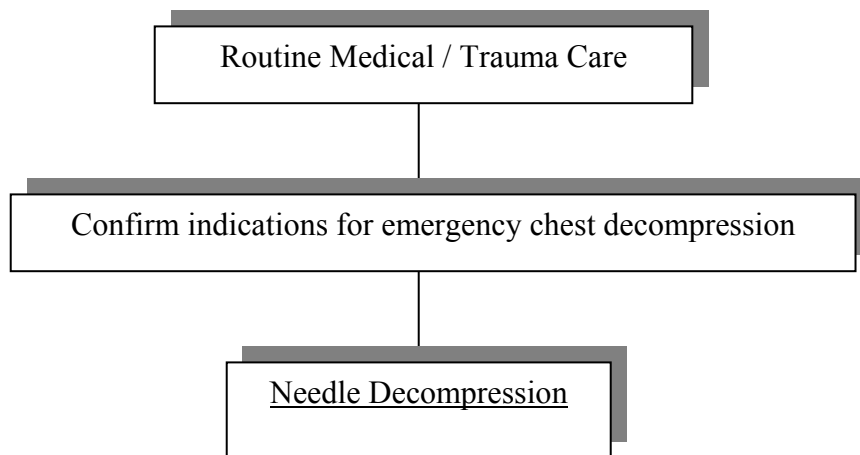
\* PR = Per Rectum

**Thiamine should be administered prior to D-50 when you suspect alcoholism or malnutrition**

## TENSION PNEUMOTHORAX

Signs of tension pneumothorax include: severe respiratory distress, absent lung sounds on the affected side, diminished lung sounds on the opposite side, hypotension, tachycardia, distended neck veins, and tracheal deviation away from the affected side.

**EMT-CC / EMT-P**



ADULT

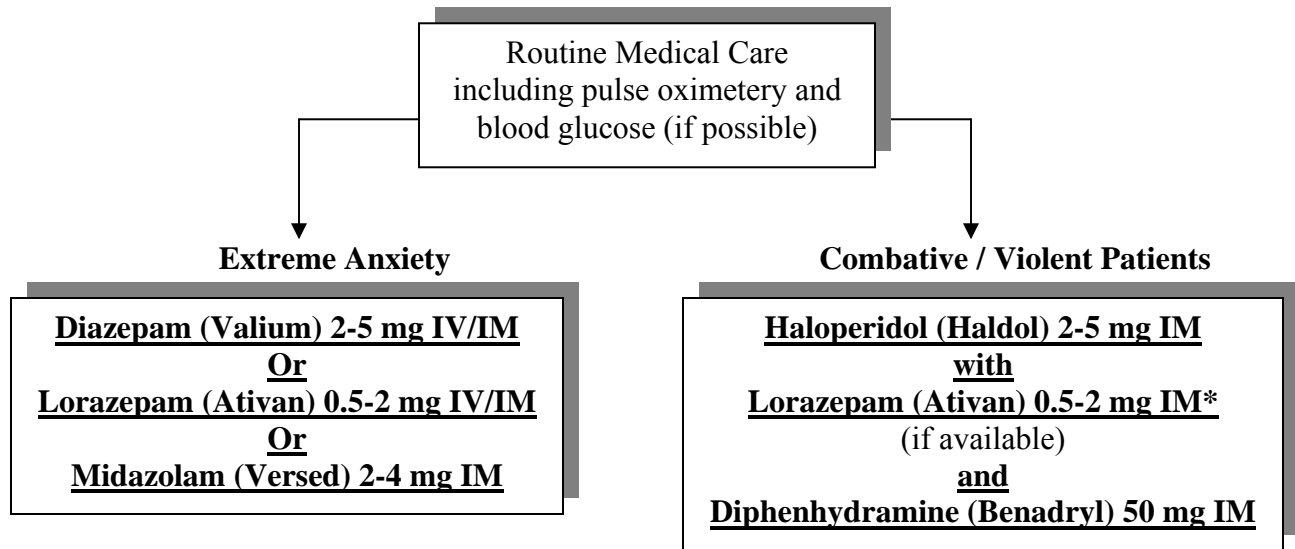
Use second intercostal space, midclavicular line for landmark.

Once catheter is in place, it should be left open.

## EXTREME ANXIETY / COMBATIVE PATIENT

The following **Medical Control Options** may be used for hemodynamically stable patients with a psycho social condition exhibiting extreme anxiety and/or combative/violent behavior. If the patient presents a substantial risk of bodily harm or injury to themselves, others, or emergency personnel; consider involving law enforcement whenever possible.

### EMT-CC / EMT-P



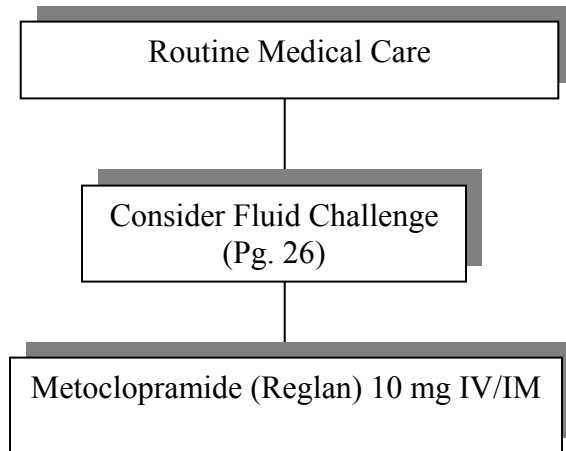
\* If your agency does not carry narcotics, Haloperidol and Diphenhydramine may be administered without Lorazepam with Medical Control authorization.

May repeat above medications in 10 minutes, contact Medical Control for orders and dosage.

## NAUSEA / VOMITING

Indicated for patients experiencing nausea and/or vomiting as a result of disease, medications or acute motion sickness.

**EMT-CC / EMT-P**

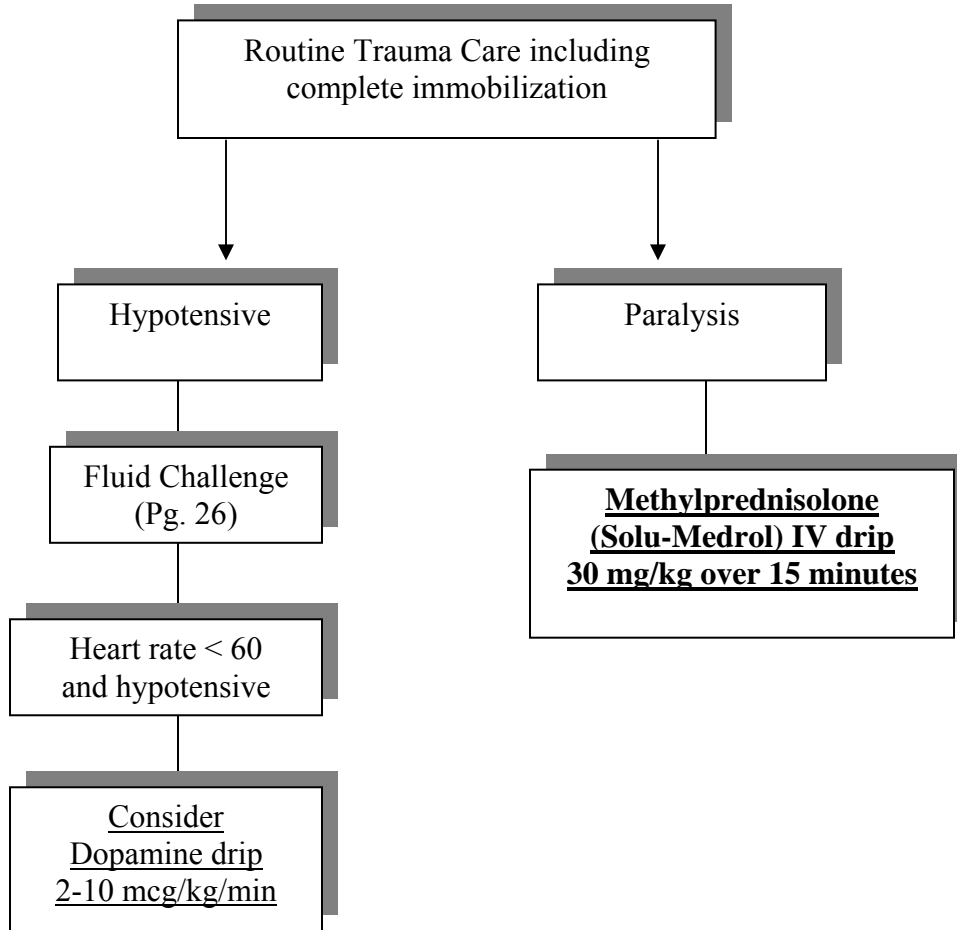


**ADULT**

# SPINAL CORD INJURY

Indicated for patients experiencing loss of sensation or movement as the result of trauma.

EMT-CC / EMT-P

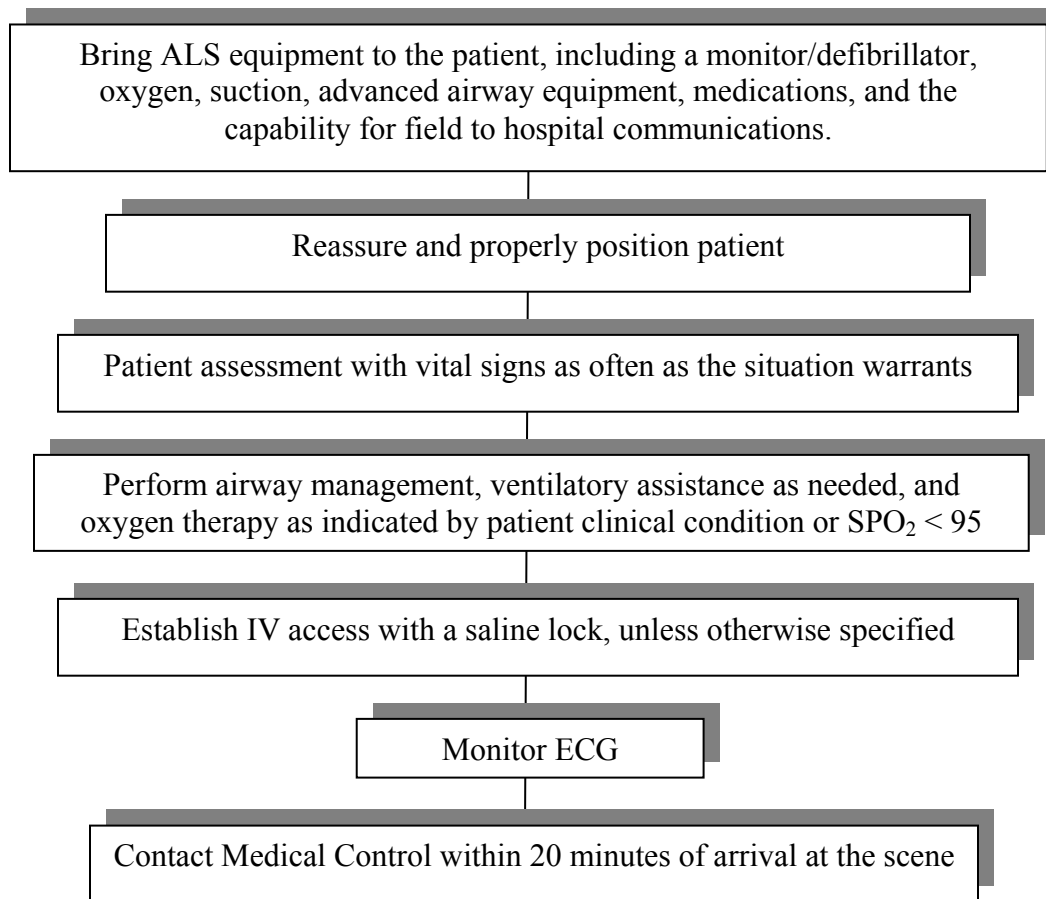


ADULT

**Methylprednisolone (Solu-Medrol) IV infusion rate may be slowed if patient is unable to tolerate recommended flow rate.**

## ROUTINE MEDICAL CARE

The following procedures will be performed on all medical emergencies requiring Advanced Life Support.



PEDIATRIC

**Pediatric protocols apply to patients  $\leq 15$  years old.**

- **$SPO_2$  monitoring is required.**
- **If a manual defibrillator is not available, defibrillation with an AED may be performed according to NYS BLS protocols.**
- **Use of NC REMAC approved pediatric resuscitation tape is required for proper adjunct sizes and drug dosages.**

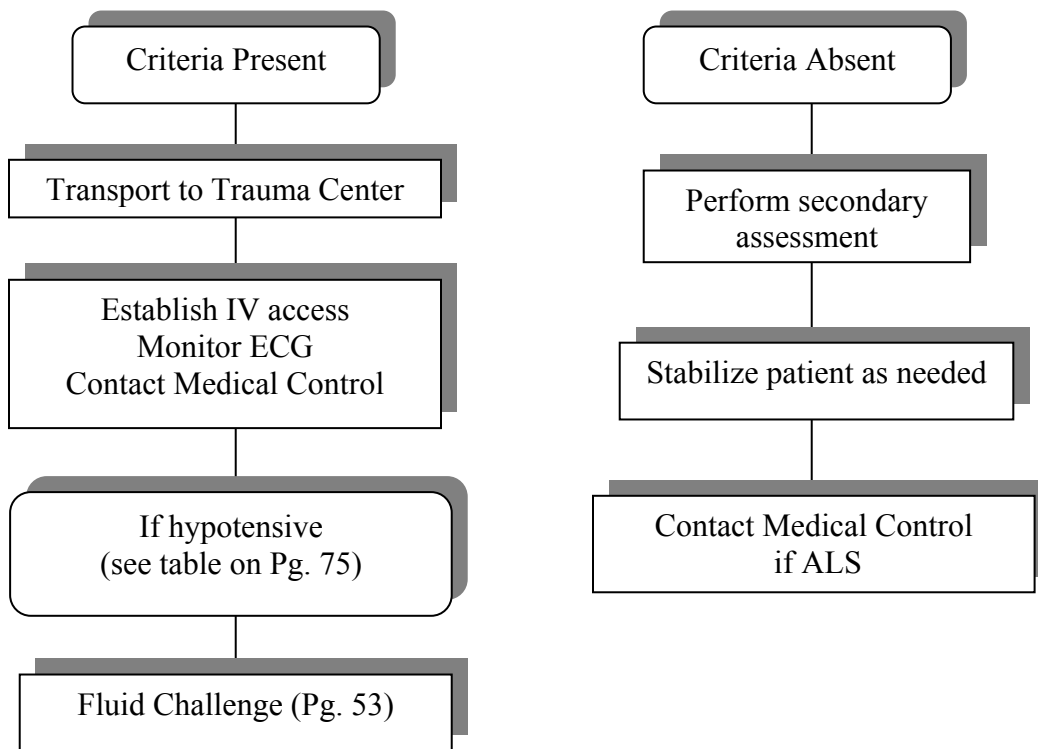
### **Multiple Patient Procedures**

If a potential multi-casualty incident (MCI) exists, contact the Dispatch Control Center and Medical Control Hospital as soon as possible.

The Medical Control Physician is authorized to make all protocols standing orders during the MCI.

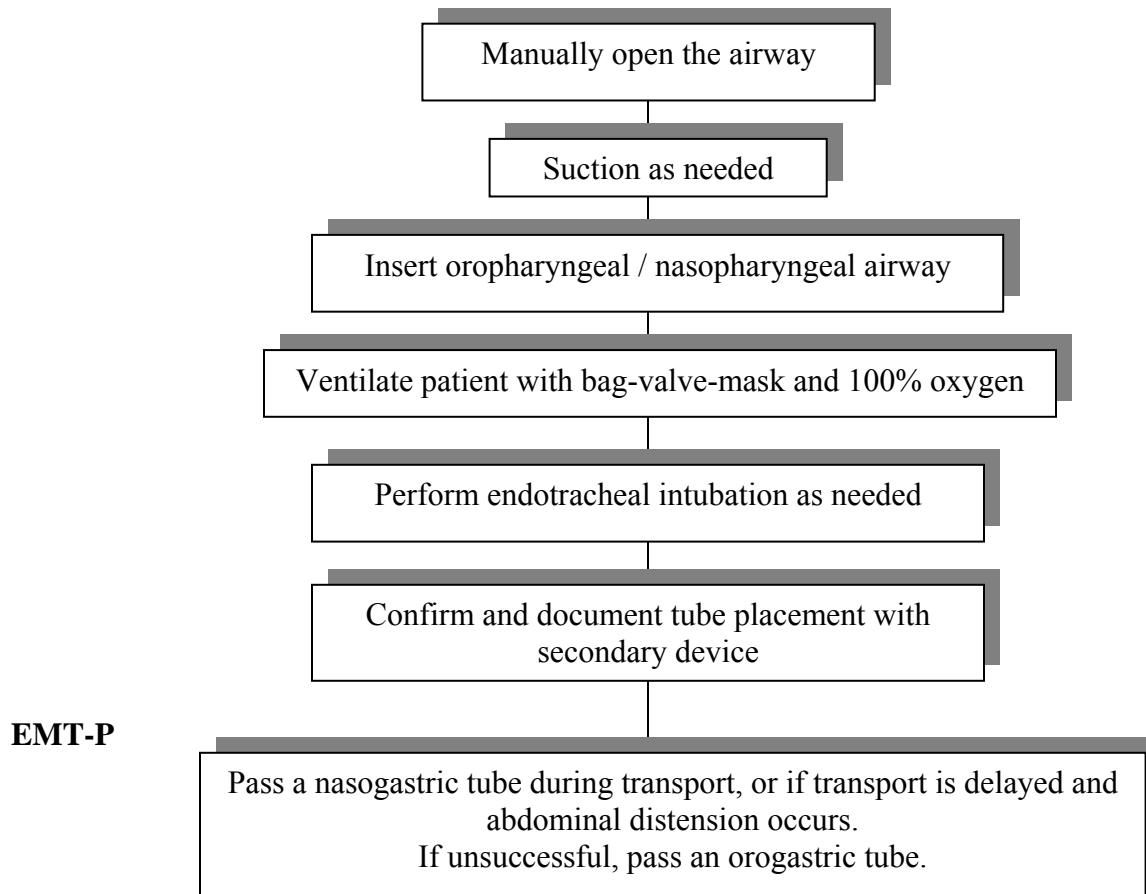
## ROUTINE TRAUMA CARE

Assess the mechanism of injury.  
Take appropriate spinal precautions.  
Assess patient with vital signs as often as the situation warrants.  
Perform airway management, ventilatory assistance, and oxygen therapy as needed.  
Determine Major Trauma Criteria (Pg. 71).  
Determine need for Air Medical Transport (Pg. 61).



**If total time to Trauma Center exceeds the Golden Period ( $\leq 90$  minutes), the patient should be taken to the nearest hospital.** Total time is defined as the period from the occurrence of the incident to the estimated time of arrival at the medical facility. **Except for prolonged extrication, on-scene time should not exceed 10 minutes.** Take all patients in cardiac arrest or with an unmanageable airway to the nearest hospital.

# AIRWAY MANAGEMENT



PEDIATRIC

**EMT-CC**

**Any Age**

May attempt orotracheal intubation on all patients that have an altered mental status, respiratory rate < 10, and that tolerate an oropharyngeal airway. In trauma, manual stabilization is required.

**EMT-P**

**Any Age**

May attempt orotracheal intubation on all patients requiring definitive airway management. If direct laryngoscopy is impossible, digital intubation may be attempted. In trauma, manual stabilization is required.

- SPO<sub>2</sub> monitoring is **required** for all ALS patients. It is considered an important vital sign for proper airway management and the standard of care for all patients requiring ALS. In the event you are unable to obtain an accurate reading, document “Unable to obtain” on the PCR.
- Patients that are intubated with a cuffed ET tube require secondary confirmation with an esophageal detector device. End-tidal CO<sub>2</sub> detection is required for all patients > 20 kg via a color-metric device or capnography. Wave form capnography is preferred.
- Confirm proper ET tube placement in trachea and document method of confirmation on PCR.

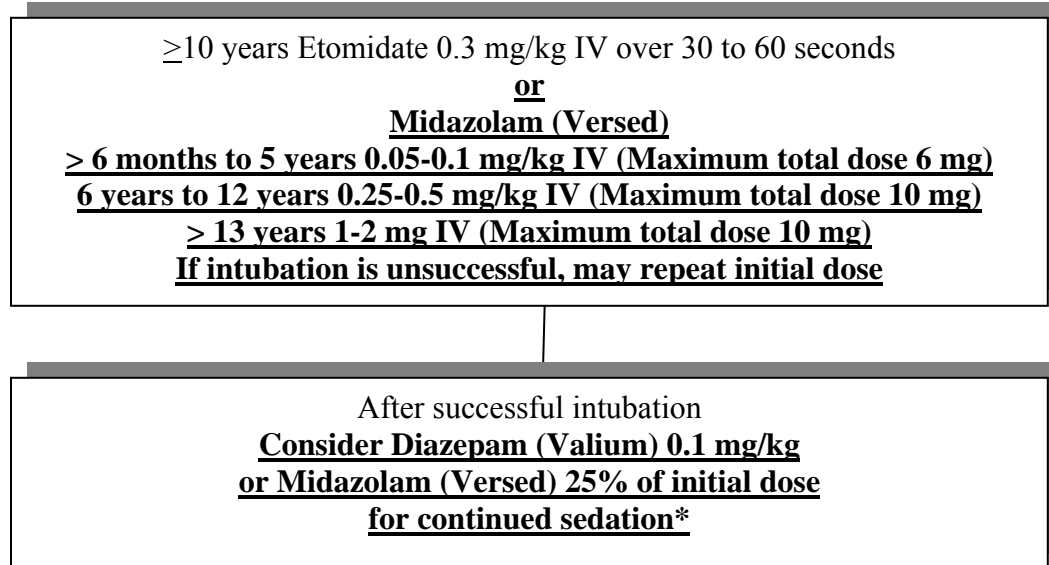
# FACILITATED INTUBATION

For patients requiring sedation prior to intubation, **paramedics** may perform the following procedures.

Indications are:

Need for airway control in patients that are combative or have a gag reflex.

## EMT-P



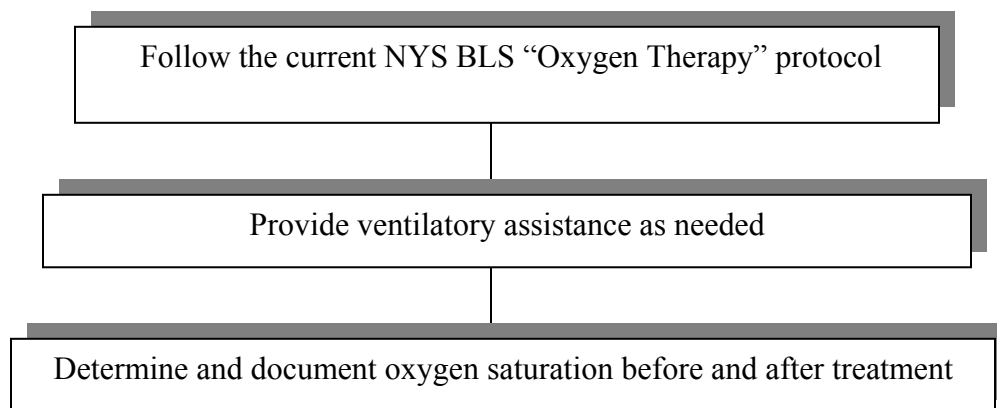
\*SPO<sub>2</sub> monitoring is **required**. It is considered an important vital sign for proper airway management and the standard of care for all patients requiring ALS.

\*Patients that are intubated with a cuffed ET tube require secondary confirmation with an esophageal detector device. End-tidal CO<sub>2</sub> detection is required for all patients > 20 kg via a color-metric device or capnography. Wave form capnography is preferred.

\*Confirm proper ET tube placement in trachea and document method of confirmation on PCR.

\*If you do not carry controlled substances, consider interface with an ALS unit that carries them.

## OXYGEN THERAPY



## IV / IO THERAPY

### Who may attempt IV / IO access?

**EMT-CC** IV Access: Standing order for patients  $\geq 5$  years old needing it  
IV Access: Patients  $< 5$  years old with Medical Control order  
**IO** Standing order for patients that present unconscious/unresponsive and hypotensive for age (refer to Pg. 75). All others patients require Medical Control consultation.

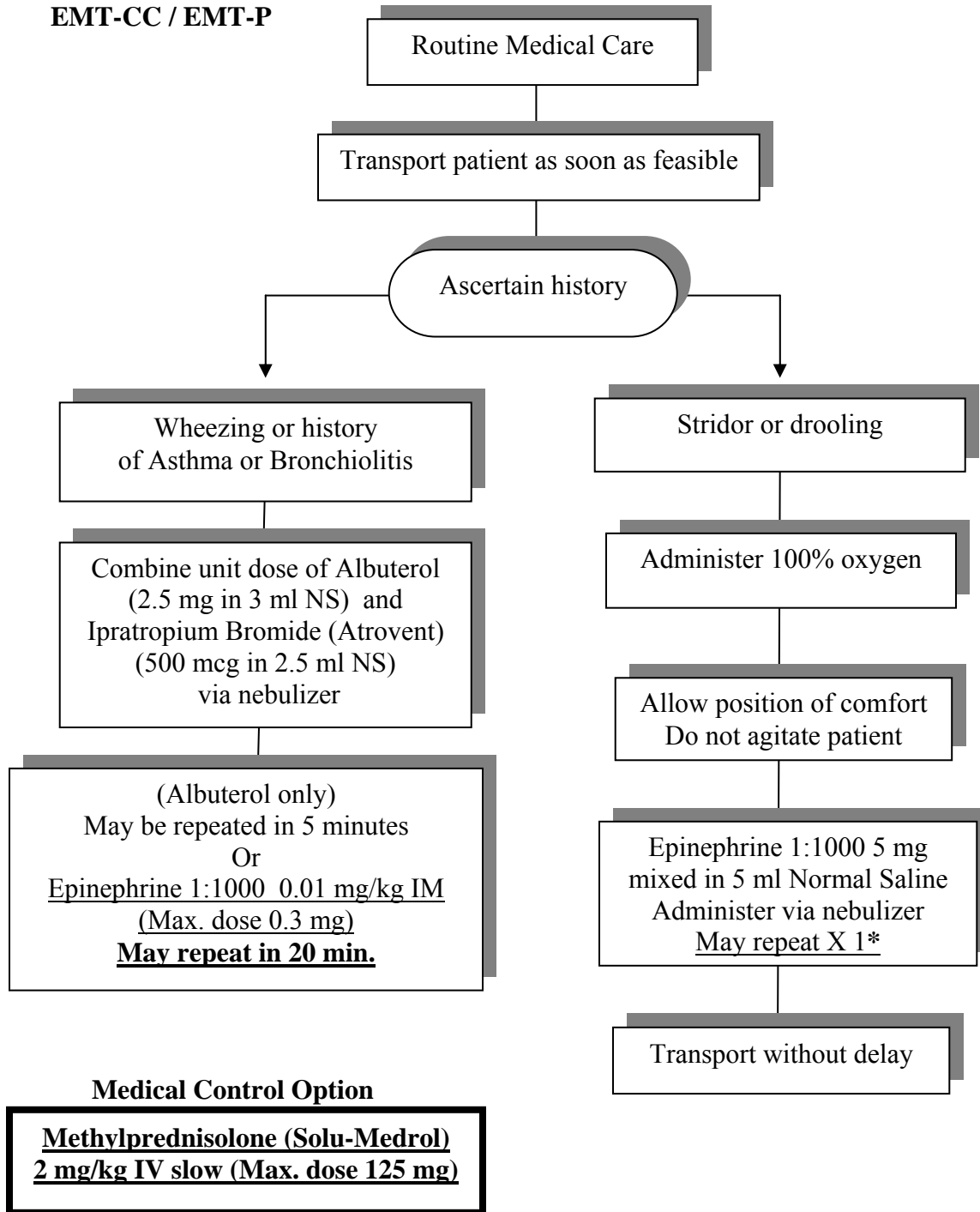
**EMT-P** IV Access on all patients needing it  
**IO** Standing order for patients that present unconscious/unresponsive and hypotensive for age (refer to Pg. 75). All others patients require Medical Control consultation.

**Critical Patients** No more than 90 seconds attempting IV/EJ then go to IO.

- ◆ Establish IV access with a saline lock on all appropriate medical and traumatic emergencies, unless otherwise specified.
- ◆ To infuse IV medications:
  1. Access the saline lock
  2. NS or LR 250 ml and a microdrip set (60 drops/ml)
  3. After administration of IV medications, flush with 3-5 ml NS
- ◆ To perform a fluid challenge, access the saline lock with NS or LR, 1000 ml, macrodrip set (10-15 drops/ml) and a 3-way stopcock. Use a large syringe to draw up and rapidly infuse 20 ml/kg. Infuse fluid bolus with the syringe.
- ◆ External Jugular access is acceptable in critical patients  $\geq 6$  years old when no other access is available or when the time to search out access would be detrimental to the patients outcome.

# RESPIRATORY DISTRESS

EMT-CC / EMT-P



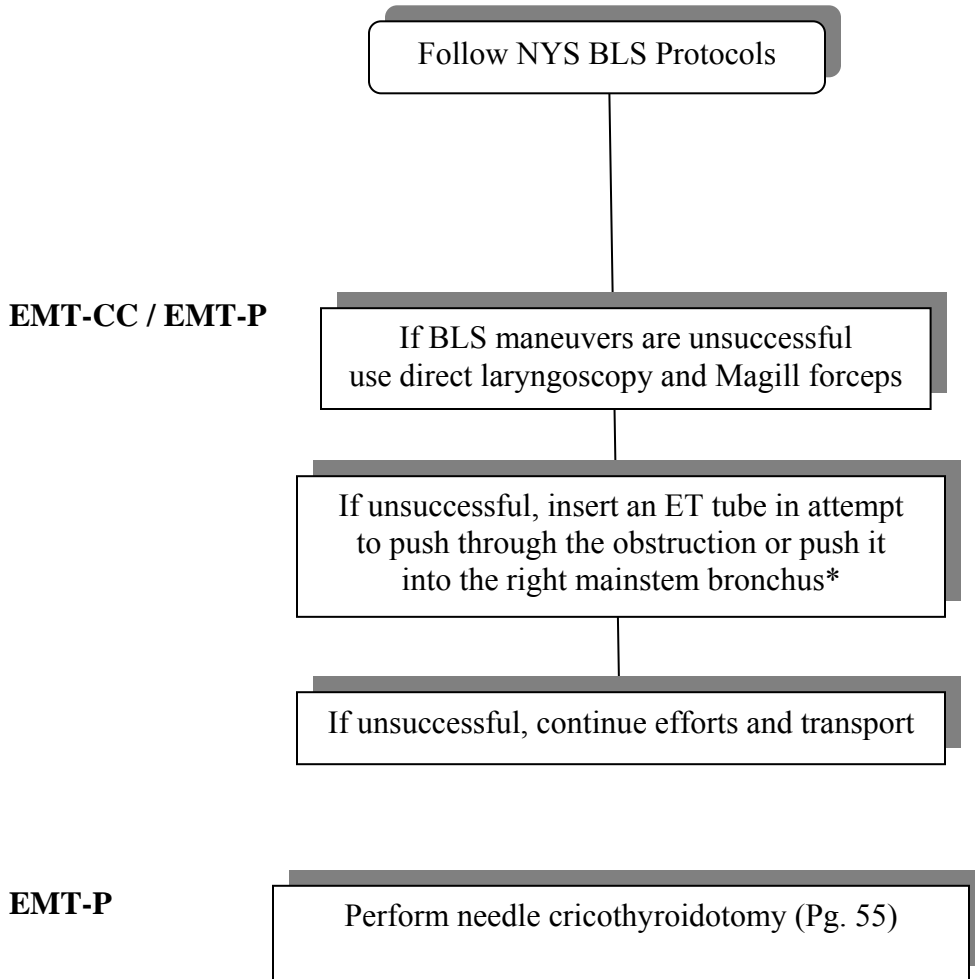
**PEDIATRIC**

**You may begin nebulizer therapy prior to establishing IV access.**

**\* Consider respiratory protection for all non-patients in the immediate area of the patient receiving a nebulized Epinephrine treatment.**

# AIRWAY OBSTRUCTION

**All LEVELS**

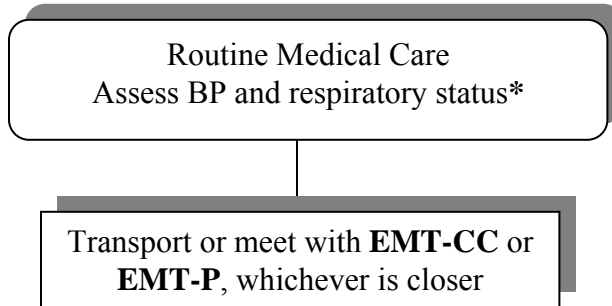


\* Once tube has been inserted, leave in to assist with ventilations.

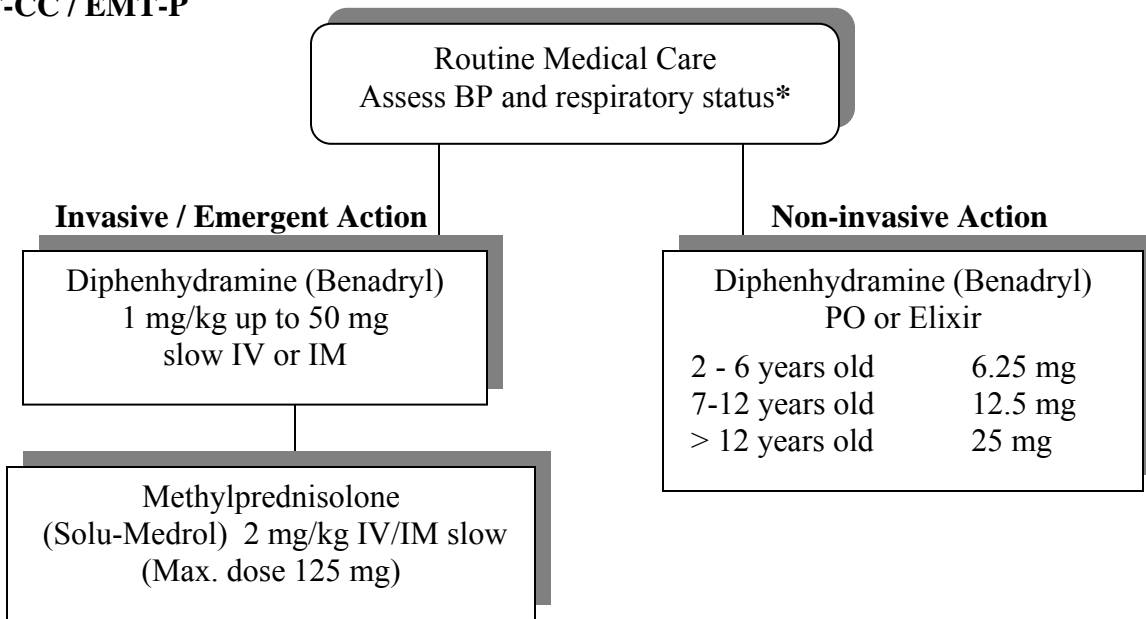
# ALLERGIC REACTION

**Stable Hemodynamics** (refer to child resuscitation tape) with minor or moderate skin manifestations (itching, rash, blotches, hives, urticaria), and **no respiratory compromise**.

## EMT-I



## EMT-CC / EMT-P



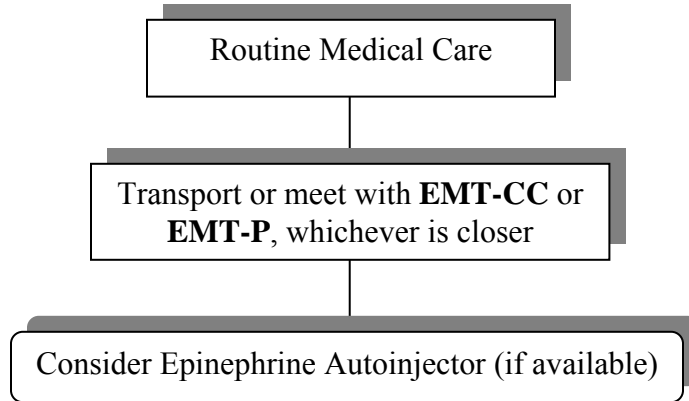
**PEDIATRIC**

**\* If the child is hypotensive (refer to child resuscitation tape) or has respiratory compromise, refer to Anaphylaxis protocol (Pg. 45)**

# ANAPHYLAXIS

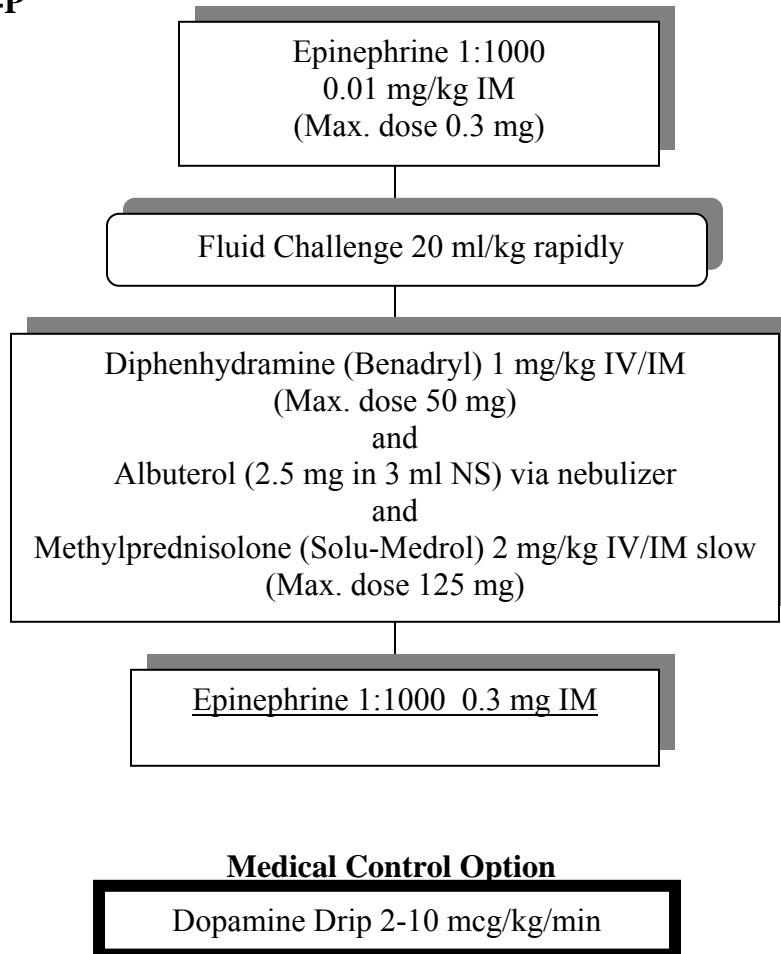
**Unstable Hemodynamics** with hypotensive patient (refer to child resuscitation tape) or impending upper airway obstruction (stridor) and/or respiratory distress (wheezing)

**EMT-I**



PEDIATRIC

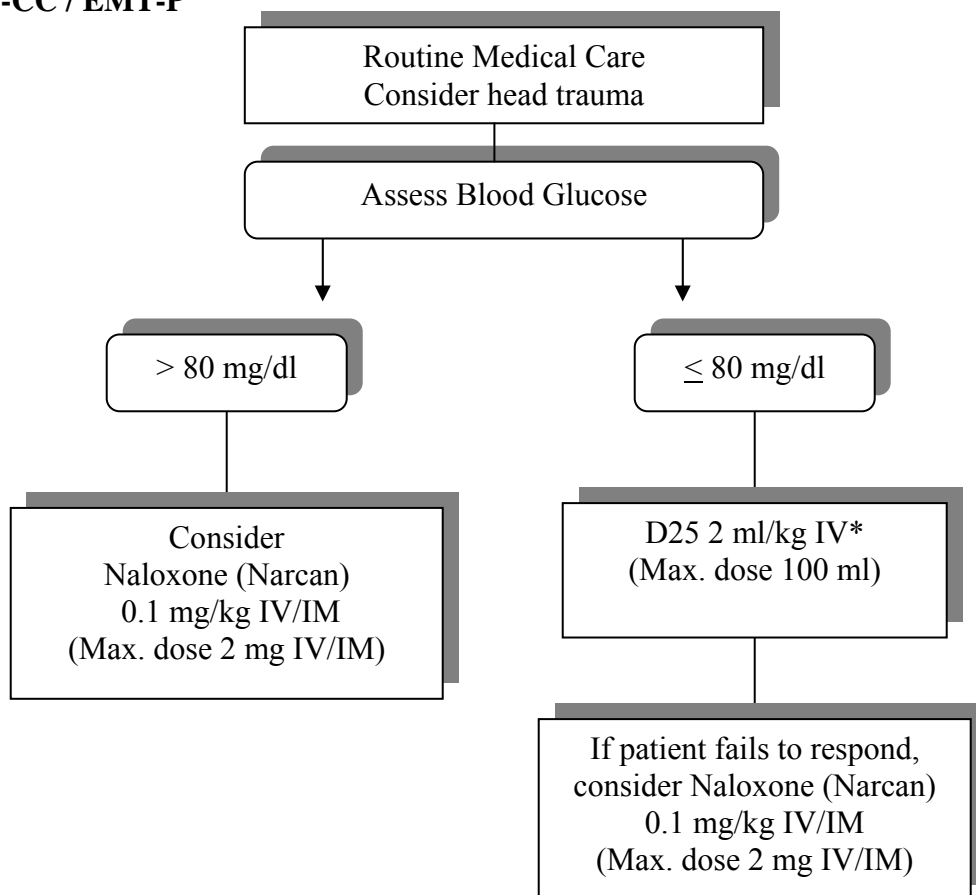
**EMT-CC / EMT-P**



**Consider immediate drug therapy prior to IV access in critical patients**

## ALTERED MENTAL STATUS

EMT-CC / EMT-P



PEDIATRIC

### Medical Control Option

Suspected Sympathomimetic OD (Cocaine or Amphetamines) Benzodiazapines  
Suspected Tricyclic OD Sodium Bicarb  
Suspected Beta Blocker OD Glucagon 0.1 mg/kg IM (Max. dose 1 mg)  
**Dose to be determined by Medical Control**

If unable to start an IV, administer Glucagon 0.1 mg/kg IM; (Max. dose is 1 mg).

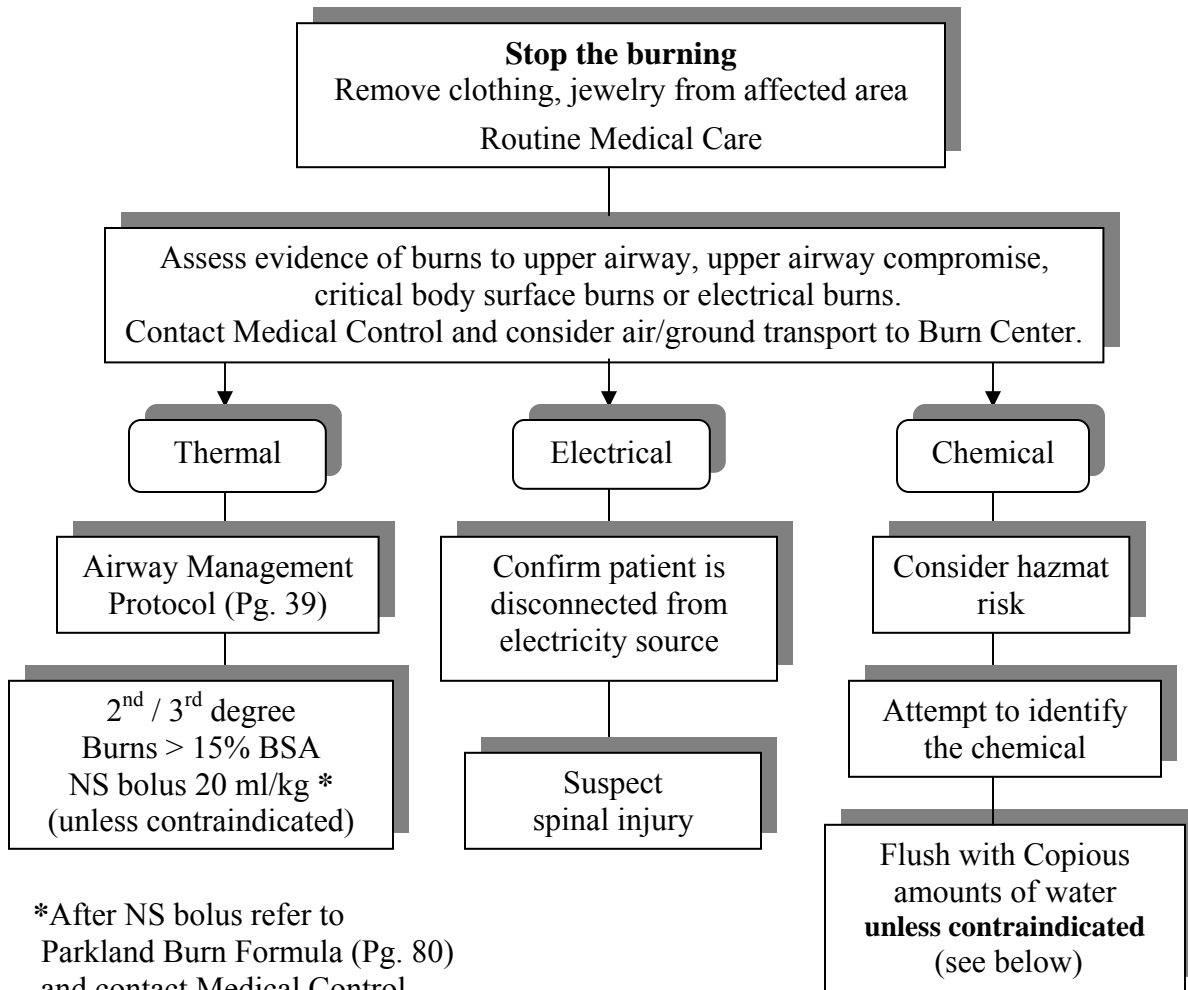
\* To make D25: Add 50 ml D50 into 50 ml NS.

Dextrose/Glucagon may be repeated after 10 minutes for blood sugar below 80 mg/dl.

See page 75 for Modified Pediatric Glasgow Coma Scale and Abnormal Pediatric Vital Signs.

# BURNS

EMT-I / EMT-CC / EMT-P



PEDIATRIC

EMT-CC / EMT-P



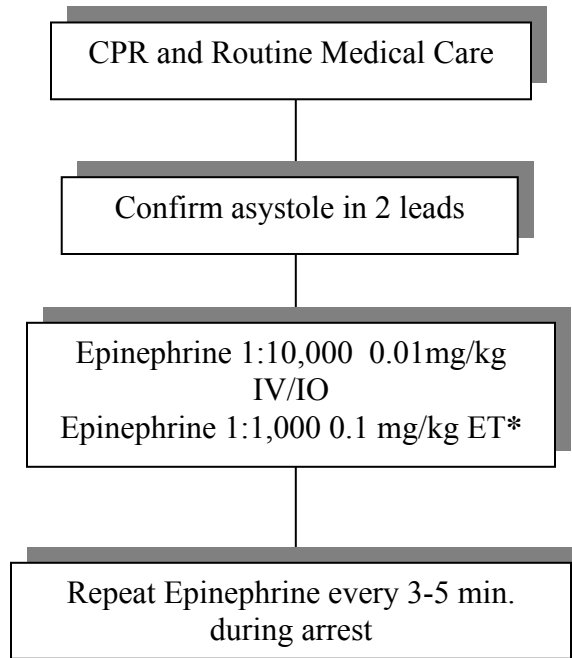
**Burn assessment methods can be found on Pg. 80.**

**Phosphorous burns** should not be irrigated with water. Brush chemical off thoroughly.  
**Hydrofluoric Acid burns** - be aware of cardiac implications due to induced hypocalcemia.  
Contact Medical Control and obtain 12 lead ECG's.

# CARDIAC - ASYSTOLE / PEA

PEA includes EMD, idioventricular rhythms, ventricular escape rhythms, and post defibrillation idioventricular rhythms

## EMT-CC / EMT-P



### Consider the Causes for Asystole/PEA

✓ Hypovolemia	✓ Toxins
✓ Hypoxia	✓ Tamponade, cardiac
✓ Hydrogen Ion (acidosis)	✓ Tension Pneumothorax
✓ Hypo / Hyperkalemia	✓ Thrombosis
✓ Hypoglycemia	✓ Trauma
✓ Hypothermia	

**Proper BLS airway technique and quality CPR should be your priority.**

**Endotracheal intubation should not be a priority during the first 5 minutes of resuscitation.**

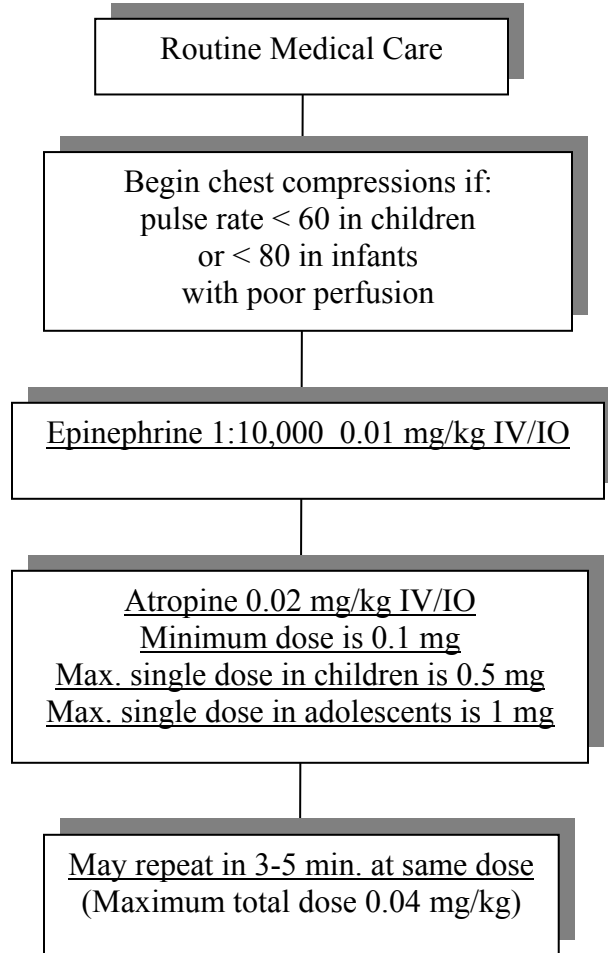
**\* High dose Epinephrine (1:1,000) is only given ET or in special circumstances such as beta blocker overdose.**

**Use adult paddles/patches for children weighing > 10 kg.**

# CARDIAC - SYMPTOMATIC BRADYCARDIA

Symptomatic Bradycardia is defined as a heart rate less than normal for age with hypotension or signs of hypoperfusion (refer to child resuscitation tape).

EMT-CC / EMT-P



PEDIATRIC

## Medical Control Options

Transcutaneous Pacing (TCP)

**Consider Midazolam (Versed) 0.07 mg/kg IV**

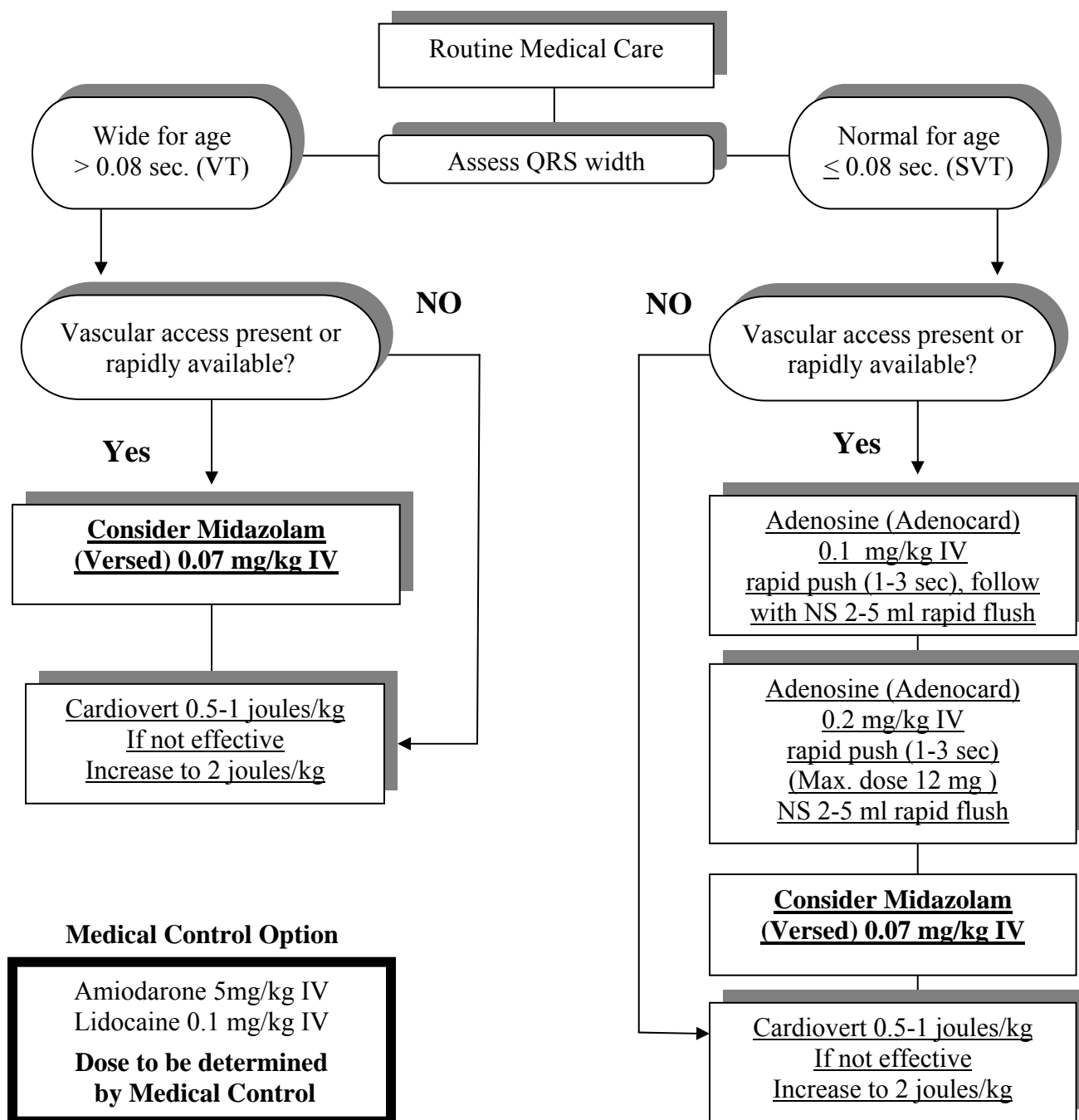
Suspected Beta Blocker OD Glucagon 0.1 mg/kg IM  
(Max. dose 1mg)

**Dose to be determined by Medical Control**

**Use Adult pacing patches for children weighing > 10 kg.**

## CARDIAC - UNSTABLE TACHYCARDIAS

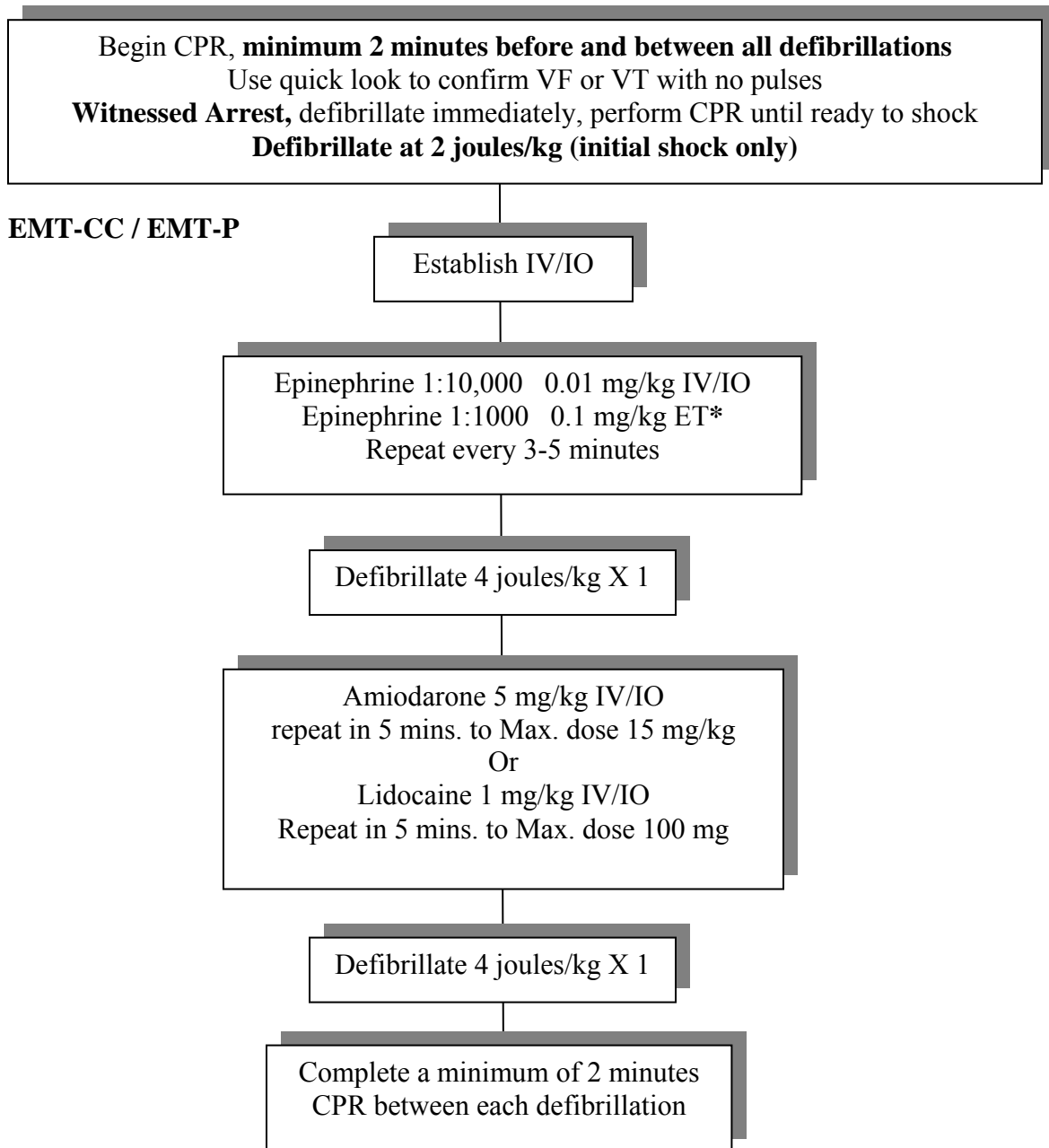
An unstable patient is defined as BP < normal for age, SOB, a decreased mental status, signs of CHF or other signs of hypoperfusion (refer to child resuscitation tape).  
Heart rate usually > 220 for infants and > 180 for children.



Use Adult paddles/patches for children weighing > 10 kg.

All joules listed are monophasic settings. Biphasic units should be set at manufacturer equivalent.

## CARDIAC - V-FIB / PULSELESS V-TACH



PEDIATRIC

**Proper BLS airway technique and quality CPR should be your priority.**

**Endotracheal intubation should not be a priority during the first 5 minutes of resuscitation.**

**In Torsades de Pointes, administer Magnesium Sulfate 25-50 mg/kg (Max. dose 2 gm).**

\* **High dose Epinephrine (1:1,000) is only given ET or in special circumstances such as beta blocker overdose.**

**Use Adult paddles/patches for children weighing > 10 kg.**

# HEAD TRAUMA

Routine Trauma Care  
Consider aeromedical transport

If Glasgow Coma Score is less than 8 and one or more of the following signs / symptoms of brain herniation:

- Active seizures
- Fixed or asymmetric pupils
- Neurologic posturing
- Hypertension and bradycardia (Cushing's reflex)
- Intermittent apnea
- Further decrease in GCS score of 2 or more points

Hyperventilate with BVM at 25/min.

**Caution:**

**Do not hyperventilate unless the above criteria are met**

Blood Sugar < 80 mg/dl  
Administer Dextrose to obtain normal parameters

**EMT-CC** May attempt orotracheal intubation if patient is in respiratory arrest. May attempt orotracheal intubation if patient has an altered mental status, respiratory rate < 10, and tolerates an oropharyngeal airway. **Manual stabilization is required.**

**EMT-P** May attempt orotracheal intubation on patients requiring definitive airway management. If direct laryngoscopy is impossible, digital intubation may be attempted. If the patient requires sedation prior to intubation, use the Facilitated Intubation protocol (Pg. 40). **Manual stabilization is required.**

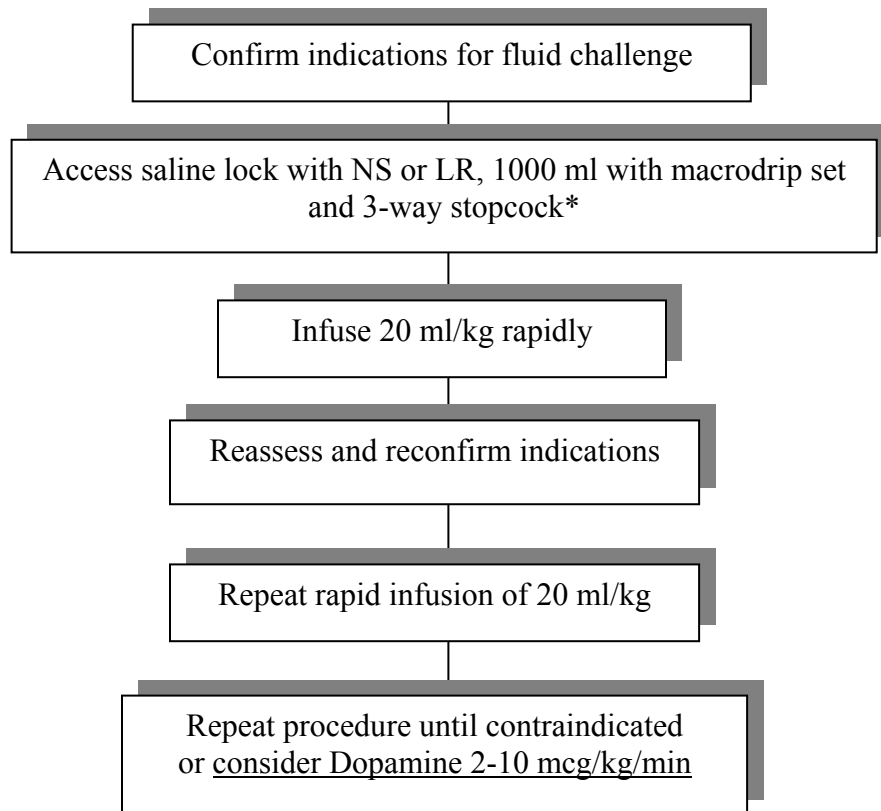
# HYPOPERFUSION

(Fluid Challenge)

Indication for performing a fluid challenge: (Refer to page 75 for abnormal vital signs).

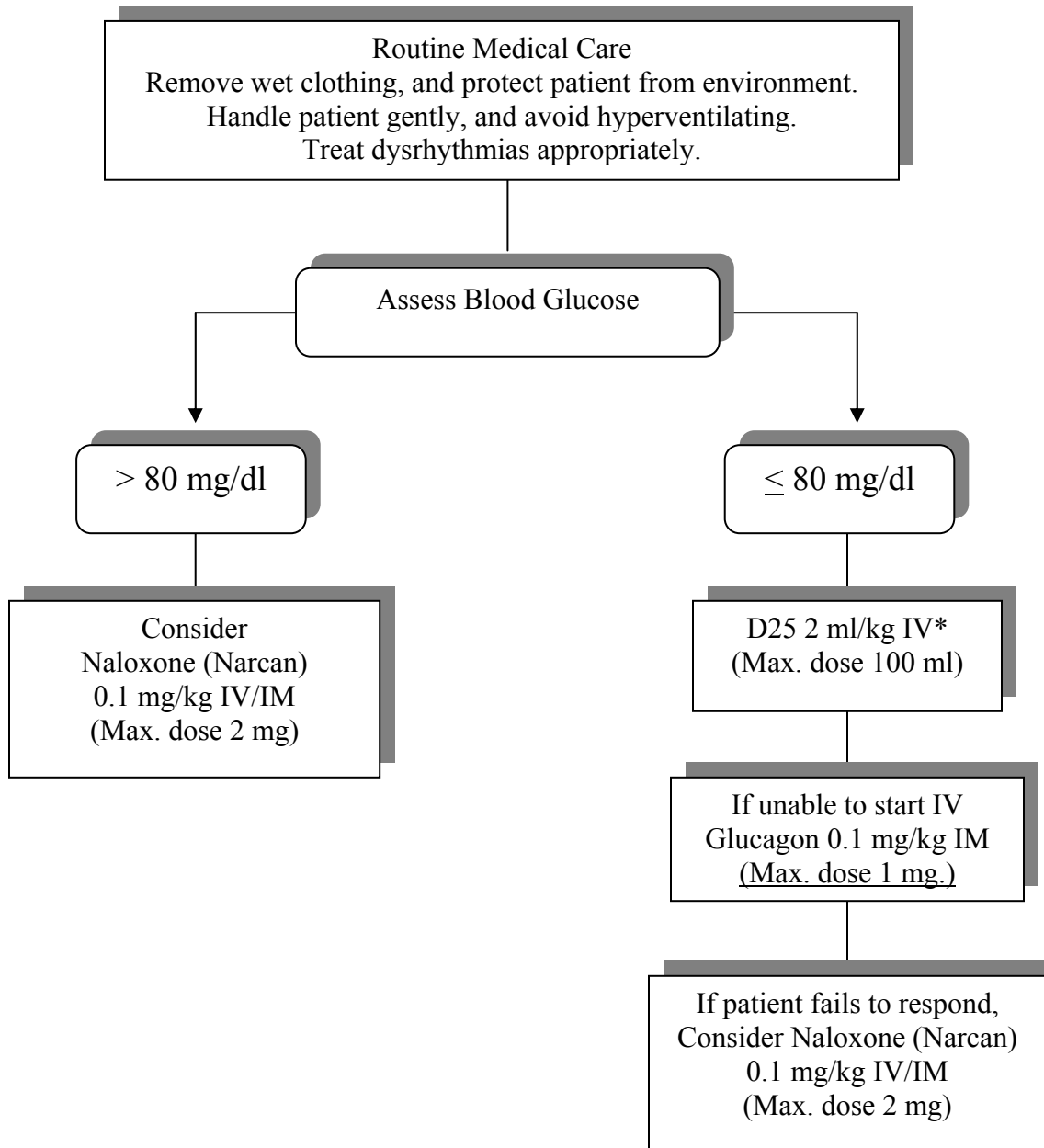
- ◆ Signs of hypoperfusion including:
  - Altered mental status
  - Tachypnea
  - Tachycardia
  - Diaphoresis
  - Pallor
  - Hypotension
- ◆ Clear lung sounds

## EMT-CC / EMT-P



\* To perform a fluid challenge, access the saline lock with NS or LR, 1000 ml, macrodrip set (10-15 drops/ml) and a 3-way stopcock. Use a large syringe to draw up and rapidly infuse 20 ml/kg. Infuse fluid bolus with the syringe.

# HYPOTHERMIA



\* To make D25: Add 50 ml D50 into 50 ml NS.

Dextrose/Glucagon may be repeated after 10 minutes for blood sugar below 80 mg/dl.

★ In cases of hypothermic cardiac arrest, contact Medical Control prior to any medication administration and before deciding that resuscitation attempts are contraindicated.

# NEEDLE CRICOTHYROIDOTOMY

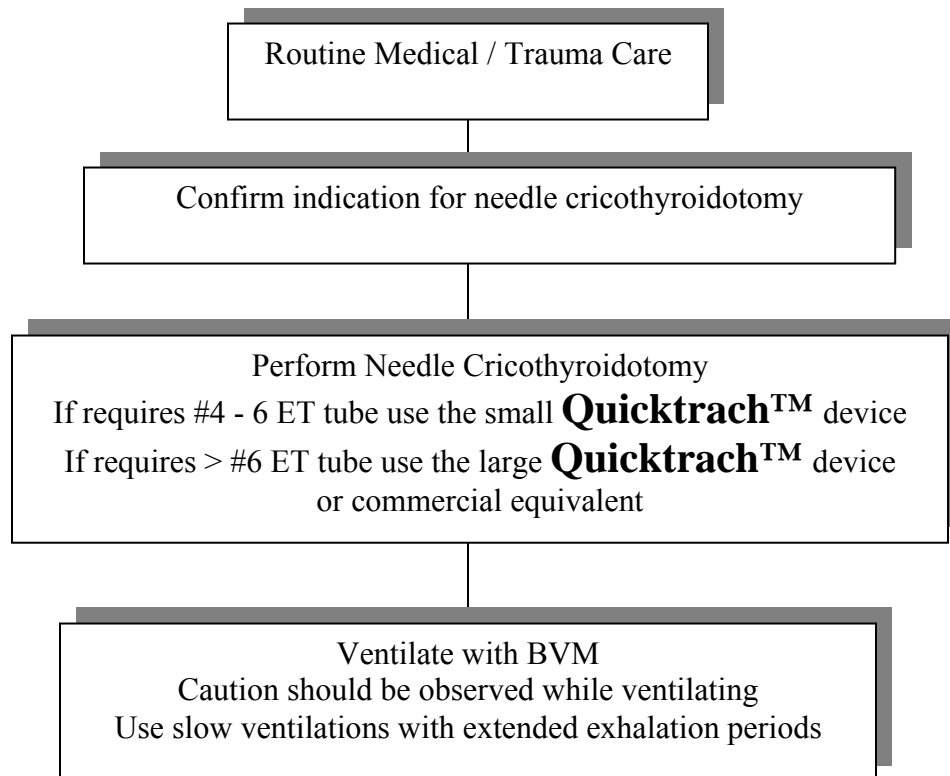
Standing order to be performed by paramedics only.

Indications:

- **Respiratory arrest patients in which an airway cannot be secured with intubation or adequate ventilation with a BVM.**
- Situation in which standard endotracheal intubations cannot be done e.g.:
  - ◆ Excessive oropharyngeal hemorrhage
  - ◆ Massive traumatic or congenital deformities
  - ◆ Complete airway obstruction precluding ET tube placement
- Cervical spine fractures with respiratory embarrassment in patients who cannot be endotracheally intubated.

PEDIATRIC

EMT-P

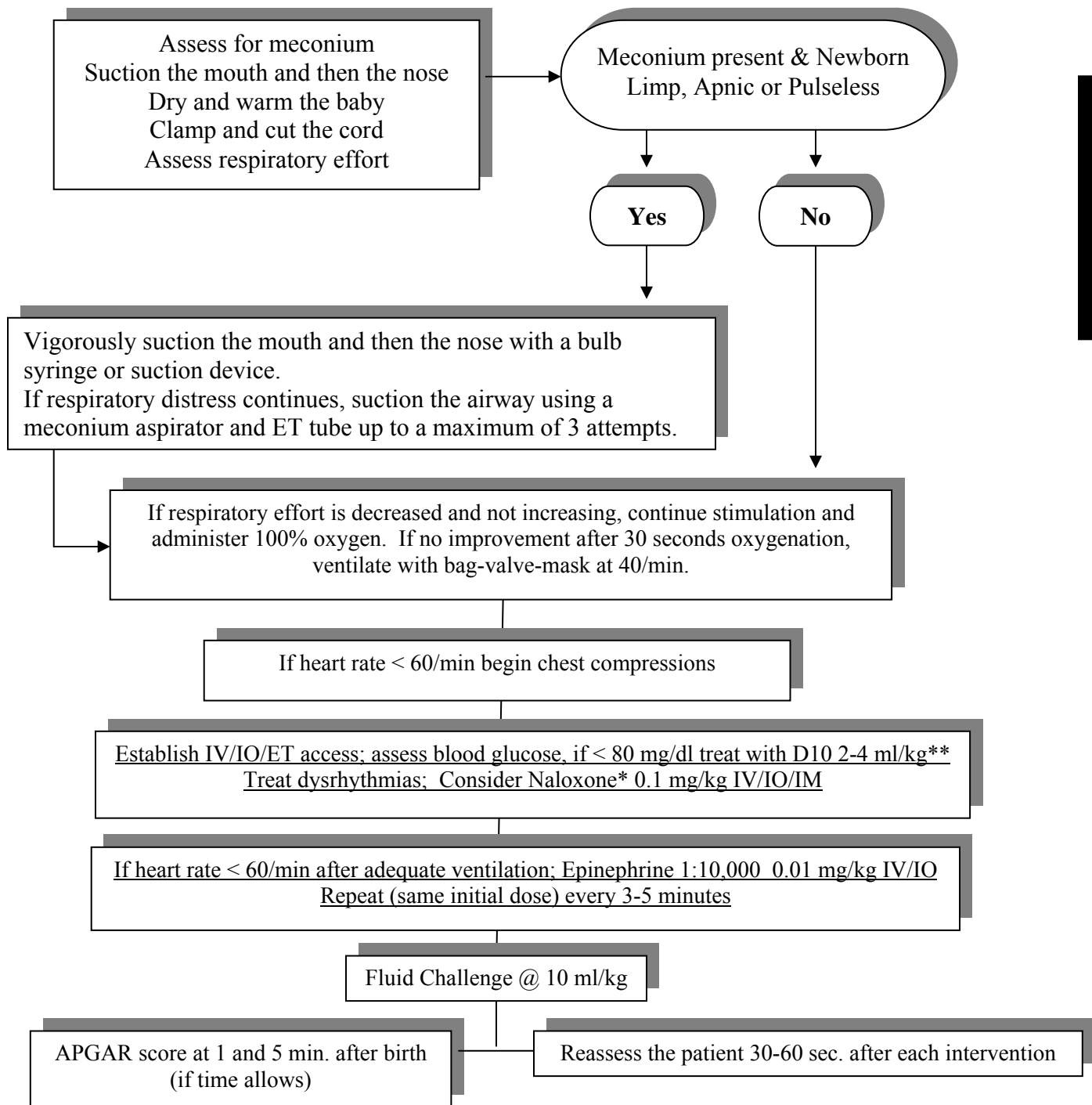


**This is a procedure of last resort and may not provide adequate ventilation for an extended period of time. Rapid transportation to the closest hospital is required for more definitive airway management.**

**Patients that require < #4 ET tube, follow NYS BLS protocol**

# NEONATAL RESUSCITATION

EMT-CC / EMT-P



PEDIATRIC

\* Respiratory depression and history of narcotic administered to the mother within 4 hours before delivery, unless mother has a history of narcotic addiction (may precipitate withdrawal in infant with severe seizures).

\*\* To make D10: Add 12 ml D50 into 50 ml NS bag

# PAIN MANAGEMENT

(Non Cardiac In Origin)

Indicated for patients experiencing pain due to musculoskeletal injuries, burns (without airway involvement), abdominal pain (without suspected obstruction), and cancer pain.

**EMT-CC / EMT-P**

Routine Medical / Trauma Care

PEDIATRIC

**Medical Control Option**

**Morphine Sulfate 0.1 mg/kg IV**  
**May repeat every 5 min.**  
**Max. single dose is 5 mg**

# POISONING / OVERDOSE

History is important. Whenever possible, determine the substance(s) involved and the quantity, time and route they were taken.

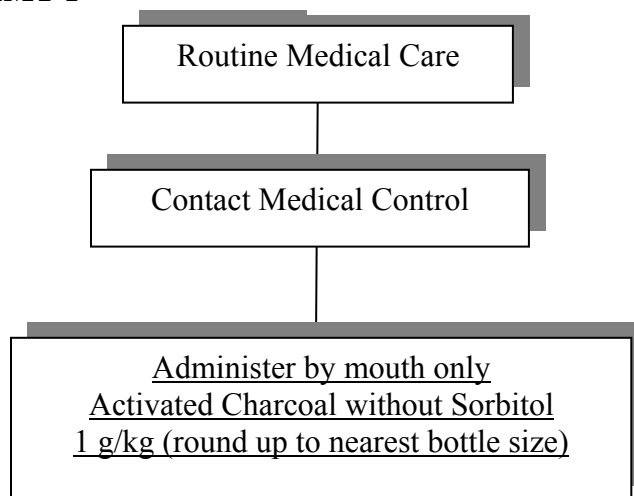
## Indications:

- Poisoning by mouth

## Contraindications:

- Altered mental status
- Ingestion of acid or alkali substances
- Ingestion of hydrocarbons (petroleum)
- Unable to swallow

## EMT-I / EMT-CC / EMT-P



PEDIATRIC

## OVERDOSE

### Medical Control Options

Suspected Sympathomimetic OD - (Cocaine or Amphetamines) Benzodiazapines  
Suspected Tricyclic OD - Sodium Bicarb  
Suspected Beta Blocker OD - Glucagon  
**Organophosphate Poisoning - Atropine 0.05 mg/kg IV/IM**  
**Dose to be determined by Medical Control**

**Consider specific antidote.** If possible, see container label and contact Medical Control early to involve Poison Control.

**Rule out narcotic OD.** Be aware of increasing use of home dermal pain control patches.

**Suspected Narcotic OD -** Refer to Altered Mental Status (Pg. 46)

**Topical poisons,** brush away particulate matter before flushing with water.

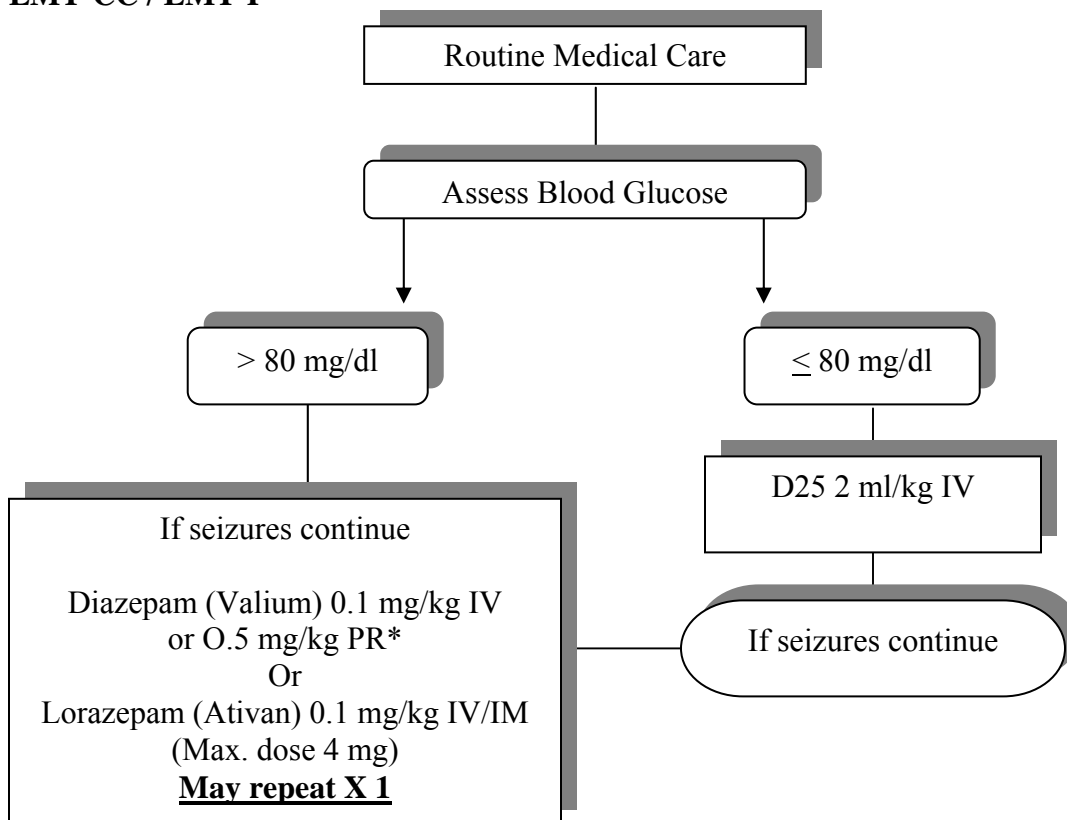
**Carbon monoxide poisoning -** Pulse oximetry is unreliable.

**Multiple victims in enclosure -** Consider environment and hazmat team.

# SEIZURES

The following protocol applies for the patient who is actively seizing. If febrile seizures are suspected, remove excess clothing and support vital signs during transport.

## EMT-CC / EMT-P



### If patient is febrile and has not been treated

Acetaminophine (Tylenol)  
Elixir 15 mg/kg PO or  
Suppositories 15 mg/kg PR\*  
(Max. dose 600 mg)  
Suppositories may be cut to obtain  
the appropriate dose

**\*PR = Per Rectum**

**If unable to start an IV, administer Glucagon 0.1 mg/kg IM; (Max dose is 1 mg).  
May be repeated in 10 minutes**

**In teenage females, consider possibility that seizures are the result of pre-eclampsia or eclampsia, refer to Obstetric Complications protocol (Pg. 29).**

## TENSION PNEUMOTHORAX

Signs of tension pneumothorax include severe respiratory distress, absent lung sounds on the affected side, diminished lung sounds on the opposite side, hypotension, tachycardia, distended neck veins, and tracheal deviation away from the affected side.

**EMT-CC / EMT-P**



Use second intercostal space, midclavicular line for landmark.

Once catheter is in place, it should be left open.

## ON-SCENE AIR MEDICAL PROTOCOL

Air Medical transport should be considered for the following:

- Any patient that meets “Major Trauma Triage Criteria” (Pg. 71)
- Any stroke patient that could realistically arrive at a “Designated Stroke Center” within 2 hours of onset (Consult with Medical Control)
- Any time patient outcome could be improved by shortened transport time, such as:
  - ◆ Ground transport greater than 30 minutes
  - ◆ Prolonged extrication
  - ◆ A remote / wilderness area, difficult terrain, or any other time when ground ambulance access is prevented or delayed
  - ◆ Multiple critical / unstable patients / multiple casualty incident
  - ◆ To bring special medical personnel and equipment to the scene, such as physician or surgeon
  - ◆ Paramedic level care is otherwise unavailable

Patient transport should not be delayed awaiting a helicopter. Begin transport to the hospital and rendezvous with the helicopter, if possible at a predetermined safe landing site, enroute to the Trauma Center or community hospital.

Requests from the scene should be made by the highest trained EMS provider (through the incident commander, as appropriate) to the County Dispatch Center (Fire Control or 911 Center).

The pilot will determine if the mission will be flown. Once at the scene, the flight medical crew may elect to fly the patient, accompany the patient by ground, or have the patient transported by ground with the on-scene crew.

# DO NOT RESUSCITATE

## When to honor "Do Not Resuscitate" (DNR) orders:

- Transferring a patient from a health care facility with an authorized DNR order, or an order signed by a physician to accompany the patient in the ambulance
- DNR order on an approved form (DOH 3474) or as indicated by DNR bracelet
- Refer to New York State DOH policy 99-10

## When to disregard a DNR:

- The provider believes in good faith that the DNR order has been revoked
- A physical confrontation with a family member who disagrees with the DNR appears likely

## What does DNR mean?

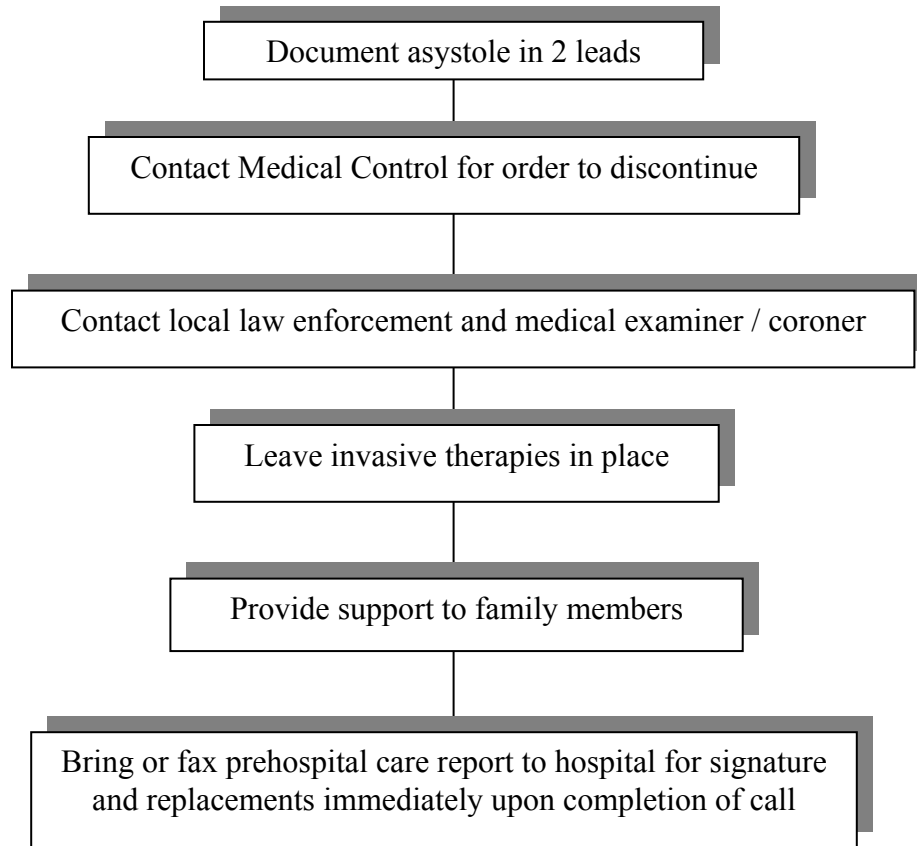
- Do Not Resuscitate means not taking measures to restore cardiac function or to support ventilation in the event of a cardiac and/or respiratory arrest. If a valid DNR order exists, and the patient becomes **pulseless and apneic**, do not attempt resuscitation.

## Living Wills and Health Care Proxies

- Living wills have no validity in the prehospital setting and should be disregarded.
- When a health care proxy is present (the document and the designated person) and there is a disagreement as to its validity and whether resuscitation attempts should be initiated or continued, contact Medical Control.

## TERMINATION OF RESUSCITATION (ADULT PATIENTS ONLY)

Once begun, you may terminate resuscitation efforts if a valid DNR order is found to exist or if you have completed the adult asystole protocol with no success.



**SPECIAL**

### **THIS PROTOCOL CANNOT BE USED DURING RADIO FAILURE**

In traumatic arrest cases in which resuscitation is deemed futile, contact Medical Control. The physician may terminate the code without completion of the entire asystole protocol.

## PHYSICIAN ON SCENE

A patient's personal physician\* may assume medical control responsibility for his/her patient if he/she desires.  
In such circumstances, do the following:

Give the physician the card describing the function of the Regional Medical Control System. (See next page)

If the physician still desires that the patient be transported without ALS, they should order "**NO ALS, TRANSPORT ONLY**" on the PCR and sign this order

Notify the destination hospital of the case after you are enroute

If the patient's condition deteriorates enroute, contact the Emergency Department physician who will decide if ALS protocols should be started. If the patient's physician accompanied the patient in the ambulance, he/she will be responsible for this decision.

Bystander physicians may not circumvent standard operating procedures or assume Medical Control without approval from the Medical Control Physician.

\* Physicians only. Physician Assistants, Nurse Practitioners, etc. are excluded.

SPECIAL

## PHYSICIAN - ON - SCENE CARD

### North Country Emergency Medical Services Program

Thank you for your offer of assistance. Please be advised that we are working under Medical Control from physicians at a Resource Hospital. We are not permitted to relinquish Medical Control to a physician on the scene without approval from the on-line medical control physician.

Should you wish to assume Medical Control, you may request to speak with the on-line medical control physician. If you are authorized to provide medical control, you must sign the patient's Prehospital Care Report (PCR) and accompany the patient to the hospital.

If you have any questions regarding this Physician - On - Scene Policy, please contact North Country Emergency Medical Services Program Agency at (315) 379-3977.

Jerry Cattelane, D.O.

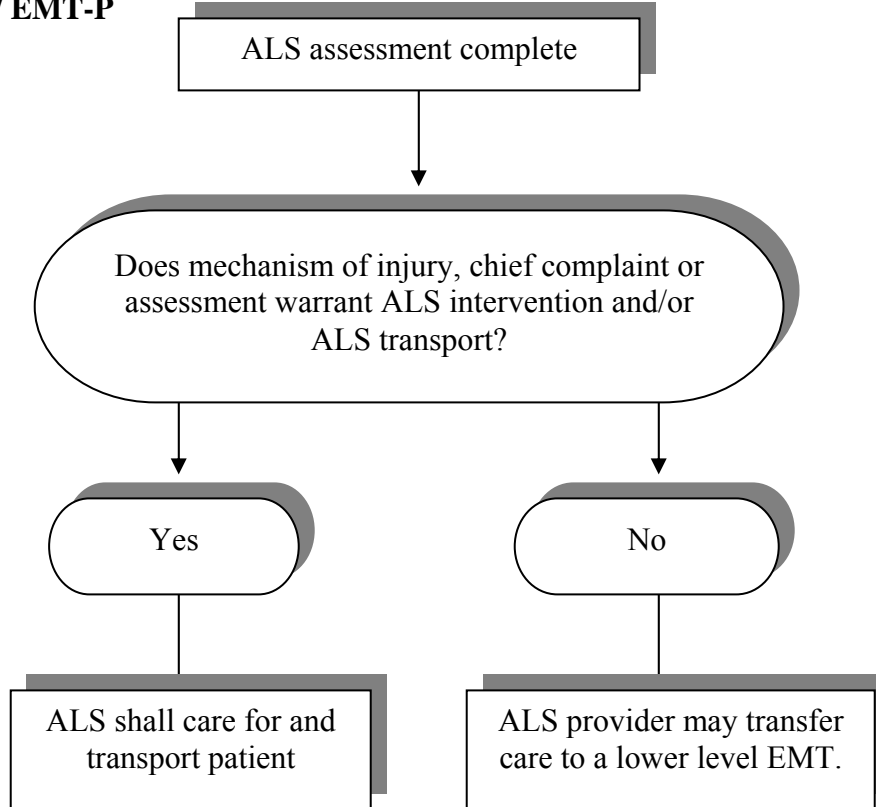
Regional Medical Director, NCEMS Program

SPECIAL

# TRANSFER OF CARE PROTOCOL

ALS providers are authorized to transfer care of a patient to a lower level EMT after patient assessment indicates no need or anticipated need for ALS.

**EMT-CC / EMT-P**



**SPECIAL**

Detailed in NCREMAC policy 99-03

## RADIO FAILURE

In the event that direct communications with any hospital cannot be established because the crew is not in UHF/VHF radio range due to either distance from the radio tower, or radio dead spots, or the UHF/VHF radio is malfunctioning, making voice communications impossible and no telephones are available at the scene and no other means of direct communications are available, the following policy will be in effect:

Given the above circumstances, to allow for the immediate treatment of any emergency deemed appropriate in the judgment of the EMT-CC or EMT-P in charge, all bold/underlined treatments in the NCEMS treatment protocols (as provided in the Regional Protocol Handbook), except for controlled substances (excluding seizures), which would ordinarily require a physician's order may be carried out by any individual appropriately certified to use the protocols within the NCEMS system. All time sequences, as specified in the protocols will be followed. All indications for the treatment, the time treatments were performed, and patient responses to the treatment **MUST** be thoroughly documented on the PCR or other appropriate run record.

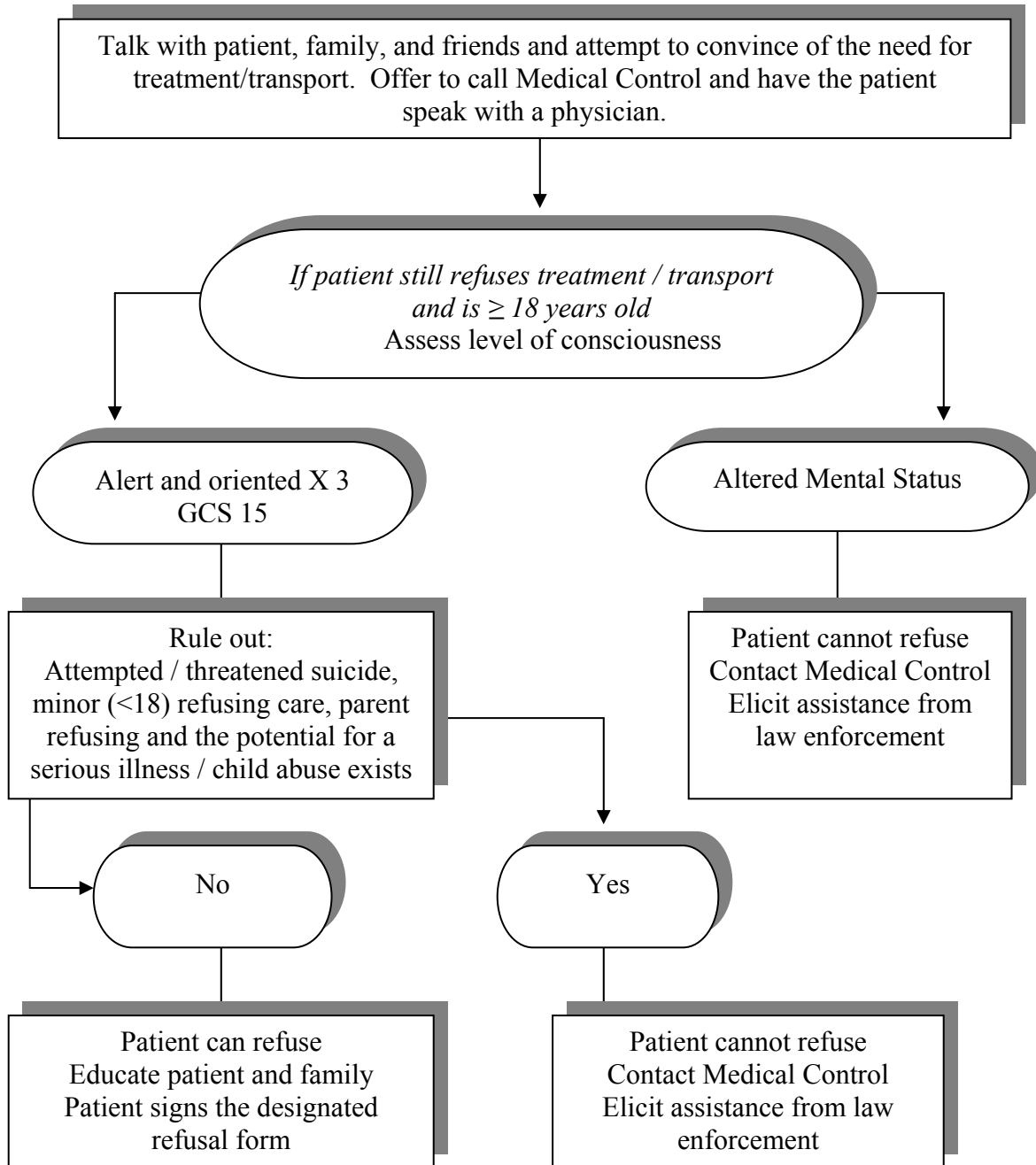
Use of this protocol assumes that attempts have been made via all available means to make contact with Medical Control.

Thorough documentation is **MANDATORY** with regard to description of the communication problems encountered including location, number of attempts at communications that were made, and the description of the patient's condition, which warranted immediate treatment. In addition, attempts to contact Medical Control will be repeated at 5 - minute intervals.

**All documentation regarding each case utilizing the Radio Failure protocol will be submitted to the NCEMS Program Agency within one week from the date of occurrence for review by the Regional CQI Committee.**

**YOU MAY NOT USE THE RADIO FAILURE PROTOCOL TO  
TERMINATE RESUSCITATION EFFORTS IN THE FIELD**

## PATIENT REFUSALS AGAINST MEDICAL ADVICE



**SPECIAL**

**Under no circumstances should field personnel allow themselves to be placed in danger. If this potential exists, go to a safe area and call for assistance.**

# INTERFACILITY TRANSFERS

Field providers may transport patients with the following IV and medical equipment without facility staff.

**EMT-Basic** No anticipated airway interventions needed. Saline lock acceptable.  
Stable patient with no anticipation of further interventions en-route.

**AEMT Intermediate** Adult peripheral IV lines of Normal Saline or Lactated Ringers.  
Stable patients with no anticipation of further interventions en-route.

**AEMT Critical Care** Peripheral IV lines of D5W, Normal Saline, or Lactated Ringers.  
Cardiac monitor/defibrillator/external pacer  
Intubated patients > 3 years old  
Protocol Drugs as attached and specified on pages 72 - 74 of the protocol book

## IV Drips

Amiodarone  
Antibiotics (must be > 20 minutes into 1<sup>st</sup> dose)  
Blood and blood products (maintain only, Not 1<sup>st</sup> dose)  
Dopamine  
Heparin  
Lidocaine (Adult)  
Magnesium Sulfate  
Methylprednisolone (Solu-Medrol)

**AEMT Paramedic** Peripheral IV lines of D5W, Normal Saline, or Lactated Ringers.  
Cardiac monitor/defibrillator/external pacer  
Intubated patients (any age)  
Central venous lines (maintain only)

- Hickman Catheters
- Subclavian IV
- Internal Jugular IV
- Port-a-Cath
- Arterial lines

Protocol Drugs as attached and specified on page 72 - 74 of the protocol book.

## IV Drips

All electrolyte and lipid solutions  
Aminophylline  
Amiodarone  
Antibiotics (must be > 20 minutes into 1<sup>st</sup> dose)  
Blood and Blood products (maintain only, Not 1<sup>st</sup> dose)  
Dobutamine  
Dopamine  
Heparin  
Lidocaine  
Methylprednisolone (Solu-Medrol)  
Nitroglycerin  
Procainamide

- **EMT-CC / EMT-P** providers may transport patients with additional interventions if approved by their Service Medical Director and the REMAC. Refer to REMAC Policy 2002-01
- When transferring patients with the above drips, the transferring facility ***must*** supply the IV pump and training for the same.
- It is recommended that EMS providers who are regularly involved in inter-facility transports maintain current ACLS and PALS certifications.

# RESPONSIBILITIES OF PREHOSPITAL PATIENT CARE PROVIDERS AND THE COORDINATION OF EMS RESOURCES AT A SCENE<sup>1</sup>

The provision of patient care is a responsibility given to certified and/or licensed individuals who have completed a medical training and evaluation program specified by the NYS Public Health or Education Laws. Prehospital providers are required to practice to the standards of the certifying agency (DOH) and the SEMAC and local REMACs.

Patient care takes place in many settings, some of which are hazardous or dangerous. The equipment and techniques used in these situations are the responsibility of locally designated, specially trained and qualified personnel. Emergency incident scenes may be under the control of designated incident commanders who are not emergency care providers. These individuals are generally responsible for scene administration, safe entry to a scene or decontamination of patients or responders. When access to a scene is restricted because of safety concerns or other limitations, **medical direction of patient care by certified EMS personnel is essential.** This can be provided by trained responders using appropriate personal protective equipment or by communicating instruction to those responders moving or extricating the patient.

## STATEMENT OF POLICY

Pursuant to the provisions of public health law, the individual having the highest level of prehospital certification and is responding with authority, "has a duty to act" and therefore is responsible for providing and/or directing emergency medical care and the transportation of a patient. Such care and direction shall be in accordance with all NYS standards of training, applicable State and regional protocols and may be provided under direct Medical Control.

The Governor's Executive Order NO. 26 of March 5, 1996, establishes the National Interagency Incident Management System (NIIMS) as the standard command and control system for emergency operations in New York State. The Incident Command system (ICS) does not define who is in charge, rather it defines an operational framework to manage many types of emergency situation. One essential component of ICS is Unified Command. Unified command is used to manage situations involving multiple jurisdictions, multiple agencies, or multiple technical needs. The specific issues of the directions and provision of patient care and the associated communications among responders must be integrated into each single or unified command structure and be assigned to the appropriately trained personnel to carry out.

\*\*Refer to NYS DOH Policy 98-18, 98-05, 88-10

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<sup>1</sup>Excerpts from NYSDOH Bureau of EMS Policy No. 98-05.

# MAJOR TRAUMA TRIAGE CRITERIA

## Adult

Mechanism of injury	Physical Findings
<ul style="list-style-type: none"> <li>• Death in the same passenger compartment</li> <li>• Fall of more than 20 feet</li> <li>• Vehicle-pedestrian collision</li> <li>• Patient ejected from the vehicle</li> <li>• Vehicle collision &gt; 20 MPH resulting in 12 inches of deformity to the vehicle</li> <li>• Vehicle rollover</li> <li>• Motorcycle crash &gt; 20 MPH with separation of rider from motorcycle</li> <li>• Vehicle vs. bicycle collision &gt; 5 MPH</li> <li>• Extrication time in excess of 20 minutes</li> </ul>	<ul style="list-style-type: none"> <li>• Pulse &lt; 50 or &gt; 120</li> <li>• Systolic BP less than 90</li> <li>• Respiration &lt; 10 or &gt; 29</li> <li>• Glasgow Coma Score &lt; 13</li> <li>• Penetrating injuries of the trunk, head, neck, chest, abdomen, groin</li> <li>• 2 or more proximal long bone fractures</li> <li>• Open or depressed skull fracture</li> <li>• Flail Chest</li> <li>• Suspected pelvis fracture</li> <li>• Spinal cord injury or limb paralysis</li> <li>• Amputation (except digits)</li> <li>• 2<sup>nd</sup> / 3<sup>rd</sup>° Burns &gt; 15% BSA Or facial / airway burns</li> </ul>

## Pediatric

Mechanism of injury	Physical Findings
<ul style="list-style-type: none"> <li>• Death in the same passenger compartment</li> <li>• Fall of more than 10 feet</li> <li>• Vehicle-pedestrian collision of “any” speed</li> <li>• Patient ejected from the vehicle</li> <li>• Vehicle collision &gt; 20 MPH resulting in 12 inches of deformity to the vehicle</li> <li>• Vehicle rollover</li> <li>• Motorcycle crash &gt; 20 MPH with separation of rider from motorcycle</li> <li>• Vehicle vs. bicycle collision &gt; 5 MPH</li> </ul>	<ul style="list-style-type: none"> <li>• Abnormal vital signs (refer to page 76)</li> <li>• Glasgow Coma Score &lt; 13</li> <li>• Penetrating injuries of the trunk, head, neck, chest, abdomen, groin</li> <li>• 2 or more proximal long bone fractures</li> <li>• Burns involving &gt; 15% BSA, Or facial/airway burns (10% &lt; 5 or other injuries involved)</li> <li>• Flail Chest</li> <li>• Trauma to 2 or more body systems</li> <li>• Spinal cord injury or limb paralysis</li> <li>• Amputation (except digits)</li> </ul>

## High Risk Patients

If a patient does not meet the above criteria for Major Trauma, but has sustained an injury and has one or more of the following criteria, they are considered a ‘High Risk Patient’. Consider transportation to a Trauma Center. Consider contacting Medical Control.

1. Bleeding disorders or patients who are on anticoagulant medications
2. Cardiac disease and/or respiratory disease
3. Insulin dependent diabetes, cirrhosis, or morbid obesity
4. Immunosuppressed patients (HIV disease, transplant patients and patients on chemotherapy treatment)
5. Age > 55

**SPECIAL**

## ADULT PROTOCOL DRUGS

DRUG	DOSE	INDICATIONS
Activated Charcoal	1 gm/kg PO	Poison ingestion
Adenosine (Adenocard)	6 mg IV, 12 mg IV	SVT
Albuterol	2.5 mg in 3 ml via Neb	Bronchospasm
Amiodarone	150-300 mg IV/IO	Anti-arrhythmic
Aspirin	162 mg PO	Acute Coronary Syndrome
Atropine Sulfate	0.5 – 1 mg IV 1 mg IV/IO/ET	Symptomatic Bradycardia Asystole / PEA
50% Dextrose	25 gm IV	Hypoglycemia
Diazepam (Valium)	5 mg IV, 10 mg PR	Seizures, Sedation
Diphenhydramine (Benadryl)	50 mg IV/PO 50 mg IV	Allergic Reaction Anaphylaxis, Sedation
Epinephrine 1:10,000	1 mg IV/IO, 2 mg ET 0.5 – 1 mg IV	Cardiac Arrest Anaphylaxis
Epinephrine 1:1000	0.3 mg IM	Anaphylaxis, Asthma
Etomidate	0.3 mg/kg IV	Facilitated Intubation
Furosemide (Lasix)	40 mg IV	Pulmonary Edema
Glucagon	1 mg IM	Hypoglycemia without IV
Haloperidol (Haldol)	2 – 5 mg IM	Sedation
Ipratropium (Atrovent)	500µg in 2.5 ml via Neb.	Bronchospasm
Ketorolac (Toradol)	30 mg IV or 60 mg IM	Pain Management
Lidocaine	1 - 1.5 mg/kg IV 0.5 - 0.75 mg/kg IV	VF / VT Stable / Unstable VT
Lorazepam (Ativan)	1–2 mg IV, 0.05 mg/kg IM 0.5 – 2 mg IV/IM	Seizures, Sedation
Magnesium Sulfate	2 grams in 10 ml IV 2 grams in 10 ml IV	VF / VT / Torsades Pre-Eclampsia / Eclampsia
Methylprednisolone (Solu-Medrol)	125 mg IV/IM	Respiratory Distress Anti-inflammatory
Metoclopramide (Reglan)	10 mg IV/IM	Nausea / Vomiting
Metoprolol (Lopressor)	5 mg IV 5 mg IV	Acute Coronary Syndrome Rapid A-fib
Midazolam (Versed)	5 mg IV 2 mg IV/IM 2 mg IV	Facilitated Intubation Sedation Pre-cardioversion / TCP
Morphine Sulfate	0.05 mg/kg IV/IM 2-4 mg IV	Pain Management ACS, Pulmonary Edema
Naloxone (Narcan)	2 mg IV/IM/ET	Narcotic Overdose
Nitroglycerin	0.4 mg SL	ACS, Pulmonary Edema
Nitrous Oxide	Pt. demand, inhaled gas	Pain Management
Sodium Bicarbonate	1 mEq/kg IV/IO	Prolonged Cardiac Arrest
Thiamine	100 mg IV/IM	Malnutrition / Alcoholism

## PEDIATRIC PROTOCOL DRUGS

DRUG	DOSE	INDICATIONS
Acetaminophine (Tylenol)	15 mg/kg Elixir 15 mg/kg Suppositories	Febrile (Max. dose 600 mg)
Activated Charcoal	1 gm/kg PO	Poison Ingestion
Adenosine (Adenocard)	0.1 - 0.2 mg/kg 0.2 - 0.4 mg/kg	Unstable Tachycardia
Albuterol	2.5 mg in 3 ml via Neb.	Bronchospasm
Atropine Sulfate	0.02 mg/kg IV/IO 0.04 mg/kg ET	Symptomatic Bradycardia
Amiodarone	5 mg/kg IV/IO	Anti-arrhythmic
25% Dextrose	2 ml/kg	Hypoglycemia
10% Dextrose	2 – 4 ml/kg	Hypoglycemia (Neonate)
Diazepam (Valium)	0.1 mg/kg IV 0.5 mg/kg PR	Seizures
Diphenhydramine (Benadryl)	1 mg/kg IV (Max. 50 mg) PO / Elixir (see Pg. 45)	Allergic Reaction Anaphylaxis
Epinephrine 1:10,000	0.01 mg/kg IV/IO (Max. 0.3 mg)	Cardiac Arrest Anaphylaxis
Epinephrine 1:1000	0.1 mg/kg IV/ET/IO	Cardiac Arrest
Epinephrine 1:1000	5 mg (5 ml) via Neb.	Croup, Epiglottitis
Epinephrine 1:1000	0.01 mg/kg IM (Max 0.3 mg)	Anaphylaxis, Asthma
Etomidate	0.3 mg/kg IV	Facilitated Intubation $\geq$ 10
Glucagon	0.1 mg/kg IM (Max. 1 mg)	Hypoglycemia without IV
Ipratropium (Atrovent)	500 $\mu$ g in 2.5 ml via Neb.	Bronchospasm
Lidocaine	1 mg/kg IV/IO/ET	VF / VT
Lorazepam (Ativan)	0.1 mg/kg IV/IM (Max. 4 mg)	Seizures
Methylprednisolone (Solu-Medrol)	2 mg/kg IV (Max. 125 mg)	Respiratory Distress Anti-inflammatory
Midazolam (Versed)	0.07 mg/kg IV	Pre-cardioversion / TCP
Midazolam (Versed)	>6 mos. to 5 yrs. 0.05-0.1 mg/kg IV (Max. 6 mg) 6 yrs-12 yrs 0.025-0.05 mg/kg IV (Max. 10 mg) $\geq$ 13 yrs 1-2 mg IV (Max. 10 mg) 25% of original dose	Facilitated Intubation  Continued Sedation
Morphine Sulfate	0.1 mg/kg IV (Max 5 mg)	Pain Management
Naloxone (Narcan)	0.1 mg IV (Max. 2 mg)	Narcotic Overdose
Thiamine	25 mg	Malnutrition

SPECIAL

Use of a REMAC-approved pediatric resuscitation tape is required.  
No pediatric drug dose should exceed an adult maximum dose.

## IV DRIPS

DRUG	CONCENTRATION	DRIP RATE (MICRODRIP)	
Amiodarone	Stable Tachycardia Unstable Tachycardia	150 mg in 50 ml NS (run wide open) 5 mg/kg in 50 ml NS (run wide open)	
Lidocaine	1 gram in 250 ml or 2 grams in 500 ml (4 mg/ml)	2 mg/min. 3 mg/min. 4 mg/min.	30 drops/min. 45 drops/min. 60 drops/min.
Lidocaine (Pediatric)	100 mg in 100 ml NS	20 mcg/kg/min. 30 mcg/kg/min. 40 mcg/kg/min. 50 mcg/kg/min.	6 drops/min. per 5 kg 9 drops/min. per 5 kg 12 drops/min. per 5 kg 15 drops/min. per 5 kg
Dopamine	200 mg in 250 ml 400 mg in 500 ml (800 mcg/ml)	200 mcg/min. 400 mcg/min. 600 mcg/min. 800 mcg/min.	15 drops/min. 30 drops/min. 45 drops/min. 60 drops/min.
Magnesium Sulfate (eclampsia)	4 grams in 50 ml	4 grams in 50 ml NS (run wide open)	
Methylprednisolone (Solu-Medrol)	1 gram/8ml	30 mg/kg in 50 ml NS (run wide open)	

**SPECIAL**

\* All medication drips shall use a 60 drop/ml IV tubing.

## APGAR CHART

SIGN	0	1	2
<b>Heart Rate</b>	Absent	Below 100	Over 100
<b>Respiration (effort)</b>	Absent	Slow and Irregular	Normal Crying
<b>Muscle Tone</b>	Limp	Some flexion - extremities	Active; good motion in extremities
<b>Irritability</b>	No Response	Crying; some motion	Crying; vigorous
<b>Skin Color</b>	Bluish or paleness	Pink or typical newborn color; hands/feet are blue	Pink or typical newborn color; Entire body

## ABNORMAL PEDIATRIC VITAL SIGNS

AGE (YEARS)	RR	PULSE	B / P (SYSTOLIC)
< 1 month	< 40 or > 60	< 80 or >160	< 60
1 month - 1 year	< 15 or > 30	< 80 or > 140	< 70
1 year - 10 years	< 12 or > 25	< 60 or > 120	< ( 70 + 2 x age )
> 10 years	< 10 or > 20	< 50 or > 110	< 90

In frightened or uncooperative children, Respiratory Rate and Pulse may be increased to the abnormal ranges.

Correlate clinical findings with vital signs to make the decision if the patient is stable versus unstable.

The use of NC REMAC approved pediatric resuscitation tape is preferred over this table.

## GLASGOW COMA SCALE MODIFIED FOR PEDIATRICS

Physical Signs	Infants	Children	Points
Eye Opening	Spontaneous	Spontaneous	4
	To Voice	To Voice	3
	To Pain	To Pain	2
	None	None	1
Verbal Response	Coos and Babbles	Smiles	5
	Irritable Cry	Cries	4
	Cries to Pain	Consolable	3
	Moans to Pain	Inconsolable	2
	None	None	1
Motor Response	Spontaneous	Spontaneous	6
	Withdraws to Touch	Localizes Pain	5
	Withdraws to Pain	Withdraws to Pain	4
	Flexion	Flexion	3
	Extension	Extension	2
	None	None	1

# 12 LEAD ECG

EMT-CC / EMT-P

**Criteria:**

- Classic Anginal Chest Pain
- May be performed on adult patients who present with signs and symptoms presumed by the technician to be an ACS.

**Frequency:**

- Initially with vital signs
- After administration of medication or if ECG changes are noted OR set automatic ST segment trending
- Final approach to Emergency Department

**Considerations For Suspected Acute Myocardial Infarction:**

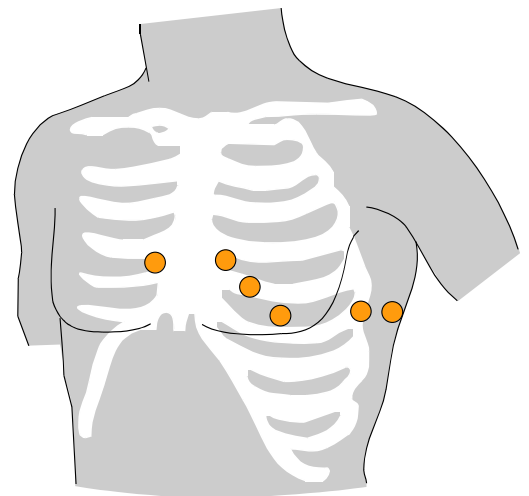
- Consider Second IV access enroute- same arm
- Consider continued Nitroglycerin as per protocol even without pain (Pg. 18)
  - ✓ If systolic BP > 100
  - ✓ Requires medical control

**Reminders:**

- Radio report (and FAX, if capable) on ALL suspected AMIs
- Consider risks vs. benefits of transport in Emergency mode on suspected AMIs
- Document note on PCR if patient was NOT laying flat
- Copies of 12 Leads to hospital AND agency

V1	4 <sup>th</sup> intercostal space @ R sternum edge
V2	4 <sup>th</sup> intercostal space @ L sternum edge
V3	Between V2 & V4
V4	5 <sup>th</sup> intercostal space, midclavicular line
V5	Level with V4, L anterior axillary line
V6	Level with V5, L mid axillary line

<b>I</b> <i>Lateral</i>	<b>aVR</b>	<b>V1</b> <i>Septal</i>	<b>V4</b> <i>Anterior</i>
<b>II</b> <i>Inferior</i>	<b>AVL</b> <i>Lateral</i>	<b>V2</b> <i>Septal</i>	<b>V5</b> <i>Lateral</i>
<b>III</b> <i>Inferior</i>	<b>AVF</b> <i>Inferior</i>	<b>V3</b> <i>Anterior</i>	<b>V6</b> <i>Lateral</i>



**SPECIAL**

## THE CINCINNATI PREHOSPITAL STROKE SCALE

**SPECIAL**

- FACIAL DROOP** Have the patient show their teeth or smile
- Normal – both sides of face move equally well
  - Abnormal – one side of face does not move as well as the other side
- ARM DRIFT** Have the patient close their eyes and holds both arms out
- Normal – both arms move the same or both arms do not move at all (other findings, such as pronator grip, may be helpful)
  - Abnormal – one arm does not move or one arm drifts down compared with the other
- SPEECH** Have the patient say, “You can’t teach an old dog new tricks”
- Normal – patient uses correct words with no slurring
  - Abnormal – patient slurs words, uses inappropriate words, or is unable to speak

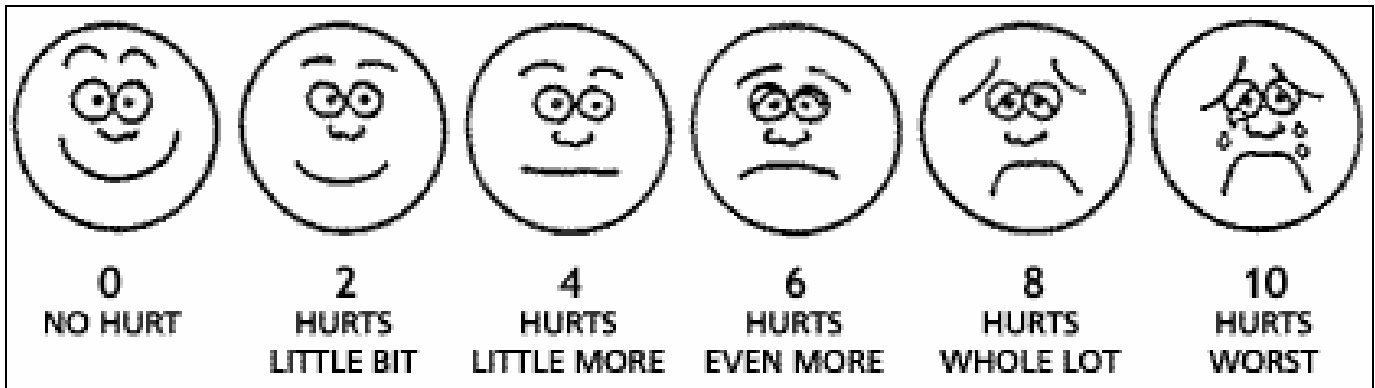
## ONE-MINUTE CRANIAL NERVE EXAM

Cranial Nerve	The Test
<b>I</b>	Normally not done in the field
<b>II, III</b>	Direct response to light
<b>III, IV, &amp; VI</b>	“H” Test for extraocular movement
<b>V</b>	Clench teeth, test sensory
<b>VII</b>	Show teeth
<b>IX, X</b>	Say “ahh”, test gag reflex
<b>XII</b>	Stick tongue out and move around
<b>VIII</b>	Test balance & hearing
<b>XI</b>	Shrug shoulders, turn head against resistance

## VISUAL ANALOG PAIN SCALE

This scale is designed to be used as a tool to subjectively determine pain level.

**If you are having pain,  
point to the number that describes your pain.**



**SPECIAL**

Sin Dolor

Duele un  
Poquito

Duele un  
Poquito mas

Duele todavia  
mas

Duele mucho

El peor dolor

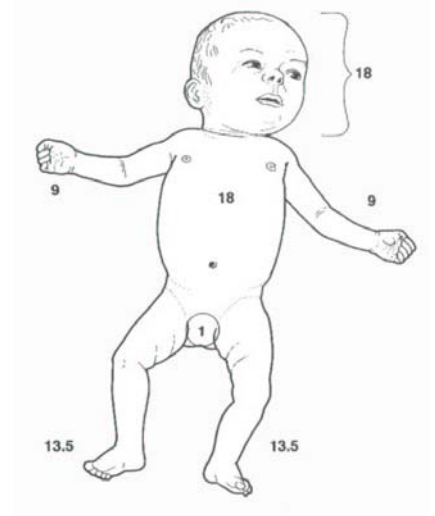
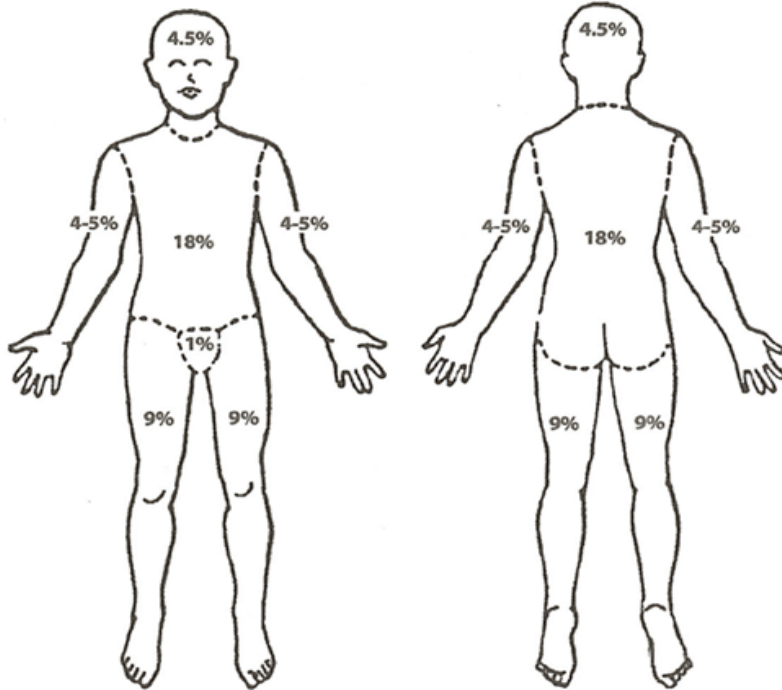
### Infant Pain Scale

- 0 Restful Sleep
- 1-2 Quiet, awake, calm face
- 3-4 Restless, occasional grimace or whimper
- 5-6 Irritable with intermittent crying and occasional grimace (easily consolable)
- 7-8 Frequent crying, constant grimace, tense muscles (difficult to console)
- 9-10 Constant high-pitched cry, thrashing of limbs, constant grimace (unable to console)



# BURN ASSESSMENTS

## Rule of Nines



## “1% Rule”

The area of the patient's palm and fingers represents approximately 1% of their body surface.



## Parkland Burn Formula

4 mL. X weight in kg. X % 2<sup>nd</sup> / 3<sup>rd</sup> degree burn = total fluid needs in 1<sup>st</sup> 24 hours.

4 mL. X \_\_\_\_\_ weight kg. X \_\_\_\_\_ % burn = \_\_\_\_\_ mL. or \_\_\_\_\_ liters (divide mL. by 1000)

**Patient should receive half of the total fluid in the first 8 hours from time of injury.**

Lactated Ringer's is the preferred fluid, if available.

## Fibrinolytic Therapy Checklist For Chest Pain

- Yes    No      Has patient experienced chest discomfort for >15 minutes and < 12 hours ?
- Yes    No      Does ECG show STEMI or presumably new LBBB?

**If any of the following are checked “Yes,” fibrinolysis MAY be contraindicated.**

- Yes    No      Systolic BP > 180?
- Yes    No      Diastolic BP > 110?
- Yes    No      Right vs. Left arm systolic BP greater than 15 mm/hg difference?
- Yes    No      History of structural central nervous system disease?
- Yes    No      Significant closed head/facial trauma within the previous 3 months?
- Yes    No      Recent (within 6 weeks) major trauma, surgery (including laser eye surgery), GI/GU bleed?
- Yes    No      Bleeding or clotting problem or on blood thinners?
- Yes    No      CPR longer than 10 minutes?
- Yes    No      Pregnant female?
- Yes    No      Serious systemic disease (eg, advanced/terminal cancer, severe liver or kidney disease)?

**If any of the following is checked “Yes,” consider transport to PCI facility.**

- Yes    No      Heart rate  $\geq$  100 BPM **AND** systolic BP < 100?
- Yes    No      Pulmonary Edema?
- Yes    No      Signs of shock (cool, clammy) ?
- Yes    No      Contraindications to fibrinolytic therapy?

## **Fibrinolytic Therapy Checklist For Acute Ischemic Stroke**

- Yes    No   Patient 18 years or older?
- Yes    No   Clinical diagnosis of ischemic stroke with a measurable neurological deficit?
- Yes    No   Time of onset (when pt. was last seen normal) well established as < 180 minutes (3 hours) before treatment would begin?

**If any of the following are checked “Yes,” fibrinolysis MAY be contraindicated.**

- Yes    No   Evidence of intracranial hemorrhage?
- Yes    No   History of intracranial hemorrhage?
- Yes    No   Systolic BP > 185 or diastolic BP > 110?
- Yes    No   Known arteriovenous malformation, neoplasm or aneurysm?
- Yes    No   Witnessed seizure at stroke onset?
- Yes    No   Bleeding or clotting problem or on blood thinners?
  
- Yes    No   Within 3 months of intracranial or intraspinal surgery, serious head trauma, or previous stroke?
- Yes    No   Arterial puncture at a noncompressible site within past 7 days?

**Relative Contraindications**

- Yes    No   Only minor or rapidly improving symptoms?
- Yes    No   Within 14 days of major surgery or serious trauma?
- Yes    No   Recent gastrointestinal or urinary tract hemorrhage (< 21 days)?
- Yes    No   Recent acute myocardial infarction (< 3 months)?
- Yes    No   Post myocardial infarction pericarditis?
- Yes    No   Abnormal blood glucose (< 50 or > 400 mg/dl)?