

**Adirondack Appalachian Region**  
**Mountain Lakes Region**  
**Hudson Mohawk Region**  
**Susquehanna Region**

## **EMT-BASIC CONTENT OF 2011 MULTI-REGIONAL COLLABORATIVE PROTOCOLS**

## TABLE OF CONTENTS

Cardiac Arrest: General Cardiac Arrest Care.....	4
Cardiac Arrest: Asystole.....	4
Cardiac Arrest: Pulseless Electrical Activity (PEA).....	5
Cardiac Arrest: Termination of Resuscitation .....	6
Cardiac Arrest: Ventricular Fib / Pulseless V-Tach .....	7
Cardiac Arrest: ROSC – Therapeutic Hypothermia .....	8
Cardiac: Acute Coronary Syndrome – Suspected.....	9
Cardiac: ST Elevation MI – CONFIRMED .....	9
Cardiac: Cardiogenic Shock.....	10
Cardiac: Ventricular Assist Device.....	11
Cardiac: Wide Complex Tachycardia with a Pulse .....	12
Cardiac: Narrow Complex Tachycardia .....	12
Cardiac: Symptomatic Bradycardia / Heart Blocks .....	12
General Care: Agitated Patient Restraint / Excited Delirium .....	13
General Care: Nausea and/or Vomiting.....	13
General Care: Pain Management .....	13
Medical: Allergic Reaction and Anaphylaxis .....	14
Medical: Diabetic Emergencies .....	15
Medical: Seizure .....	15
Medical: Shock / Hypoperfusion .....	16
Medical: Stroke.....	17
Medical: Suspected Sepsis .....	18
Respiratory: Acute Asthma.....	19
Respiratory: Acute Pulmonary Edema .....	19
Respiratory: COPD Exacerbation .....	20
Respiratory: Upper Airway Obstruction / Stridor.....	20
Toxicology: Opiate Overdose .....	21
Toxicology: Overdose or Toxic Exposure.....	21
Toxicology: Organophosphate Exposure.....	22
Toxicology: Suspected Nerve Agent .....	23
Trauma: CDC Trauma Triage Flowchart.....	25
Trauma: Adult Trauma Triage and Transport.....	26
Trauma: Pediatric Trauma Triage and Transport .....	27
Trauma: General .....	28
Trauma: Burn Care Considerations .....	29
Trauma: Burns .....	29

Trauma: Chest Trauma .....	30
Trauma: Crush Injuries .....	30
Trauma: Eye Injuries and Exposures .....	31
Trauma: Hemorrhage Control.....	32
Trauma: Hypoperfusion / Hypovolemia .....	33
Trauma: Smoke Inhalation – Symptomatic .....	33
Trauma: Suspected Carbon Monoxide Exposure .....	34
OB/Gyn: Eclampsia .....	35
OB/Gyn: Pre-term Labor (24 – 37 weeks).....	35
OB/Gyn: Childbirth .....	36
Neonatal Resuscitation .....	37
Pediatric Emergencies.....	38
Pediatric Cardiac Arrest: Asystole or PEA.....	38
Pediatric Cardiac Arrest: Ventricular Fibrillation / Pulseless V-Tach .....	39
Pediatric Cardiac: Bradycardia .....	39
Pediatric Cardiac: Tachycardia.....	40
Pediatric: Acute Asthma .....	40
Pediatric: Allergy and Anaphylaxis.....	41
Pediatric: Diabetic.....	41
Pediatric: Hypoperfusion .....	42
Pediatric: Nausea and/or Vomiting (> 2 y/o).....	42
Pediatric: Overdose or Toxic Exposure .....	42
Pediatric: Seizures.....	43
Pediatric: Stridor .....	43
General Practice: Airway Management and Oxygen Delivery .....	44
General Practice: Medication and Medical Control .....	45
Operations: Aeromedical Utilization .....	46
Operations: Emergency Incident Rehab .....	47
Operations: Inter-Hospital Transport.....	48
Operations: Transfer of Care.....	49
Procedure: Avulsed Tooth .....	50
Resource: Mean Arterial Pressure Chart .....	51
Resource: Clinician on the Scene .....	52

## Cardiac Arrest: General Cardiac Arrest Care

### All Providers

- CPR should be initiated prior to defibrillation unless the cardiac arrest is witnessed by the responding EMS provider
- Push hard and fast (100/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- Cycle of CPR = 30 compressions then 2 breaths, 5 cycles = 2 minutes
- Avoid hyperventilation
- Rhythm check or AED “check patient” every 5 cycles of CPR
- Defibrillation as appropriate
- Rotate compressors every two minutes with rhythm checks
- Make every effort to not do CPR in moving ambulances, as it is a significant danger to providers, and has limited opportunity for success
- Use mechanical CPR adjuncts when available for provider safety in moving ambulance (e.g. AutoPulse®, LUCAS® device, LifeStat® or Thumper®)

### Advanced Providers

- Secure airway and confirm placement with end-tidal capnography
- Check rhythm every two minutes
- SEE RHYTHM SPECIFIC PROTOCOLS
- After an advanced airway is placed no longer deliver “cycles” of CPR
  - Give continuous chest compressions without pauses for breaths
  - Give 8-10 breaths/minute
- Search for and treat possible contributing factors that EMS can manage:
  - Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma

## Cardiac Arrest: Asystole

### EMT

- General Cardiac Arrest Care



### EMT STOP

### Key Points/Considerations

- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Check asystole in more than 1 lead
- Refer to the Termination of Resuscitation Protocol as needed
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma

## Cardiac Arrest: Pulseless Electrical Activity (PEA)

### EMT

- General Cardiac Arrest Care



### EMT STOP

#### Key Points/Considerations

- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Refer to the Termination of Resuscitation Protocol as needed
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma

## Cardiac Arrest: Termination of Resuscitation

**EMT**

**INTERMEDIATE**

**CCT**

**PARAMEDIC**

Resuscitative efforts for patients in cardiac arrest should not be initiated if:

- The patient presents with significant dependent lividity, rigor mortis, decomposition and/or injuries incompatible with life (such as decapitation)
- There is a signed NYS Out-of-Hospital DNR (Do Not Resuscitate) Order Form DOH #3474 or MOLST form indicating DNR
- The patient is in a health care facility (as defined in NYS Public Health Law Article 28) and has a DNR order appropriate to that facility
- For all other patients in respiratory or cardiac arrest, the EMS provider **MUST** initiate 'General Cardiac Arrest Care' and consult physician for termination order

### PHYSICIAN OPTIONS

Field termination of resuscitation, if cardiac arrest patient meets all of the following:

- Non-hypothermic
- Failed response to appropriate treatment
- Scene is appropriate for termination order

### Key Points/Considerations

- Resuscitative efforts must be initiated while attempting to contact a Physician. If there is an extended time required to contact a Physician, try another facility
- Health Care Facilities (as defined in NYS Public Health Law Article 28) may have DNR forms appropriate to the level of facility. If identified by the facility staff as correct, these forms should be honored
- If a patient presents in respiratory or cardiopulmonary arrest and there is any other form of advanced directive, the EMS Provider must start BLS care (including Defibrillation), and contact Medical Control
- Other forms of advanced directives include: Living Wills, Health Care Proxies, and In-Hospital Do Not Resuscitate orders
- Copies of the MOLST form should be honored
- If a patient with a DNR is a resident of a Nursing Home and expires during transport contact the receiving facility to determine if they are willing to accept the patient. If not, return the patient to the sending facility. A copy of the DNR must be attached to the PCR and retained by the agency

## Cardiac Arrest: Ventricular Fib / Pulseless V-Tach

### EMT

- General Cardiac Arrest Care

### EMT STOP

### Key Points/Considerations

- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Consult physician if patient has return of pulses (even transiently)
- Maximize dose of each antiarrhythmic before considering using another
- Refer to the Termination of Resuscitation Protocol as needed



## Cardiac Arrest: ROSC – Therapeutic Hypothermia

### EMT

- Airway management and appropriate oxygen therapy
- Ice packs in axilla, groin, and neck; change every 10-15 minutes



### EMT STOP

### Key Points/Inclusion and Exclusion Criteria

#### INCLUSION CRITERIA:

- Patients with ROSC following cardiac arrest who are not following commands

#### EXCLUSION CRITERIA:

- Patients known to be pregnant, trauma patients, suspected sepsis, other causes of coma (such as drug intoxication or status epilepticus), recent major surgery within 14 days.
- Contact receiving facility for clarification if needed.

### Key Points/Considerations

- Treatment for presenting rhythm should include antiarrhythmic to any patient who has been in a shockable rhythm.
- Care and transport must be performed with on-line medical control from receiving facility as soon as possible after ROSC
- ALL patients with STEMI and ROSC should be transported to a receiving hospital capable of primary angioplasty if feasible
- ALL Patients who remain in ROSC must be transported to a facility that can maintain the therapeutic hypothermia as long as transport time is projected to be less than 60 minutes
- Patients who are in recurrent cardiac arrest should be transported to the closest hospital
- Documentation must include accurate pupillary exam, and initial GCS recorded by element, not as a total: Eyes \_/4, Verbal \_/5, Motor \_/6



## Cardiac: Acute Coronary Syndrome – Suspected

### EMT

- ABC and vital signs
- Aspirin 324 mg (4 x 81 mg tabs) chewed
- Airway management and appropriate oxygen therapy
- Assist patient with their prescribed Nitroglycerin up to 3 doses, 5 minutes apart, provided the patient's systolic BP is above 120 mmHg



### EMT STOP

### Key Points/Considerations

- Focus on maintaining ABC, pain relief, rapid identification, rapid notification and rapid transport to an appropriate facility
- Vitals, including 12 Lead EKG, should be monitored frequently during transport
- The first dose of Nitroglycerin may be administered while preparing to establish vascular access
- A total of 3 doses of Nitroglycerin may be administered by pre-hospital providers, prior to consulting physician
- If the patient does not have prescribed Nitroglycerin, a 12 lead EKG should be obtained prior to administering any Nitroglycerin

## Cardiac: ST Elevation MI – CONFIRMED

### EMT

- ABC and vital signs
- Aspirin 324 mg (4 x 81 mg tabs) chewed
- Airway management and appropriate oxygen therapy
- Assist patient with their prescribed Nitroglycerin up to 3 doses, 5 minutes apart, provided the patient's systolic BP is above 120 mmHg



### EMT STOP

### Key Points/Considerations

- Focus on rapid identification, notification and transport to appropriate facility
- 12 Lead EKG should be transmitted to receiving facility if possible
- Vitals, including 12 Lead EKG, should be monitored frequently during transport
- Caution with Nitroglycerin in inferior wall MI for bradycardia and hypotension

## Cardiac: Cardiogenic Shock

### Criteria

- For patients with STEMI or Acute Coronary Syndrome - Suspected and signs of hypoperfusion

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Aspirin 324 mg (4 x 81 mg tabs) chewed if able to chew
- Place patient supine unless dyspnea is present



### **EMT STOP**

### Key Points/Considerations

- UNSTABLE is defined as systolic BP less than 90 mmHg and/or decreased level of consciousness
- Refer to Dysrhythmia protocols as needed

## Cardiac: Ventricular Assist Device

### Criteria

- Any request for service that requires evaluation and transport of a patient with a Left Ventricular Assist Device (VAD)

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Treat airway obstruction or respiratory distress per protocol. Treat medical or traumatic condition per protocol.
  - Assess pump function and circulation:
  - Listen to motor of pump over heart and observe green light on system control device
  - Assess perfusion based on mental status, capillary refill, and skin color. The absence of a palpable pulse is normal for patients with a functioning VAD. They may not have a blood pressure
  - DO NOT PERFORM CPR
  - Notify appropriate facility ASAP, regardless of the patient's complaint
  - Bring patient's power unit and batteries to the Emergency Department
  - Trained support member must remain with patient
  - Do not delay transport to hospital



### EMT STOP

### Key Points/Considerations

- Community patients are entirely mobile and independent
- Keep device and components dry
- Batteries and the emergency power pack can provide 24-36 hours of power
- Trained support members include family and caregivers who have extensive knowledge of the device, its function, and its battery units and are a resource to the EMS provider when caring for a VAD patient
- Patients are frequently on three different anticoagulants and are prone to bleeding complications
- Patient may have VF/VT and be asymptomatic. Contact Medical Control for treatment instructions

## Cardiac: Wide Complex Tachycardia with a Pulse

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy



**EMT STOP**

## Cardiac: Narrow Complex Tachycardia

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy



**EMT STOP**

## Cardiac: Symptomatic Bradycardia / Heart Blocks

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy



**EMT STOP**

### Key Points/Considerations

- Only treat bradycardia if patient is symptomatic
- Symptomatic presentation includes chest pain, dyspnea, altered mental status, pulmonary edema, ischemia, infarction or hypotension (systolic BP < 90 mmHg)

## General Care: Agitated Patient Restraint / Excited Delirium

### Criteria

- For agitated patients at risk of causing physical harm to emergency responders, the public and/or themselves

### EMT

- Call for Law Enforcement
- ABC and vital signs as tolerated
- Airway management and appropriate oxygen therapy, if tolerated
- Check blood glucose level, if equipped and tolerated. If level is abnormal refer to Diabetic Protocol



**EMT STOP**

### Key Points/Considerations

- **Patient must NOT be transported in a face-down position**
- If agitated patient goes into cardiac arrest, consider possibility of acidosis, and administer Sodium Bicarbonate as part of initial resuscitation
- Verbal de-escalation of situation should be attempted prior to chemical restraint
- A team approach should be attempted at all times for the safety of the patient and the providers
- If the patient is in police custody and/or has handcuffs on, a police officer should accompany the patient in the ambulance to the hospital
- EMS personnel may only apply “soft restraints” such as towels, cravats or commercially available soft medical restraints
- All uses of this protocol must have review by the Regional QI Coordinator and the Agency Medical Director

## General Care: Nausea and/or Vomiting

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy



**EMT STOP**

## General Care: Pain Management

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy



**EMT STOP**

## Medical: Allergic Reaction and Anaphylaxis

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine if patient has utilized their own EpiPen

Patient **prescribed** EpiPen and severe respiratory distress, edema, hypotension:

- Administer appropriate EpiPen

Patient **NOT prescribed** EpiPen and severe respiratory distress, edema, hypotension:

- Contact Medical Control for orders to administer appropriate EpiPen
- IF UNABLE to contact Medical Control:
  - Administer appropriate EpiPen



**EMT STOP**

### Key Points/Considerations

- **NO IV Epinephrine without online medical control!**
- If an EMT has administered an EpiPen, or the patient utilized their own epinephrine autoinjector, consult physician prior to administering additional epinephrine
- If an EMT has administered an EpiPen, or the patient utilized their own epinephrine autoinjector, consult physician prior to allowing a patient to RMA



## Medical: Diabetic Emergencies

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped
- If blood glucose is known or suspected to be low and patient can self administer and swallow on command, give oral glucose one unit dose (15-24 grams) or available carbohydrate source
- Call for ALS Intercept if unable to swallow on command, or mental status remains altered following administration of oral glucose
- If blood glucose is CONFIRMED to be high do not administer oral glucose

### EMT STOP

#### Key Points/Considerations

- If the patient wishes to refuse transportation to a hospital and you have administered any medications including oral glucose you must contact a Physician prior to leaving the patient or completing the RMA
- If the patient's blood glucose level is below 80 and the patient is able to self administer and swallow on command, administer oral glucose or equivalent rather than establishing vascular access, if possible
- If patient regains normal responsiveness prior to infusion of the complete dose, please stop infusion and record amount infused

## Medical: Seizure

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

### EMT STOP

#### Key Points/Considerations

- Protect the patient and EMS crew from injury during the seizure
- Standing orders are for tonic/clonic seizures (grand mal seizures) only
- Refer to the Eclampsia protocol if patient is pregnant



## Medical: Shock / Hypoperfusion

### Criteria

Potential causes of hypoperfusion excluding cardiogenic and septic shock – please refer to specific protocols

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Obtain blood glucose if available



### EMT STOP

### Key Points/Considerations

- Hypoperfusion is defined as SBP < 100, MAP < 65 with decreased level of consciousness
- BP to MAP conversion included in protocols
- Vitals should be monitored frequently during transport to avoid unnecessary prehospital overhydration
- If MAP not > 65 as approaching 2 liters NS infused call medical control for consideration of Dopamine
- Consider potential causes of hypoperfusion: anaphylaxis, toxic ingestions, cardiac rhythm disturbances, myocardial infarction, sepsis, ectopic pregnancy, ruptured abdominal aortic aneurysm, or others

## Medical: Stroke

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol
- Perform neurological exam including Cincinnati Stroke Scale
- Determine the **exact time** patient was last in usual state of health and/or seen without symptoms by interviewing patient, family, and bystanders
- If time from symptom onset to estimated arrival in the ED will be less than 2 hours, transport patient to NYS DOH Designated Stroke Center, or consult physician to discuss appropriate destination facility
- Notify destination hospital ASAP



### EMT STOP

### Reference

Cincinnati Pre-Hospital Stroke Scale:

- Have the patient repeat “You can’t teach an old dog new tricks”
  - Assess for correct use of words, without slurring
- Have the patient smile
  - Assess for facial droop
- Have the patient close eyes and hold arms straight out for 10 seconds.
  - Assess for arm drift or unequal movement of one side

## Medical: Suspected Sepsis

### Criteria

Protocol activated if concern for any new or worsening infection and any TWO of the following on TWO sets of vital signs: Pulse > 100, RR > 20, Systolic BP < 100, MAP < 65, RA O2 Sat < 92

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Obtain blood glucose if equipped



**EMT STOP**

### Key Points/Considerations

- Focus on rapid identification, IV hydration, and early notification of concern for potential sepsis patient to destination facility
- Concern for any new or worsening infection: Including reported fever, shaking chills, sweatiness, new cough, difficulty or less than usual urination, unexplained or new altered mental status, flush skin, pallor, new rash or mottling
- BP to MAP conversion included in protocols
- Vitals should be monitored frequently during transport to avoid unnecessary prehospital overhydration
- If MAP not > 65 as approaching 2 liters NS infused call medical control for consideration of Dopamine

## Respiratory: Acute Asthma

### EMT

- ABC and vital signs
- Airway management, and appropriate oxygen therapy
- Implement BLS Albuterol Protocol
- Assist patient with their own medications as appropriate



### EMT STOP

### EMT AND INTERMEDIATE PHYSICIAN OPTION

- If patient is not improving contact Medical Control for use of EpiPen
  - Administer appropriate EpiPen

### Key Points/Considerations

- Remember, “all that wheezes is not asthma!” Consider allergic reaction, airway obstruction, pulmonary edema, COPD exacerbation
- A total of 3 doses of Albuterol may be administered by pre-hospital providers, prior to consulting Medical Control Physician
- Epinephrine should only be used if patient’s tidal volume is so small that nebulized medications can’t work
- If an ALS provider has administered any medications they must consult a physician prior to allowing a patient to RMA or before sending the patient BLS

## Respiratory: Acute Pulmonary Edema

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Sit patient upright, if possible



### EMT STOP

### Key Points/Considerations

- All patients with rales do not have pulmonary edema — consider the possibility of pneumonia or chronic obstructive pulmonary disease (COPD) exacerbation
- May administer first dose of Nitroglycerin while preparing to establish vascular access. Contact Medical Control Physician for Nitroglycerin orders if no vascular access

## Respiratory: COPD Exacerbation

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Assist patient with their own medications as appropriate

 **EMT STOP**

## Respiratory: Upper Airway Obstruction / Stridor

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Consider mechanical obstruction and treat accordingly

 **EMT STOP**

## Toxicology: Opiate Overdose

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

### EMT STOP

### Key Points/Considerations

- BLS Intranasal Naloxone protocol is only for agencies and providers that have been trained and equipped. Each utilization of BLS Naloxone must be reported to the appropriate Region and to the Medical Director as soon as possible.
- Only administer Naloxone to suspected opiate overdoses with hypoventilation. For provider and patient safety, do not administer if there are adequate ventilations without physician order
- ALS providers should titrate Naloxone dose to respiratory rate
- If suspected narcotic overdose, providers may administer Naloxone prior to checking blood glucose level
- Do NOT give Naloxone (Narcan) to any patient who is intubated without physician order unless they are in cardiac arrest
- If suspected isolated opiate overdose, please consider giving Naloxone intranasally for provider safety

## Toxicology: Overdose or Toxic Exposure

### EMT

- Decontamination as needed
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

### EMT STOP

### Key Points/Considerations

- Dystonic reaction is uncontrolled muscle contractions of face, neck or tongue
- See also: Opiate Overdose, Organophosphate Exposure, Suspected Nerve Agent

## Toxicology: Organophosphate Exposure

### EMT

- Decontamination as needed
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol



### **EMT STOP**

### Key Points/Considerations

- If suspected WMD refer to Medical: Suspected Nerve Agent or NYS Advisory on Mark 1 Kits, #03-05



## Toxicology: Suspected Nerve Agent

THIS PROTOCOL IS SPECIFIC TO A DISASTER SETTING

### Criteria

- This protocol is for those adult patients who are suspected of being exposed to an organophosphate or a chemical nerve agent and are experiencing some or all of following signs/symptoms:
  - MODERATE: SLUDGEM = Salivation-Lacrimation-Urination-Diarrhea-GI Distress-Emesis-Muscle Twitching-Miosis
  - SEVERE: SLUDGEM + Agitation/Confusion/Seizures/Coma + Respiratory Distress


### EMT

### INTERMEDIATE

### CCT

### PARAMEDIC

- Don personal protective equipment.  
DO NOT APPROACH WITHOUT ADEQUATE PROTECTION!
- Contact dispatch to declare incident; Request appropriate response
- Request ALS if not already present or en route
- Contact Medical Control to request EMS CHEMPACK
- Decontaminate as needed
- ABC and vital signs
- Airway management with high concentration oxygen
- If SEVERE signs and symptoms are present, administer three (3) Atropine 2 mg auto-injectors and three (3) 2-PAM CL auto-injectors in rapid succession (stacked). Atropine MUST be administered first!
- If MODERATE signs and symptoms are present, administer two (2) Atropine 2 mg auto-injectors and one (1) 2-PAM CL auto-injectors in rapid succession (stacked). Atropine MUST be administered first!

 **ALL STOP**

### Key Points/Considerations

- EMS providers should be trained at the WMD Awareness level to use this protocol
- The auto-injectors or other medications found in the EMS CHEMPACK are NOT to be used for self-administration or prophylaxis
- Children should be decontaminated and have expedited transport off scene especially if they are demonstrating ANY signs and symptoms of exposure
- Consult physician before administering medication to children less than 8 years old
- **CHEMPACK medications may be used regardless of expiration date**

## ChemPack Dosing Chart

Triage - Initial Treatment – Antidote Dosing Schedules		
Signs and Symptoms	Atropine Dose Monitor Interval	Pralidoxime Chloride (2-PAM CL) Dose
<b>SEVERE</b> Respiratory Distress Agitation/Seizures SLUDGEM	3 Auto-injectors (6 mg total) Monitor every 5 minutes	3 Auto-injectors (1.8 Gm)
<b>MODERATE</b> Respiratory Distress SLUDGEM	2 Auto-injectors (4 mg total) Monitor every 10 minutes	1 Auto-injector (600 mg)
<b>ASYMPTOMATIC</b> None	None Monitor for signs and symptoms every 15 minutes	None

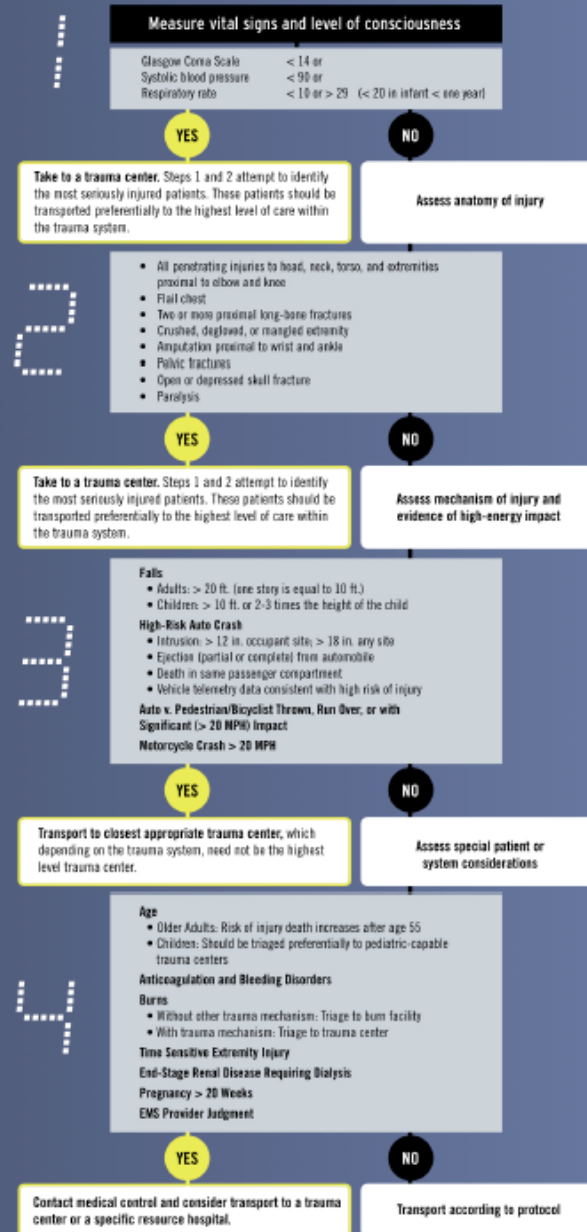
**From NYS DOH ChemPack**

### Key Points/Considerations

- ChemPack Assets: Valium, Atropine & Pralidoxime [2PAM CL] may be administered by qualified emergency personnel and designated emergency responders who have had adequate training in on-site recognition and treatment of nerve and/or organophosphate agent intoxication
- Valium auto-injectors should be administered as directed on packaging only to patients who are having active tonic-clonic seizures
- **CHEM PACK medications may be used regardless of expiration date**

# Trauma: CDC Trauma Triage Flowchart

## FIELD TRIAGE DECISION SCHEME: THE NATIONAL TRAUMA TRIAGE PROTOCOL



When in doubt, transport to a trauma center.

For more information, visit: [www.cdc.gov/FieldTriage](http://www.cdc.gov/FieldTriage)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL AND PREVENTION



## Trauma: Adult Trauma Triage and Transport

### Trauma Criteria

Major trauma is present if on examination the patient is unstable as defined below or their physical findings are as defined below

### Unstable Patient

Major trauma is present if the patient is unstable by any of the following criteria:

- Glasgow Coma Scale is less than 14
- Systolic blood pressure is less than 90 mmHg
- Respiratory rate less than 10 or more than 29 breaths per minute

### Physical Findings

Major trauma is present if the physical findings meet any of the following criteria:

- Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Suspected flail chest
- Two or more suspected proximal long bone fractures
- Crushed, degloved or mangled extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Suspected open or depressed skull fracture
- Paralysis

### Mechanism of Injury

Major trauma may be present if mechanism of injury meets any of the following:

- Falls > 20 feet
- Vehicle collision resulting in 12 inches of intrusion into the passenger compartment
- Ejection or partial ejection from an automobile
- Death in the same passenger compartment secondary to trauma
- Motorcycle crash > 20 MPH
- Vehicle vs. pedestrian or bicycle thrown, run-over, or collision above 20 MPH

### High Risk Patients

- If a patient does not meet the 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 and/or consulting Medical Control Physician:
  - Patients with bleeding disorders or patients on anticoagulant medications
  - Patients with renal, cardiac disease and/or respiratory disease
  - Patients with insulin dependent diabetes, cirrhosis, or morbid obesity
  - Immunosuppressed patients (HIV disease, transplant patients and patients on chemotherapy treatment)
  - Age > 55

## Trauma: Pediatric Trauma Triage and Transport

### Pediatric Major Trauma Criteria

Major trauma is present if on examination the patient is unstable as defined below or their physical findings are as defined below

### Unstable Patient

Major trauma is present if the patient is unstable by any of the following criteria:

- Glasgow Coma Scale is less than 14
- Respiratory status: cyanosis or respiratory rate either low or high for patient's age

### Physical Findings

Major trauma is present if the physical findings meet any of the following criteria:

- Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Suspected flail chest
- Two or more suspected proximal long bone fractures
- Crushed, degloved or mangled extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Suspected open or depressed skull fracture
- Paralysis

### Mechanism of Injury

Major trauma may be present if mechanism of injury meets any of the following:

- Falls > 10 feet or 2 times the height of the child
- Vehicle collision resulting in 12 inches of intrusion into the passenger compartment
- Ejection or partial ejection from an automobile
- Death in the same passenger compartment secondary to trauma
- Motorcycle crash > 20 MPH
- Vehicle vs. pedestrian or bicycle thrown, run-over or collision above 20 MPH

### High Risk Patients

- If a patient does not meet the 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 and/or consulting a Medical Control Physician:
  - Patients with bleeding disorders or on anticoagulant medications
  - Patients with renal, cardiac disease and/or respiratory disease
  - Patients with insulin dependent diabetes, cirrhosis, or morbid obesity
  - Immunosuppressed patients (HIV disease, transplant or chemotherapy)



## Trauma: General

### Key Points/Considerations

- Trauma Arrest patients go to the closest appropriate hospital
- All other major trauma patients go to closest appropriate Trauma Center
- Patients with unmanageable airway go to the closest hospital or call for Aeromedical or advanced airway assistance while enroute to closest hospital
- **UNSTABLE patients should be enroute to the hospital/landing zone within 10 minutes of disentanglement/extrication**
- If more than 30 minutes from a Trauma Center consider Aeromedical assistance. Refer to the Aeromedical Utilization Policy
- If more than 45 minutes from Trauma Center and Aeromedical assistance is not available, transport patient to the closest hospital
- All times start at the time the EMS provider determined the patient to meet major trauma criteria
- Notify the receiving facility as early as possible giving brief description of mechanism of injury, status of patient(s), and estimated time of arrival
- Tourniquets are approved for use in extremity trauma in New York State at the BLS level
- Hemostatic dressings are approved for use in New York State at the BLS level

## Trauma: Burn Care Considerations

### Key Points/Considerations

- Be alert for other injuries, including cardiac dysrhythmias
- Be alert for smoke inhalation and airway burns
- Assure 100% oxygen. Oxygen saturation readings may be falsely elevated.
- If hazardous materials, notify the destination hospital immediately to allow for decontamination
- When considering total area of a burn, DO NOT count first degree burns
- Burns > 10% are only to be dressed with simple sterile dressings

### Transportation Considerations

- Burns associated with trauma should go to the closest appropriate trauma center
- If there is any question about the appropriate destination of a patient consult a Medical Control Physician

#### Consider direct transport to a burn center if:

- >10% BSA partial thickness burns (do not count first degree burns)
- Involvement of face, hands, feet, genitalia, or major joints
- Third degree burns
- Electrical burns, including lightning injuries
- Chemical burns
- Inhalation injury (ONLY if endotracheally intubated)

## Trauma: Burns

### EMT

- Stop the burning. Remove any clothing, jewelry, etc.
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Consider Aeromedical intercept for direct transport to a Burn Center (See Trauma: Burn Center Transport Criteria)
- If the burn is less than 10% BSA use moist sterile dressings
- If the burn is more than 10% BSA use dry sterile dressings



**EMT STOP**



## Trauma: Chest Trauma

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- If sucking chest wound, cover with occlusive dressing; if dyspnea increases release the dressing momentarily during exhalation
- Contact receiving hospital as soon as possible



### EMT STOP

### Key Points/Considerations

- Begin transportation as soon as possible and perform ALS treatment enroute
- Signs and symptoms of a Tension Pneumothorax: absent lung sounds on one side, extreme dyspnea AND hemodynamic compromise, and may include jugular vein distention, cyanosis, tracheal deviation
- Hemodynamic compromise: hypotension, narrowed pulse pressure and tachycardia
- Thoracic decompression is a serious medical intervention that requires a chest tube in the hospital
- Every thoracic decompression performed must be reviewed with the medical director and flagged for Regional QI review
- Thoracic decompression can only be performed with a > 3.25" 14G IV catheter

## Trauma: Crush Injuries

### EMT

- ABC and vital signs every 5 minutes if possible
- Airway management and appropriate oxygen therapy



### EMT STOP

### Key Points/Considerations

- Contact the Regional Trauma Center early and consider physician presence at scene if anticipated prolonged extrication.
- Use one dedicated IV for Sodium Bicarbonate, the other IV for other medications
- Hyperkalemia is indicated by PVC's, peaked T-waves or widened QRS complexes
- After extrication immobilize the extremity and apply cold therapy. Do not elevate the extremity
- \*D5W is not on the standard formulary. Must obtain from hospital and have brought to the scene if needed.

## Trauma: Eye Injuries and Exposures

### EMT

- Stop the burning
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Consider Aeromedical intercept for direct transport to a Burn Center for severe burns to the eye (See Trauma: Burn Center Transport Criteria)
- Burns to the eye require copious irrigation with Normal Saline — do not delay irrigation
- Stabilize any object lodged in the eye, and cover both eyes to prevent consensual movement



### EMT STOP

### Key Points/Considerations

- If hazardous materials, notify the destination hospital immediately to allow for decontamination

Do not put any pressure on the eye when covering with a shield or patch

## Trauma: Hemorrhage Control

### Criteria

- This protocol authorizes the use of hemostatic dressings and commercially manufactured tourniquets
- These devices are not mandatory for any agency to stock or carry
- Specific tactical application of these devices may be different. Local agency education and manufacturer specific instructions may take precedence.

### EMT

Immediate intervention for severe arterial bleeding

- Apply pressure directly on the wound with a sterile dressing
- Apply a pressure dressing to the wound
- If bleeding soaks through the dressing, apply additional dressings and reapply pressure
- If severe bleeding persists, remove all dressings, expose site of bleeding, and apply hemostatic dressing according to manufacturer's instructions and squad training (if equipped)
- Cover the dressed site with a pressure bandage
- Splints and pressure splints may also be used to control bleeding
- Use a tourniquet for uncontrollable bleeding from an extremity
- ABC and vital signs
- Refer to the hypoperfusion protocol
- Airway management and appropriate oxygen therapy



**EMT, INTERMEDIATE, CCT, AND PARAMEDIC STOP**

## Trauma: Hypoperfusion / Hypovolemia

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

### EMT STOP

#### Key Points/Considerations

**COMPENSATED SHOCK** in trauma is defined as significant mechanism of injury AND tachypnea, tachycardia, pallor, or restlessness, AND Systolic BP greater than 90 mmHg, MAP > 60 mmHg

**DECOMPENSATED SHOCK** is defined as clinical picture of shock AND Systolic BP less than 90 mmHg, MAP < 60

- A falling BP is a LATE sign of shock
- Contact receiving hospital early, with “Trauma Alert” call, giving brief description of mechanism of injury, status of patient and estimated time of arrival
- Consult physician if guidance of care or orders are needed

## Trauma: Smoke Inhalation – Symptomatic

### EMT

- ABC and AED
- Apply carbon monoxide monitor if equipped

### EMT STOP

#### Key Points/Considerations

- Suspect cyanide toxicity in patients who were in enclosed spaces during a fire and have soot in their nares or oropharynx and exhibit altered mental status
- Disorientation, confusion, and severe headache are potential indications of cyanide poisoning IN THE SETTING of smoke inhalation
- Hypotension without other obvious cause IN THE SETTING of smoke inhalation increases the likelihood of cyanide poisoning

## Trauma: Suspected Carbon Monoxide Exposure

### Criteria

- Any patient with suspected carbon monoxide poisoning should receive oxygen via NRB mask
- The Masimo RAD-57 or other objective carbon-monoxide evaluation tool may be used to guide therapy

#### ASYMPTOMATIC potentially exposed people:

- If there is a CO alarm in a residence, the Masimo RAD-57 may be used to test for levels on the occupants of the location
- Any asymptomatic patient with a level of greater than 15% should receive oxygen for 30 minutes; then reassess the patient

#### SYMPTOMATIC patients:

- If there is a CO alarm in a residence, the Masimo RAD-57 may be used to test for levels on the ill occupants of the location
- Carbon monoxide poisoning does not have specific, clear cut symptoms, and other medical conditions may present with dizziness, nausea or confusion
- All symptomatic patients should be transported, regardless of CO level

#### MULTIPLE patients:

- Consult a physician for guidance regarding transport location decisions and on-scene treatment and release when multiple patients are involved
- If there is potential for greater than 5 patients, consider requesting a physician to the scene

### PHYSICIAN OPTION

- CONSIDER direct transport to a hyperbaric center if patient's SpCO reading is > 30% AND/OR the patient is unconscious, has significant altered mental status or the patient is pregnant

### Key Points/Considerations – Massimo RAD-57

- Pediatrics – The Masimo RAD-57 is not intended for patients weighing <30 kg
- Pregnant Women – The fetal SpCO may be 10-15% higher than the maternal reading
- Smokers – Heavy smokers may have baseline SpCO levels up to 10%
- A misapplied or dislodged sensor may cause inaccurate readings
- Never use tape to secure the sensor
- Do not place the sensor on the thumb or 5th digit

### Key Points/Considerations

- The Massimo RAD-57 or other FDA approved objective carbon-monoxide evaluation tool may be used to guide therapy
- There is no commercial endorsement implied by this protocol

## OB/Gyn: Eclampsia

### EMT

- ABC vital signs
- Airway management and appropriate oxygen therapy

 **EMT STOP**

### Key Points/Considerations

- Pre-eclampsia is defined as BP greater than 140/90 in a pregnant patient or one who has recently given birth, with severe headache, confusion and/or hyper-reflexia
- Eclampsia is the above with seizure activity
- If the patient has a known seizure history, refer to “Seizure Protocol”

## OB/Gyn: Pre-term Labor (24 – 37 weeks)

### EMT

- ABC vital signs
- Airway management and appropriate oxygen therapy

 **EMT STOP**

### Key Points/Considerations

- Transport to the closest appropriate hospital
- Notify destination hospital ASAP
- If patient unwilling to go to closest hospital, consult physician for assistance in determining appropriate destination



## OB/Gyn: Childbirth

### Management of a Normal Delivery

- Support the baby's head over the perineum
- If the membranes cover the head after it emerges, tear the sac with your fingers or forceps to permit escape of the amniotic fluid
- Gently guide the head downward until the shoulder appears
- The other shoulder is delivered by gentle upward traction
- The infant's face should be upward at this point

### Management of Umbilical Cord Around the Neck

- This is an emergency, as the baby is no longer getting any oxygen either through the cord or by breathing
- If the cord is around the neck:
  - Unwrap the cord from around the neck
  - Clamp the umbilical cord with two clamps
  - Cut the cord between them

### Management of a Breech Delivery

- Support the buttocks or extremities until the back appears
- Grasp the baby's ILIAC WINGS and apply gentle downward traction. DO NOT pull on the legs or back, as this may cause spine dislocation or adrenal hemorrhage.
- Gently swing the infant's body in the direction of least resistance
- By swinging anteriorly and posteriorly, both shoulders should deliver posteriorly
- Splint the humerus bones with your two fingers; apply gentle traction with fingers
- Gentle downward compression of the uterus will assist in head delivery
- Swing the legs upward until the body is in a vertical position. This will permit delivery of the head

### Management of Prolapsed Cord or Limb Presentation

- Place the mother in a face-up position with hips elevated
- Place a gloved hand in the vagina; attempt to hold baby's head away from the cord
- Keep the cord moist using a sterile dressing and sterile water
- Transport as soon as possible to closest appropriate facility

### Key Points

- Determine the estimated date of expected birth, the number of previous pregnancies and # of live births
- Determine if the amniotic sac (bag of waters) has broken, if there is vaginal bleeding or mucous discharge, or the urge to bear down
- Determine the duration and frequency of uterine contractions
- Examine the patient for crowning
  - If delivery is not imminent, transport as soon as possible
  - If delivery is imminent, prepare for an on-scene delivery
- If multiple births are anticipated but the subsequent births do not occur within 10 minutes of the previous delivery, transport immediately
- After delivery of the placenta massage the lower abdomen
- Bring the placenta and any other tissue to the hospital for inspection
- Do not await the delivery of the placenta for transport

## Neonatal Resuscitation

### EMT

- Assess the infant's respiratory status, pulse, responsiveness and general condition

#### **If the infant is breathing spontaneously and crying vigorously and has a pulse > 100/min:**

- Clamp the umbilical cord with two clamps three inches apart and cut the cord between them, at least 1 min after delivery. The first clamp will be 8 – 10 inches from the baby. Place the second clamp 3 inches from the first clamp towards the mother.
- Cover the infant's scalp with an appropriate warm covering
- Wrap the infant in a dry, warm blanket or towels and a layer of foil or plastic wrap over the layer of blankets or towels, or use a commercial-type infant swaddler if one is provided with the OB kit. Do not use foil alone!
- Keep the infant warm and free from drafts. Monitor the infant's respirations continuously.

#### **If the infant is not breathing spontaneously or not crying vigorously:**

- Rub the infant's lower back gently
- Snap the bottom of the infant's feet gently

#### **If the respirations remain absent, gasping or become depressed (< 30/min) despite stimulation, if the airway is obstructed, or if the heart rate < 100:**

- Clear the infant's airway by suctioning the mouth and nose gently with a bulb syringe and then ventilate the infant at a rate of 40 – 60 /minute with appropriate BVM as soon as possible. Start with room air. If no response after 90 seconds, add oxygen.
- Insert the proper size oral airway gently
- Each ventilation should be given gently over one second assuring that the chest rises with each ventilation
- Monitor the infant's pulse rate and pulse oxygenation continuously using wrist or palm

#### **If the pulse rate drops below 60 beats per minute at any time:**

- Chest compressions with assisted ventilations at a 3:1 compression to ventilation ratio



**EMT, INTERMEDIATE, and CCT STOP**

### Key Points/Considerations

- Begin transport to the closest appropriate hospital as soon as possible



## Pediatric Emergencies

For these protocols, pediatric patients are as defined by the AHA, children without secondary signs of puberty. Use a length based resuscitation tape or similar device to determine the correct medication dosage.

### Vascular Access

There are no prophylactic vascular access procedures performed in children.

For patient safety, all pediatric IVs must be started with NS 100 mL bags.

Vascular access procedures for Critical Care Technicians are only for Cardiac or Respiratory Arrest, Unstable Major Trauma and Diabetic Emergency when intervention is critical. In all other clinical situations you must contact Medical Control.

### Airway Management

Only paramedics may intubate pediatric patients. CCT may use age-appropriate pediatric laryngoscope and Magill forceps in cases of obstructed airway.

### Normal Vital Signs for Infants and Children:

Age	Respirations	Pulse	Systolic BP
Newborn	30 – 60	100 – 180	>60
Infant (< 1 year)	30 – 60	100 - 160	>60
Toddler (1 – 3 years)	24 – 40	90-150	>70
Preschooler (3 – 5 yrs)	22 – 34	80-140	>75
School-aged (6 – 8 yrs)	18 – 30	70-120	>80

From: *American Academy of Pediatrics, Pediatric Education for Prehospital Professionals*

## Pediatric Cardiac Arrest: Asystole or PEA

### EMT

- General Cardiac Arrest Care
- Airway management and appropriate oxygen therapy via BVM

### EMT AND INTERMEDIATE STOP

#### Key Points/Considerations

- Call physician and begin transport to the closest hospital as soon as possible
- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Confirm asystole in more than 1 lead
- Perform CPR for up to 3 minutes between medication doses
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma

## **Pediatric Cardiac Arrest: Ventricular Fibrillation / Pulseless V-Tach**

### **EMT**

- General Cardiac Arrest Management
- Defibrillation as indicated (AED or for CCT/Paramedic manual 2 J/kg)
- Airway management and appropriate oxygen therapy via BVM



### **EMT AND INTERMEDIATE STOP**

#### **Key Points/Considerations**

- Call physician and begin transport to the closest hospital as soon as possible
- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Treat V-Tach without a pulse as V-fib
- Use the small (pediatric) pads for patients less than 10 kg
- Initial defibrillation 2 J/kg
- Defibrillate at 4 J/kg after each medication administration
- V-fib cardiac arrest is rare in children
- Consider toxic ingestions including tricyclic antidepressants
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma

## **Pediatric Cardiac: Bradycardia**

### **EMT**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- If heart rate is bradycardic and patient's mental status and respiratory rate are decreased, ventilate with BVM
- If symptomatic bradycardia persists start CPR



### **EMT AND INTERMEDIATE STOP**

#### **Key Points/Considerations**

- Call Physician as soon as possible
- Newborn/Infant bradycardic if pulse less than 60 bpm
- Symptomatic includes poor systemic perfusion, hypotension, respiratory difficulty or altered level of consciousness
- Do not treat asymptomatic bradycardia. Contact Medical Control

## Pediatric Cardiac: Tachycardia

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

### EMT AND INTERMEDIATE STOP

### Key Points/Considerations

- Call physician as soon as possible
- Newborn/Infant SVT if pulse greater than 220 bpm; child over 1 year of age SVT if pulse greater than 180 bpm, with no discernable p-waves on PRINTED EKG strip
- The most common causes of Sinus Tachycardia in children are fever and dehydration, not cardiac etiology
- UNSTABLE includes cardio-respiratory compromise, hypotension, or altered level of consciousness
- Do not treat asymptomatic tachycardia. Contact Medical Control.

## Pediatric: Acute Asthma

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine if patient has been given their own asthma medications
- Implement BLS Albuterol Protocol

### EMT AND INTERMEDIATE STOP

### EMT AND INTERMEDIATE PHYSICIAN OPTIONS

- If patient is not improving contact Medical Control for use of EpiPen
  - Administer appropriate EpiPen or EpiPen Jr if < 30 kg

### Key Points/Considerations

- Absence of breath sounds can be indicative of status asthmaticus. Be prepared for imminent respiratory arrest
- EpiPen use by EMT or Intermediate is Medical Control option only and must be reported for Regional QI by the agency

## Pediatric: Allergy and Anaphylaxis

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Patient previously prescribed EpiPen and severe respiratory distress, edema, hypotension:
  - Administer appropriate EpiPen or EpiPen Jr if < 30 kg
- Patient NOT previously prescribed EpiPen and severe respiratory distress, edema, hypotension:
  - Administer appropriate EpiPen or EpiPen Jr if < 30 kg

### EMT AND INTERMEDIATE STOP

#### Key Points/Considerations

- If an EMT has administered an EpiPen, or the patient has administered their own epinephrine, consult physician prior to administering additional epinephrine
- If an EMT has administered an EpiPen, or the patient utilized their own epinephrine autoinjector, consult physician prior allowing a patient to RMA

## Pediatric: Diabetic

### EMT

- Airway Management and appropriate oxygen therapy
- Blood Glucose Check
- If under 80 mg/dl and patient can swallow on command then oral glucose

### EMT AND INTERMEDIATE STOP

#### Key Points/Considerations

- If the patient's parent or guardian wishes to RMA the patient and you have administered any medications **including** oral glucose you must contact a Medical Control Physician prior to completing the RMA

## Pediatric: Hypoperfusion

### Criteria

- For patients with hypoperfusion due to trauma, bleeding, vomiting, diarrhea or sepsis

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

### EMT AND INTERMEDIATE STOP

### Key Points/Considerations

- Consult Medical Control Physician if you suspect cardiogenic shock
- Diagnostic criteria for hypoperfusion includes: capillary refill time > 2 seconds, cool, clammy or mottled skin, inability to recognize parents, restlessness, listlessness, tachycardia, tachypnea, systolic BP less than 70 mmHg (2 years and older) or systolic BP less than 60 mmHg (less than 2 years old).
- Contact receiving hospital early

## Pediatric: Nausea and/or Vomiting (> 2 y/o)

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

### EMT AND INTERMEDIATE STOP

## Pediatric: Overdose or Toxic Exposure

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose, if equipped. If abnormal refer to Pediatric Diabetic Protocol

### EMT AND INTERMEDIATE STOP

### Key Points/Considerations

- Consult Medical Control Physician as soon as possible
- Includes patients who are unconscious/unresponsive without suspected trauma or other causes, and patients with a brief loss of consciousness
- If suspected WMD refer to NYS Advisory on Mark I Kits, SEMAC Advisory 03-05

## Pediatric: Seizures

### EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose, if equipped. If abnormal refer to Pediatric Diabetic Protocol

### EMT AND INTERMEDIATE STOP

### Key Points/Considerations

- Consult Medical Control Physician as soon as possible if seizures persist
- Protect the patient and EMS crew from injury during the seizure
- Any EMS provider may assist the patient's family or caregivers with administration of rectal Valium (Diastat) if available

## Pediatric: Stridor

### EMT

- ABC and vital signs
- Airway management with high concentration, humidified, blow-by oxygen (as tolerated)
- Consider mechanical obstruction and treat accordingly

### EMT AND INTERMEDIATE STOP

### Key Points/Considerations

- Consult Medical Control Physician as soon as possible



## General Practice: Airway Management and Oxygen Delivery

### Criteria

Providers may operate as outlined below. They may not proceed below their stop-line even with direct online medical control

### EMT

- Oxygen therapy via non-rebreather mask (NRB) 10-15 lpm, or nasal cannula (NC) 2-6 lpm, to maintain oxygen saturation > 95%
- Oxygen therapy using bag valve mask (BVM) 15-25 lpm
- Nasopharyngeal airways (NPA)
- Oropharyngeal airways (OPA)
- BVM assisted ventilation
- Portable automated transport ventilators, if trained (ATV)



### EMT STOP

### Key Points

- Tidal Volume settings for portable automated transport ventilators: 5 – 7 ml/kg
- Always have a BVM available when using a portable automated transport ventilator (ATV)
- A cervical collar should be placed on all intubated patients to assist maintaining secure placement of the airway device



## General Practice: Medication and Medical Control

### Key Points/Considerations - Medications

- Medications must be kept locked in a secure environment when not being used.
- Medications should be protected from extremes of temperature at all times
- If you have administered any medications and the patient wishes to RMA you must contact a Physician prior to completing the RMA
- Medications are only to be carried in NYS-DOH Approved Vehicles and cannot be carried in a private/personally owned vehicle at any time

### Key Points/Considerations – Medical Consultation

- For the protection of the patient, the provider, and the Medical Control Physician, communication over recorded lines is suggested

### Key Points/Considerations – Communications Failure

- If unable to contact a Medical Control Physician, initiate all Standing Orders, and then continue care of the patient as medically appropriate
  - Describe the situation that prevented you from contacting Medical Control on the PCR
  - You must notify your ALS coordinator and the Regional QI Coordinator as soon as possible after the call
  - All cases of Communications Failure that cause a provider to perform interventions below their stop lines must be reviewed by the Agency Medical Director and reported to the Regional Medical Advisory Committee

### Key Points/Considerations – Medical Consultation

- Optimal Medical Consultation will be from a regionally credentialed Medical Control Physician
- Medical consultation may be obtained from the ED physician who will be receiving the patient from the EMS crew, but only if a credentialed physician is not available
- Advanced providers may only obtain Medical Consultation from physicians
- Orders may be relayed from a Medical Control Physician by RNs, NPs or PAs if absolutely necessary

## Operations: Aeromedical Utilization

### Criteria for considering use of air medical services

- Patient's condition requires expeditious transport to a hospital capable of providing definitive care
- Patient's condition requires specialized services offered by the air medical crew, prior to arrival at the hospital
- The patient's condition is a "life or limb" threatening situation demanding intensive multi-disciplinary treatment and care
- Unstable trauma patients as defined by the physiologic criteria such as vital signs and physical findings
- Critical burn patients as defined in the Trauma: Burn Care Consideration protocol
- Acutely ill, unstable medical patients as defined in the medical protocols
- When use of air medical services is not specifically defined by the protocols, the on-scene provider should consult with a physician
- The destination facility will be determined by the air medical crew, based upon medical appropriateness, with consideration of patient preference and on-line medical direction (when Medical Control Physician has been consulted by ground EMS)
- Do not delay on the scene for the helicopter
- If it is considered critical for the individual patient and the patient is packaged and ready for transport, start enroute to the hospital and reassign the Landing Zone either closer to the hospital or at the hospital's designated Landing Zone; the helicopter can intercept with you

### Key Points

- This is a guideline and is not intended to specifically define every condition in which air medical services may be requested. Good clinical judgment should be used at all times
- Police, Fire or EMS will evaluate the situation/patient condition and if necessary place the helicopter on standby
- The helicopter can be requested to respond to the scene when:
  - ALS personnel request the helicopter
  - BLS personnel request the helicopter, when ALS is delayed or unavailable
  - In the absence of an EMS agency, any emergency agency may request the helicopter if felt to be medically necessary
- When EMS arrives, they must assess the situation. If it is determined by the most highly trained EMS provider ON THE SCENE that the helicopter is not needed, it should be cancelled as soon as possible

## Operations: Emergency Incident Rehab

### Key Points

- For events where people are expected to be working for 1 hour or more, including drills, fire ground operations, hazardous materials incidents, lengthy extrications and any other event where personnel are wearing protective gear and fluid loss is a concern
- When a person arrives in rehab with no significant complaints:
  - Encourage the person to drink at least 8 ounces of fluid
  - An EMT should do a visual evaluation for signs of heat or cold related stress, fatigue, or signs indicative of a medical emergency. If any of these are present, take their vital signs.
- If any vital sign is out of the range listed below, protective gear should be removed, and the person should rest for at least 10 minutes, with continued oral hydration.
  - BP: Systolic >160 mm Hg or
  - BP: Diastolic > 100 mm Hg.
  - Respirations: >24 per minute.
  - Pulse: >110 per minute.
  - O<sub>2</sub> saturation ≤ 92%
  - SpCO ≤ 5% (if available)
  - Temperature > 100.6 (if available)

(Note: normal measured temperature does not exclude heat related illness)
- If vital signs return to within criteria limits, the person may be released
- If vital signs are still beyond the limits, continue rehab for another 15 minutes and determine if further intervention may be needed
- If after 30 minutes the vital signs are above the limits, transport to the hospital should be initiated
- If a person arrives at the rehab area with complaints of chest pain, shortness of breath or altered mental status follow the appropriate protocol. The person may not return to duty
- An irregular pulse mandates ALS assessment, cardiac monitoring, and removal from duty or the event
- Names and vital signs (if measured) for each person evaluated should be recorded on a log sheet for the incident
- A PCR should be written on any person transported to the hospital or receiving any ALS care
- More aggressive treatment should be used during extremes of temperature
- Consider carbon monoxide poisoning with any exposure to smoke
- If any questions exist regarding the treatment of a patient according to this protocol, consult Medical Control Physician for advice
- For any ongoing event with high potential for injury to public safety personnel consider requesting a physician to the scene
- Agency procedures may be used in place of these guidelines as appropriate if developed from industry standard models such as the NFPA or USFA or others

## **Operations: Inter-Hospital Transport**

### **EMT**

- An EMT may transport stable patients with a secured saline lock device in place, as long as no fluids or medications are attached

## Operations: Transfer of Care

### Key Points—Transfer Between EMS Providers

- Providers are responsible for the patient while in their care. The transferring or receiving provider will not be responsible for their counterpart's actions
- Patients may be transferred to a provider with the same or higher level of training and the same or higher level of on-line privileges within the region
- Stable patients may be transferred to a provider with a lower level of training and a lower level of on-line privileges within the region
- When transferring patients both the receiving and transferring providers should:
  - Ensure that all patient information is transferred to the receiving provider including:
    - chief complaint, past medical history, current history, vital signs and care given prior to the arrival of the receiving provider
  - Assist the receiving provider until they are ready to assume total patient care
  - Be willing to accompany the receiving provider to the hospital if the patient's condition warrants or if the receiving provider requests it
- The receiving provider must briefly document patient care given prior to receiving the patient
- Both providers will complete a PCR, as appropriate, detailing the care given to the patient while in their care
- ALS transferring provider PCR documentation must be delivered to the receiving hospital within two hours of the call
- BLS agencies transferring a patient to a higher level of care must comply with NYS DOH EMS Policy 02-05 and provide paperwork to the transporting agency prior to the patient leaving the scene
- Any disparity between the providers needs to be resolved by contacting a Medical Control Physician

### Key Points—Transfer at Hospital

- Documentation left at the hospital must include:
  - Agency ID, Crew ID
  - Patient Demographics: Name, Date of Birth, Address, Last 4 Digits of SSN (if available)
  - Initial assessment: chief complaint and pertinent initial vital signs
  - Interventions: Medications, procedures performed and patient response
- Specimens left at the hospital:
  - If available, label specimens, monitor strip and EKG with hospital stickers
  - Do NOT leave unlabeled specimens or EKG at the hospital
  - Immediately upon arrival at the ED, notify the receiving nurse if EKG has been performed



## Procedure: Avulsed Tooth

### Criteria

- Only reimplant permanent teeth
- Best chance for success is when reimplantation occurs less than 5 minutes from injury
- Do not reimplant if the alveolar bone / gingiva are missing or if the root is fractured
- Do not reimplant if the patient is immunosuppressed or reports having cardiac issues that require antibiotics prior to procedures
- Do not reimplant if the patient requires spinal immobilization
- If not candidate for reimplantation, place tooth in interim storage media (lowfat milk, patients' saliva, or saline) and keep cool. Avoid tap water storage but do not allow the permanent tooth to dry.

### EMT

### INTERMEDIATE

### CCT

### PARAMEDIC

- ABC
- **If altered mental status, do not reimplant**
- **If spinal immobilization needed, do not reimplant**
- Hold the tooth by the crown
- Quickly rinse the tooth with saline before reimplantation but do not brush off or clean tooth of tissue
- Rinse and suction the clot from the socket
- Reimplant tooth firmly into socket with digital pressure
- Have the patient hold tooth in place using gauze and bite pressure
- Report to hospital staff the efforts made to reimplant tooth



**ALL STOP**

### Key Points/Considerations

- Agency training is available through the Program Agencies
- Automatic reporting of every use of this protocol by participating agencies is expected to the Program Agencies

## Resource: Mean Arterial Pressure Chart

Calculation:

- $MAP = \frac{(2 \times DBP) + SBP}{3}$

OR

- $MAP = \frac{2}{3} DBP + \frac{1}{3} SBP$

		MEAN ARTERIAL PRESSURE															
		SYSTOLIC					PRESSURE										
		120	118	116	114	112	110	108	106	104	102	100	98	96	94	92	90
DIASTOLIC PRESSURE	80	93	93	92	91	91	90	89	89	88	87	87	86	85	85	84	83
	78	92	91	91	90	89	89	88	87	87	86	85	85	84	83	83	82
	76	91	90	89	89	88	87	87	86	85	85	84	83	83	82	81	81
	74	89	89	88	87	86	86	85	84	84	83	83	82	81	81	80	79
	72	88	87	87	86	85	84	84	82	82	82	81	80	80	79	78	78
	70	87	86	85	85	84	83	83	82	81	81	80	79	79	78	77	77
	68	85	85	84	83	82	82	81	81	80	79	79	78	77	77	76	75
	66	84	83	83	82	81	81	80	79	79	78	77	77	76	75	75	74
	64	83	82	82	81	80	79	79	78	77	77	76	75	75	74	73	73
	62	81	81	80	79	78	78	77	77	76	75	75	74	73	73	72	71
	60	80	79	79	78	77	77	76	75	75	74	73	73	72	71	71	70
	58	79	78	77	77	76	75	75	74	73	73	72	71	71	70	69	69
	56	77	77	76	75	75	74	73	73	72	71	71	70	69	69	68	67
	54	76	75	75	74	73	73	72	71	71	70	69	69	68	67	67	66
	52	75	74	73	73	72	71	71	70	69	69	68	67	67	66	65	65
	50	73	73	72	71	71	70	69	69	68	67	67	66	65	65	64	63
	48	72	71	71	70	69	69	68	67	67	66	65	65	64	63	63	62
46	71	70	69	69	68	67	67	66	65	65	64	63	63	62	61	61	
44	69	69	68	67	67	66	65	65	64	63	63	62	61	61	60	59	
42	68	67	67	66	65	65	64	63	63	62	61	61	60	59	59	58	
40	67	66	65	65	64	63	63	62	61	61	60	59	59	58	57	57	
38	65	65	64	63	63	62	61	61	60	59	59	58	57	57	56	55	



## Resource: Clinician on the Scene

### **NON-REGIONALLY Credentialed Clinician**

- Verify the identity and specialty of the clinician with the patient, family members or through any written credentials
- If the identity CANNOT be verified, initiate any treatment indicated per protocol, and consult REGIONAL Medical Control Physician as soon as possible. The clinician on the scene may speak to the REGIONAL Medical Control Physician if he/she desires
- If the identity CAN be verified, request the clinician to sign the Clinician Release Form and go with the patient in the ambulance
- If the clinician is willing to sign the Clinician Release Form and accompany the patient in the ambulance, make equipment available to the clinician for their treatment, and assist with the transportation of the patient
- If the clinician is not willing to both sign the Clinician Release Form and accompany the patient in the ambulance, initiate treatment per the protocols and contact Medical Control
- If you are called to a clinician's office, the patient is under the clinician's care until the clinician releases the patient to your care
- If there are any conflicts or questions, contact Medical Control Physician

### **Key Points**

- Clinicians include, but are not limited to: physicians, physician assistants, nurse practitioners, midwives

### **REGIONALLY Credentialed Medical Control Physician**

- Verify the REGIONAL Physician's credentials
- If the Physician is able to accompany the patient in the ambulance add the REGIONAL Physician's name and identification on the PCR
- If the on scene Physician is not able to accompany the patient in the ambulance consult Medical Control Physician and request the 2 physicians confer
- Transport as appropriate and contact Medical Control Physician as needed
- Document both physicians' identification on the PCR