



# NYC REMAC

Advisory No.	2011-02		
Title:	Revision/Update of REMAC Prehospital Treatment & Transport Protocols		
Issue Date:	May 1, 2011		
Effective Date:	August 1, 2011		
Supersedes:	n/a	Page:	1 of 1

The Regional Emergency Medical Advisory Committee (REMAC) of New York City is responsible to develop, approve and implement prehospital treatment and transport protocols for use within the five boroughs of the City of New York. The Regional Emergency Medical Advisory Committee (REMAC) of New York City operates under the auspices of Article Thirty of the New York State Public Health Law.

The Regional Emergency Medical Advisory Committee (REMAC) of New York City has revised and updated the regional prehospital treatment and transport protocols. All protocols have been approved by the New York State Emergency Medical Advisory Committee for use in the NYC region.

A list of all revised protocols summarizing changes is attached, along with actual protocols identifying specific changes. New Language is **underlined and bold**. Deleted Language is **~~struck-out~~**.

***PROTOCOLS ARE TO BE IMPLEMENTED AND ALL EMS PERSONNEL UPDATED BY JULY 1, 2011. Agencies that require additional time for implementation must submit requests for extension in writing to the NYC REMAC. Requests can be emailed to [mdiglio@nycremsco.org](mailto:mdiglio@nycremsco.org)***

Current and Updated Protocols can be accessed at the Regional EMS Council website: [www.nycremsco.org](http://www.nycremsco.org).

Owners/operators of Ambulance and ALS First Response Services providing prehospital medical treatment within the five boroughs of the City of New York are responsible to provide copies of the NYC REMAC Prehospital Treatment Protocols to their personnel, and to ensure that Service Medical Directors and EMS personnel are informed of all changes/updates to the NYC REMAC Prehospital Treatment Protocols.

**In order to provide evidence that all EMS personnel have been updated in current protocols, the EMS Agency must provide a list of updated personnel accompanied by a letter of affirmation signed by the service medical director and Chief Executive Officer no later than FOUR (4) weeks after completion of training/in-service.**

A handwritten signature in black ink that reads "Lewis W. Marshall, Jr.".

Lewis W. Marshall, Jr., MD, JD  
Chair, Regional Emergency Medical Advisory Committee of New York City

## Protocol Revisions approved by NYC REMAC and NYS SEMAC

### General Operating Procedures

---

1. Wording change – **Cardiopulmonary Resuscitation** – to state, “Basic Life Support in adults, children and infants, and newborns, when not specifically described in these protocols, should otherwise conform to the current guidelines set by the American Heart Association and American Red Cross.”
2. New section in the ‘Paramedics Only’ section: **Advanced Airway Management**. This section defines advanced airway management, the use of alternate airways, and that CPR should not be stopped for extended periods during intubation. It also recommends a limit of two intubation attempts. The definition of intubation attempts will be identified by individual agency medical directors.
3. Wording change – **Definition of Unstable Dysrhythmias** – remove the following from bulleted list: ‘persistent chest pain’, ‘shortness of breath’, and ‘possible myocardial infraction’. This was approved.

### Certified First Responder Protocols

---

4. The **CFR Protocols** (300 series) were updated to be consistent with BLS (EMT-Basic) Protocols, specifically protocols: **300 Weapons Of Mass Destruction / Nerve Agent Exposure, 301 Respiratory Distress/Failure, 304 Non-Traumatic Chest Pain, 320 Traumatic Cardiac Arrest, 328 Burns**

### Basic Life Support (EMT-Basic) Protocols

---

#### **5. 403/BLS-Non-Traumatic Cardiac Arrest**

SO# 3. Apply an automated external defibrillator.

Move ‘Transport’ decision from SO# 4 to SO# 8

#### **6. 407/BLS-Wheezing**

Remove ‘wheezing’ from bulleted list of signs/symptoms – since the protocol is titled, “Wheezing”.

Change: SO# 11. Contact On-Line Medical Control for authorization to administer a second dose of Epinephrine via an auto-injector, if needed, or for administration of Epinephrine via an auto-injector to a patient who is 33 years of age or older.

#### **7. 410/BLS-Anaphylactic Reaction**

Change SO#4 iii. Contact On-Line Medical Control for authorization to administer a second dose of Epinephrine via an auto-injector, if needed, or for administration of Epinephrine via an auto-injector to a patient who is 33 years of age or older.

#### **8. 413/BLS-Seizures**

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## *Revision/Update of REMAC Prehospital Treatment & Transport Protocols*

Delete of list of signs and symptoms:

### **9. 414/BLS-Poisoning or drug overdose**

Delete items #3, 4 &5:

#### **INGESTED SUBSTANCES:**

1. Do **NOT** induce vomiting.
2. Do **NOT** attempt to neutralize the substance.

### **10. 426/BLS-Soft Tissue Injuries**

Add: to SO# 3. Control external bleeding.

- a. [If a severe extremity hem](#)orrhage cannot be controlled by direct pressure, apply a tourniquet (see Appendix T).

### **11. 430/BLS Emotional Disturbed Patient**

Delete: SO# 5:

**Paramedic (ALS) Protocols**

---

**12. Paramedic Protocols Global change: Advanced Airway Management**

**13. 500-A/ALS-Smoke Inhalation and/or suspected carbon monoxide exposure**

Move from MCO to SO# 7: In the event of continued hypotension (SBP <90mmHg), Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until the desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)

**This is not for MCI events**

**14. 500 B/ALS-Cyanide Exposure**

Delete: **NOTE: ~~DO NOT ADMINISTER HYDROCOBALAMIN OR SODIUM THIOSULFATE.~~**

Move from MCO to SO# 6: In the event of continued hypotension (SBP <90mmHg), Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until the desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)

**This is not for MCI events**

**15. 501/ALS-Respiratory Arrest**

Delete entire protocol. Respiratory Arrest is addressed in other protocols.

Put statement regarding the treatment of tension pneumothorax by needle decompression into GOPs under 'Airway Management'.

**16. 503/ALS-Non Traumatic Cardiac Arrest**

Add: 3. If BLS care is already being provided, transition from AED use to ALS monitor use must occur only after the completion of the next analysis / shock decision.

**17. 504A/ALS-DRUG THERAPY OF MYOCARDIAL ISCHEMIA**

Move Aspirin to SO# 1 Administer two (2) Aspirin Tablets, total of 162 mg.

Delete: Morphine Sulfate and Naloxone from protocol

Delete: Medical Control Options

**18. 504B/ALS-Cardiogenic Shock**

Move fluid challenge and dopamine from MCO to a Standing Orders (SO).

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

## 19. 505A/ALS-SVT

### 505B/ALS-A-Fib/A-Flutter

### 505C/ALS- Ventricular Tachycardiac With A Pulse / Wide Complex Tachycardia Of Uncertain Type

Add to note:

NOTE: WHEN USING A DEFIBRILLATOR FOR WHICH THE MAXIMUM JOULE SETTING IS LESS THAN 360 JOULES, UTILIZE EQUIVALENT CARDIOVERSION ENERGIES.

## 20. 506/ALS-APE

Change: 5. Administer Nitroglycerin Tablet 1/150 gr or Spray 0.4 mg, sublingually, every 5 minutes, . Before each administration, check the patient's pulse and blood pressure to ensure the patient is hemodynamically stable.

## 21. 507/ALS-Asthma

### 508/ALS-COPD

Changes:

2. Administer Albuterol Sulfate 0.083% (one unit dose of 3 ml), by nebulizer, at a flow rate that will deliver the solution over 5 to 15 minutes. May be repeated until patient shows improvement
3. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by nebulizer, in conjunction with the first 3 doses of each Albuterol Sulfate dose.

**NOTE: ALBUTEROL SULFATE AND IPRATROPIUM BROMIDE ~~SHALL MAY~~ BE MIXED AND ADMINISTERED SIMULTANEOUSLY, FOR A MAXIMUM OF THREE DOSES ~~IF APPROVED BY THE AGENCY MEDICAL DIRECTOR.~~**

Delete Albuterol sulfate from MCO

## 22. 510/ALS-Anaphylactic reaction

Moving from MCO to SO# 8:

- b) Administer Methylprednisolone 125 mg, IV/Saline Lock bolus, slowly, over 2 minutes.

OR

Administer Dexamethasone 12 mg, IV/Saline Lock bolus, slowly over 2 minutes.

## 23. 515/ALS-Non Cardiogenic Shock

### 520/ALS-Traumatic Cardiac Arrest

– Delete MCO for additional 3 liters of fluid.

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

*Revision/Update of REMAC Prehospital Treatment & Transport Protocols*

## **24. 521/ALS-Head Injuries**

Changes:

2. Perform [Advanced Airway Management](#) in patients for whom the Glasgow Coma Scale score is less than 8 **AND if** [less invasive methods of airway management are not effective.](#)
4. Begin an IV infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.

## **25. 528/ALS – Burns**

### **529/ALS – Pain Management For Isolated Extremity Injury**

Add: Fentanyl (1 mcg/kg to max 100 mcg) as an “if available” Medical Control Option, for use in hypotensive patients, at agency medical director discretion.

Draft Procedures/Protocols are attached.

## GENERAL OPERATING PROCEDURES

### CARDIOPULMONARY RESUSCITATION

Basic Cardiac Life Support in adults, children, infants, and newborns, when not specifically described in these protocols, should otherwise conform to the current guidelines set by the American Heart Association and the American Red Cross. The following guidelines apply to the initiation and termination of CPR:

The following General Operating Procedures Apply To Paramedics (AEMT-P) Only

### NEW SECTION

#### ADVANCED AIRWAY MANAGEMENT

Where the term 'advanced airway management' is used in these protocols, this is meant to refer to the use of endotracheal intubation and/or alternative airways (i.e. dual-lumen esophageal / tracheal intubation, laryngotracheal tubes, and other non-visualized airways that have been approved for use by the Regional Emergency Medical Advisory Committee (REMAC) of New York City).

In the non-arrest situation, the use of alternative airways is not allowed.

In the arrest setting, no preference is given to the use of either airway type. However if endotracheal intubation is selected as the primary method of advanced airway management, CPR must not be interrupted for an extended period of time, and a total of no more than two attempts may be made. If after two attempts endotracheal intubation is unable to be performed, an alternative airway must be placed.

#### DEFINITION OF UNSTABLE DYSRHYTHMIAS

For the purposes of these protocols, an unstable dysrhythmia is defined as:

*Any adult patient having a dysrhythmia associated with:*

- Hypotension (systolic blood pressure BELOW 90 mm Hg), i.e., decompensated shock;
- Altered mental status (e.g., agitation, confusion);

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

## CERTIFIED FIRST RESPONDER PROTOCOLS

300

### WEAPONS OF MASS DESTRUCTION / NERVE AGENT EXPOSURE

Authorization for the use of the antidote kits comes only from FDNY Office of Medical Affairs (OMA) through a class action order\* issued by FDNY OMA Medical Director who is on-scene or as relayed by an FDNY OMA Medical Director through On-Line Medical Control (Telemetry) or through FDNY Emergency Medical Dispatch.

NOTE: The issuance of any class order shall be conveyed to all regional medical control facilities for relay to units in the field. Treatment within the "HOT" and "WARM" zones may be performed only by appropriately trained personnel wearing appropriate chemical protective clothing (CPC) as determined by the FDNY Incident Commander.

- **RED TAG** - may be treated simultaneously with decontamination.
- **YELLOW TAG** - will be treated as soon as possible following decontamination.
- **GREEN TAG** (asymptomatic) - will be decontaminated and receive close observation.

Initial Treatment (Table 1)

Tag Color	Signs & Symptoms	Auto-injector Administration	Atropine Dose and Monitor Interval
<b>RED</b>	Severe Respiratory Distress, Agitation SLUDGEM	3 Auto-injector Kits	<b>6mg</b> Monitor every 5 minutes.
<b>YELLOW</b>	Respiratory Distress, SLUDGEM	2 Auto-injector Kits	<b>4mg</b> Monitor every 10 minutes
<b>GREEN</b>	Asymptomatic None	None	None Monitor every 15 minutes.

NOTE: Do not give more than three auto-injector kits to any patient.

\* Class Order - A general order given by a FDNY-OMA Medical Director to perform a specific intervention or

interventions at a specific location/s during a specified time period. This order is generally reserved for disaster situations.

*All treatment subsequent to the initial doses shall follow Table 2. This will include extended on-scene operations, transport to ambulance destinations, and treatment at casualty collection points. The goal of treatment is drying of secretions and resolution of other symptoms.*

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

Extended Re-Evaluation & Treatment (Table 2)

Tag Color	Signs & Symptoms	Monitor Interval	Auto-injector Administration
<b>RED</b>	Severe Respiratory Distress, Agitation, SLUDGEM	Monitor every 5 minutes	Up to a total maximum of 3 auto-injectors
<b>YELLOW</b>	Respiratory Distress SLUDGEM	Monitor every 5 to 15 minutes	Up to a total maximum of 1 auto-injector
<b>GREEN</b>	Asymptomatic	Monitor every 15 minutes	None

NOTE: Do not give more than three auto-injector kits to any patient.

- Record on the Triage Tag the number of Atropine and Auto-injector Kits used
- ASYMPTOMATIC PATIENTS DO NOT REQUIRE TREATMENT
  - monitor every 15 minutes

## PEDIATRIC PATIENTS

Tag Color	Exposure, and/or Signs of Respiratory Distress, Agitation, SLUDGEM	Atropine and Antidote Kit Doses Monitor Interval	Atropine Repeat Dosing Frequency
<b>RED (Peds)</b>	Yes	Age <1 years	Atropine every 3 minutes as needed
		Age 1-8 years	
<b>GREEN (Peds)</b>	No	None Monitor every 10 minutes for evidence of exposure	

NOTE: Pediatric patients older than 8 years old should be treated via the adult protocol.

**CERTIFIED FIRST RESPONDER PROTOCOLS**

**301**

**RESPIRATORY DISTRESS / FAILURE**

1. Monitor the airway.
2. If an obstructed airway is suspected (see Protocol #302).
3. Administer oxygen.
4. Do NOT permit physical activity.
5. Update dispatch of a high priority patient.
6. Monitor breathing for adequacy.
7. Place the patient in a position of comfort.
8. Monitor breathing continuously for signs of hypoxia and / or increasing respiratory distress.
- 9. For the patient with signs of on-going hypoxia, inability to adequately protect their airway, and/or exhibiting signs of inadequate respiration, assisted ventilations may be required.**
  - If unable to maintain an open airway and if tolerated, an airway adjunct may be required.
10. If respiratory arrest, ventilate using one of the ventilation devices and an airway adjunct, if tolerated.

NOTE: All patients who are in respiratory arrest must have ventilatory assistance unless a valid New York State Prehospital DNR Order **and/or MOLST is presented (GOP)**.

Ventilation Devices

- Pocket Mask with supplemental oxygen set at 10-15 liters/minute.
- Bag-Valve-Mask with reservoir with supplemental oxygen set at 10-15 liters/minute.
- Mouth-to-Mouth or Mouth-to-Mouth/Nose (at provider option, only when adjuncts are not available).

NOTE: Do not use a Demand Valve Resuscitator

**CERTIFIED FIRST RESPONDER PROTOCOLS**

**304**

**NON-TRAUMATIC CHEST PAIN**

1. Monitor the airway.
2. Monitor breathing for adequacy.
3. Administer oxygen.
4. DO NOT permit physical activity.
5. Update dispatch of a high priority patient.
6. Place patient in a position of comfort.
8. Continue to monitor initial assessment.

**CERTIFIED FIRST RESPONDER PROTOCOLS**

**320**

**TRAUMATIC CARDIAC ARREST**

1. Observe spinal injury precautions, if appropriate (see Protocol #321)
2. Begin Basic Cardiac Life Support procedures.
3. Update dispatch of a high priority patient.
4. **Excluding patients with penetrating chest trauma, apply AED as described in Protocol 303.**• In CFR witnessed arrests, perform CPR until defibrillator is attached.
  - In arrests not witnessed by CFR, perform CPR while immediately applying a defibrillator.
  - If pediatric patient, under 9 years of age, see Protocol #353
5. Once a defibrillator is applied, immediately turn the machine 'On.'
6. Analyze (do not perform CPR while the machine is analyzing).
  - Whenever the "NO SHOCK INDICATED" message appears, CPR should be performed for 2 MINUTES followed by the next analysis.
7. Until transport arrives, continue CPR, re-analyze every 2 minutes and shock as indicated.
8. Update dispatch of a high priority patient.

**CERTIFIED FIRST RESPONDER PROTOCOLS**

**328**

**BURNS**

1. Stop the burning process.
2. Observe spinal injury precautions, if appropriate (see Protocol #321)
3. Monitor the airway.  
NOTE: For patients with inhalation injury – update dispatch of high priority patient.
4. Monitor breathing for adequacy.
5. Administer oxygen.
6. Prevent contamination of the wound. Avoid making contact with non-sterile materials if possible. Do not remove clothing adherent to the wound.
7. Assess for shock and treat, if appropriate (see Protocol #315)
8. For Special Considerations, see below.
- 9. For burns, cover the affected areas with dry, sterile dressings, then wrap in dry, sterile sheets..**
10. Maintain body temperature:
  - Large Body Surface Area (BSA) involvement may lead to rapid heat loss
11. Continue to monitor initial assessment.

Special Considerations

Thermal Burns:

1. Cool hot or smoldering skin (up to 20% of the body surface area at a time) with cool water, Normal Saline (0.9% NS), or saline-moistened, sterile dressings.

Chemical Burns:

NOTE: Take precautions to avoid contamination of yourself and others.

1. Remove any contaminated clothing or personal articles.
2. Brush dry agents off the skin, then flush with water for at least 10 minutes.
3. Blot any excessive liquids from the skin, then flush liquid chemical agents with water:
  - From the skin for at least 10 minutes.
  - From the eyes for at least 20 minutes.
4. Obtain the name of the product, if possible.

Electrical Burns:

NOTE: Be alert for cervical spine and other skeletal injuries.

1. Begin Basic Cardiac Life Support procedures, if appropriate (see Protocol #303)
2. Observe spinal injury precautions, if appropriate (see Protocol #321)

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**403**

**NON-TRAUMATIC CARDIAC ARREST**

1. Begin Basic Cardiac Life Support procedures.
2. Request Advanced Life Support assistance.
- 3. Apply an automated external defibrillator.**
  - a. In EMS witnessed arrests, perform CPR until defibrillator is attached.
  - b. In arrests not witnessed by EMS, perform two (2) minutes of CPR prior to defibrillator use.

NOTE: WHEN AVAILABLE, PEDIATRIC AED-CAPABLE PADS AND CABLES SHALL BE USED FOR ALL PEDIATRIC PATIENTS UNDER 9 YEARS OF AGE.

IF PEDIATRIC AED-CAPABLE PADS AND CABLES ARE NOT AVAILABLE, THE ADULT AED AND ADULT AED-CAPABLE PADS AND CABLES SHALL BE USED FOR ALL PEDIATRIC PATIENTS UNDER 9 YEARS OF AGE. AED PADS MUST NOT OVERLAP EACH OTHER; IF OVERLAP OCCURS, APPLY PADS ANTERIORLY AND POSTERIORLY.

**GUIDELINES FOR AUTOMATED DEFIBRILLATION**

4. If present, remove Nitroglycerin patch and wipe off remaining paste; avoid contact with your skin.
5. Attach automated external defibrillator to patient.

NOTE: THE DEFIBRILLATOR'S ANALYSIS OF THE RHYTHM MUST BE DONE WITHOUT CPR IN PROGRESS.

IF THE PATIENT HAS A PERMANENT PACEMAKER IN PLACE, POSITION THE SEMI-AUTOMATED DEFIBRILLATOR PADS AT LEAST ONE (1) INCH AWAY FROM THE PACEMAKER DEVICE.

6. Whenever the "NO SHOCK INDICATED" message appears, CPR should be performed for 2 MINUTES followed by the next analysis.
7. After a total of three (3) cycles of CPR and analysis, continue CPR.

**8. Transport.**

NOTE: DURING TRANSPORT, OR IF TRANSPORT IS DELAYED, CONTINUE CPR, RE-ANALYZE EVERY 2 MINUTES, AND SHOCK AS INDICATED.

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**407**

**WHEEZING**

*For patients over one (1) year of age who are experiencing exacerbation of asthma or wheezing.*

1. Assess the airway
2. Administer oxygen
3. Monitor breathing

**NOTE: IF PATIENT EXHIBITS SIGNS OF IMMINENT RESPIRATORY FAILURE, REFER TO PROTOCOL #401 – ADULT RESPIRATORY DISTRESS/FAILURE OR #450 – PEDIATRIC RESPIRATORY DISTRESS/FAILURE.**

4. Do not permit physical activity
5. Place the patient in a Fowler's or Semi-Fowler's position
6. Assess the following prior to administration of the first nebulized treatment:
  - Vital signs
  - Patient's ability to speak in complete sentences
  - Accessory muscle use

7. Administer Albuterol Sulfate 0.083%, one (1) unit dose or 3 cc via nebulizer at a flow rate that will deliver the solution over 5 minutes to 15 minutes. Do not delay transport to complete medication administration.

9. Begin transport.

**NOTE: FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE. DO NOT DELAY TRANSPORT.**

10. If symptoms persist, Albuterol Sulfate 0.083% may be repeated twice for a total of three (3) doses, with the third occurring during transport.
11. If the patient is having severe respiratory distress or shock and is under 33 years of age, administer Epinephrine (ONE DOSE ONLY) via an auto-injector.

**NOTE: PATIENTS 9 YEARS OF AGE AND OLDER OR WEIGHING MORE THAN 30KG (66 LBS) USE ADULT EPI-AUTO INJECTOR (0.3 MG); PATIENTS YOUNGER THAN 9 YEARS OF AGE OR WEIGHING LESS THAN 30KG (66 LBS) USE PEDIATRIC EPI-AUTO INJECTOR (0.15 MG). ADMINISTRATION OF EPINEPHRINE VIA AUTO-INJECTOR MUST BE REPORTED TO YOUR AGENCY'S MEDICAL DIRECTOR AS SOON AS POSSIBLE**

12. Contact On-Line Medical Control for authorization to administer a second dose of Epinephrine via an auto-injector, if needed, **or for administration of Epinephrine via an auto-injector to a patient who is 33 years of age or older.**
13. Upon completion of patient treatment or transfer of patient care to an ALS Provider or a 911 Receiving Hospital, reassess the patient. See Step # 6.

**NOTE: MEDICAL CONTROL MUST BE CONTACTED FOR ANY PATIENT REFUSING MEDICAL ASSISTANCE OR TRANSPORT.**

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**410**

**ANAPHYLACTIC REACTION**

**NOTE: ANAPHYLAXIS CAN BE A POTENTIALLY LIFE THREATENING SITUATION MOST OFTEN ASSOCIATED WITH A HISTORY OF EXPOSURE TO AN INCITING AGENT/ALLERGEN (BEE STING OR OTHER INSECT VENOM, MEDICATIONS/DRUGS, OR FOODS SUCH AS PEANUTS, SEAFOOD, ETC.). THE PRESENCE OF RESPIRATORY DISTRESS (UPPER AIRWAY OBSTRUCTION [STRIDOR], SEVERE BRONCHOSPASM [WHEEZING]) AND/OR CARDIOVASCULAR COLLAPSE/HYPOTENSIVE SHOCK CHARACTERIZE THE CLINICAL FINDINGS THAT AUTHORIZE AND REQUIRE TREATMENT ACCORDING TO THIS PROTOCOL.**

**PATIENTS 9 YEARS OF AGE AND OLDER OR WEIGHING MORE THAN 30KG (66 LBS) USE ADULT EPI-AUTO INJECTOR (0.3 MG); PATIENTS YOUNGER THAN 9 YEARS OF AGE OR WEIGHING LESS THAN 30KG (66 LBS) USE PEDIATRIC EPI-AUTO INJECTOR (0.15 MG).**

1. Determine that the patient's history includes a history of anaphylaxis, severe allergic reaction and/or recent exposure to an allergen or inciting agent.
2. Request Advanced Life Support assistance, if available. Do NOT delay transport.
3. Administer high concentration oxygen.
4. Assess the cardiac and respiratory status of the patient.
  - a. If both the cardiac and respiratory status of the patient are normal, initiate transport.
  - b. If either the cardiac or respiratory status of the patient is abnormal, proceed as follows:
    - i. If the patient is having severe respiratory distress or shock and has been prescribed an Epinephrine auto-injector, assist the patient in administering the Epinephrine. If the patient's auto-injector is not available or expired administer the Epinephrine via an auto-injector.
    - ii. If the patient has not been prescribed an Epinephrine auto-injector and is under 33 years of age, administer Epinephrine (ONE DOSE ONLY) via an auto-injector.

**NOTE: ADMINISTRATION OF EPINEPHRINE VIA AUTO-INJECTOR MUST BE REPORTED TO YOUR AGENCY'S MEDICAL DIRECTOR AS SOON AS POSSIBLE**

- iii. Contact On-Line Medical Control for authorization to administer a second dose of Epinephrine via an auto-injector, if needed, **or for administration of Epinephrine via an auto-injector to a patient who is 33 years of age or older.**
      - iv. Refer immediately to the REMAC Prehospital Treatment Protocol for Respiratory Distress/Failure (#401), Obstructed Airway (#402), or Shock (#415) as appropriate.
5. If cardiac arrest occurs, refer immediately to the REMAC Prehospital Treatment Protocol for Non-Traumatic Cardiac Arrest (#403).

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**413**

**SEIZURES**

1. Protect the patient from injury.
2. Monitor the airway.
3. Do **NOT** force anything into the patient's mouth.
4. Attempt to position the patient to maintain airway patency.
5. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
6. Avoid unnecessary or excessive restraint.
7. Administer oxygen.
8. Monitor breathing for adequacy.
9. Request Advanced Life Support assistance for ongoing seizures at time of patient contact.
10. Treat all injuries as appropriate.
11. Transport.

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**414**

**POISONING OR DRUG OVERDOSE**

1. Monitor the airway.
2. Administer oxygen.
3. Request Advanced Life Support assistance for patients with respiratory distress/failure or altered mental status, or if so directed by Medical Control.
4. For Special Considerations, see below.
5. Bring a sample of the substance or the container(s) to the hospital.
6. Transport.

**SPECIAL CONSIDERATIONS**

**INGESTED SUBSTANCES:**

1. Do NOT induce vomiting.
2. Do NOT attempt to neutralize the substance.

**INHALED SUBSTANCES:**

NOTE: ENSURE THAT THE SCENE IS SAFE TO ENTER.

1. Remove the patient from the contaminated environment.
2. Administer oxygen, especially if carbon monoxide poisoning is suspected.

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**426**

**SOFT TISSUE INJURIES**

NOTE: INFECTION CONTROL PRECAUTIONS MUST BE FOLLOWED WHEN MAKING CONTACT WITH THE PATIENT'S BLOOD OR SECRETIONS.

1. Monitor the airway.
2. Administer oxygen, if appropriate.
3. Control external bleeding.
  - a. If **a severe extremity** hemorrhage cannot be controlled by direct pressure, apply a tourniquet (see Appendix T).
4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. For Special Considerations, see below.
6. Transport to the nearest appropriate hospital according to the patient's condition. (See Appendices F and H.)

**SPECIAL CONSIDERATIONS**

**IMPALED OBJECT:**

1. Do NOT remove the object.
2. Support and secure the object with bulky dressings.

NOTE: IF THE OBJECT IS IMPALED IN THE CHEEK AND IS COMPROMISING THE AIRWAY, REMOVE IT AND BANDAGE BOTH SIDES OF THE WOUND.

**AMPUTATED OR COMPLETELY AVULSED TISSUE:**

1. Wrap the part in saline-moistened, sterile dressings.
  - a. Do NOT soak.
2. Place the part into a plastic bag and seal the bag.
3. Label the bag with the patient's name and time of injury.
4. Place the bag in ice, or a cooled area.
5. Protect the stump with a saline-moistened, sterile dressing.

NOTE: AVOID FREEZING THE TISSUE. DO NOT USE DRY ICE.

**BASIC EMERGENCY MEDICAL TECHNICIAN PROTOCOLS**

**430**

**EMOTIONALLY DISTURBED PATIENT**

NOTE: EMOTIONALLY DISTURBED PATIENTS MUST BE PRESUMED TO HAVE AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS.

ASSESS SUCH PATIENTS FOR AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS AND TREAT AS NECESSARY.

1. Assess the situation for potential or actual danger and establish a safe zone, if necessary.

NOTE: ALL SUICIDAL OR VIOLENT THREATS OR GESTURES MUST BE TAKEN SERIOUSLY. THESE PATIENTS SHOULD BE IN POLICE CUSTODY IF THEY POSE A DANGER TO THEMSELVES AND/OR OTHERS.

2. If an underlying medical or traumatic condition causing an altered mental status is not apparent; the patient is fully conscious, alert, and able to communicate; and an emotional disturbance is suspected, proceed as follows:
  - Request police assistance, if appropriate.

NOTE: IF THE PATIENT IS AT RISK FOR RESPIRATORY OR CARDIAC ARREST BY CONTINUING TO STRUGGLE WHILE BEING PHYSICALLY RESTRAINED BY POLICE, REQUEST ADVANCED LIFE SUPPORT ASSISTANCE.

- Open communications with the patient.
- Attempt to determine the cause of the immediate crisis.
- Attempt to obtain a past medical history.
- Document the exact nature of the problem, including the patient's own words.
- If, in the judgment of the EMT/AEMT, the patient requires and is refusing treatment and the patient's judgment may be impaired, contact Medical Control.
- The EMT/AEMT may participate in restraining a patient if a police officer requests assistance or when it becomes necessary for self-protection.

NOTE: ONLY THE AMOUNT OF FORCE REQUIRED TO EFFECTIVELY RESTRAIN THE PATIENT MAY BE USED.

3. If the patient continues to struggle while being physically restrained, request ALS for possible chemical restraint.
4. Transport.

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**500-A**

**SMOKE INHALATION AND/OR SUSPECTED CARBON MONOXIDE EXPOSURE**

This protocol should be utilized ONLY for the management of symptomatic patients after exposure to smoke in an enclosed space.

1. Begin Basic Life Support Procedures
2. If necessary, perform **Advanced Airway Management\***. (Global change through-out ALS protocols)
3. Begin cardiac & Pulse Oximetry monitoring.
4. Begin SpCO monitoring, if available
5. Begin two IV infusions of Normal Saline (0.9% NS). Refer also to Protocol #528 for all patients with burns.
6. Patients with the following symptoms, after exposure to smoke in an enclosed space, should be administered the medications listed in Table 1, if available.
  - Hypotension not attributable to other obvious causes
  - Altered mental status
  - Coma
  - Seizures
  - Respiratory arrest
  - Cardiac arrest

WHENEVER HYDROXOCOBALAMIN IS ADMINISTERED, FOLLOW WITH A 20ML FLUSH OF NORMAL SALINE (0.9% NS) PRIOR TO ADMINISTRATION OF ANY OTHER MEDICATION.

7. **In the event of continued hypotension (SBP <90mmHg), Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until the desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)**

*\* If the patient is alert prior to performing Endotracheal Intubation, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.*

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

TABLE 1		
AGE GROUP	HYDROXOCOBALAMIN <sup>A</sup>	SODIUM THIOSULFATE <sup>B</sup>
Infant/Toddler (0-2 years)	¼ bottle	250mg/kg (3cc/kg prepared solution) administered over 10 minutes, IV
Preschool (3-5 years)	½ bottle	
Grade School (6-13 years)	1 bottle	
Adult (≥14 years)	2 bottles (entire kit)	12.5g 150mL of a prepared solution) administered over 10 minutes IV

<sup>A</sup> Hydroxocobalamin may be mixed with D5W, normal saline, or lactated ringers. The vented macro drip tubing that accompanies the cyanokit, should be used, wide open to ensure correct administration time of approximately 15 minutes (7.5 minutes per bottle).

<sup>B</sup> Sodium thiosulfate solution should be prepared by adding 12.5g (50mL) to a 100cc bag of D5W.

NOTE: IN THE EVENT THAT ONLY ONE INTRAVASCULAR ACCESS LINE IS ESTABLISHED, ADMINISTER HYDROXOCOBALAMIN FIRST BEFORE SODIUM THIOSULFATE.

**NOTE: PRIOR TO ADMINISTRATION OF HYDROXOCOBALAMIN, OBTAIN THREE BLOOD SAMPLES USING THE TUBES PROVIDED IN THE CYANIDE TOXICITY KIT.**

#### CYANIDE TOXICITY KIT (if available)

2 – 2.5g bottles of crystalline powder hydroxocobalamin	1 – 2 ml fluoride oxalate whole blood tube
1 – 12.5g bottles of sodium thiosulfate (50 mL of 25% solution)	1 – 2ml K2 EDTA tube
2 – 100mL bag 0.9% NS, D <sub>5</sub> W, LR	1 – 2ml lithium heparin tube
1 – 100mL bag D <sub>5</sub> W	

OPTION A **B**: Transportation Decision.

NOTE: FOR PATIENTS EXHIBITING SIGNS AND SYMPTOMS CONSISTENT WITH CARBON MONOXIDE POISONING, REFER TO GENERAL OPERATING PROCEDURES – TRANSPORTATION DECISIONS AND PROCEDURES: HYPERBARIC CANDIDATES.

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

## ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS

### 500-B

#### CYANIDE EXPOSURE

This protocol should be utilized ONLY for the management of critically ill patients with suspected exposure to cyanide.

*If operating at a scene with suspected cyanide exposure where the total patient count is greater than 5, a class order<sup>1</sup> is required by an FDNY-OMA Medical Director to utilize this protocol due to the likelihood of a Weapons of Mass Destruction attack. Refer to REMSCO WMD protocol management decisions. The class order may be issued by a FDNY-OMA Medical Director who is on-scene or as relayed through an FDNY-OMA Medical Director through On-Line Medical Control (Telemetry) or through FDNY Emergency Medical Dispatch.*

NOTE: THE ISSUANCE OF ANY CLASS ORDER SHALL BE CONVEYED TO ALL REGIONAL MEDICAL CONTROL FACILITIES FOR RELAY TO UNITS IN THE FIELD.

If operating at a scene with suspected cyanide exposure where the total patient count is 5 or less at one time, the following protocol remains as a Standing Order.

TREATMENT WITHIN THE "HOT" AND "WARM" ZONES MAY BE PERFORMED ONLY BY APPROPRIATELY TRAINED PERSONNEL WEARING APPROPRIATE CHEMICAL PROTECTIVE CLOTHING (CPC) AS DETERMINED BY THE FDNY INCIDENT COMMANDER.

NOTE: IF PROVIDERS ENCOUNTER A PATIENT WHO HAS NOT BEEN APPROPRIATELY DECONTAMINATED FROM LIQUID CYANIDE, THE PROVIDERS SHOULD LEAVE THE AREA IMMEDIATELY UNTIL SUCH TIME AS APPROPRIATE DECONTAMINATION HAS BEEN PERFORMED.

1. Begin Basic Life Support Procedures.
2. If necessary, perform Endotracheal Intubation\*.
3. Begin cardiac & pulse oximetry monitoring.
4. Begin two IV infusions of Normal Saline (0.9% NS).

\* *If the patient is alert prior to performing Endotracheal Intubation, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.*

<sup>1</sup> Class Order - A general order given by a FDNY-OMA Medical Director to perform a specific intervention or interventions at a specific location/s during a specified time period. This order is generally reserved for disaster situations.

5. Patients with the following symptoms, after exposure to cyanide, should be administered the medications listed in Table 1, if available.

- Hypotension not attributable to other obvious causes
- Altered Mental Status
- Coma

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## Revision/Update of REMAC Prehospital Treatment & Transport Protocols

- Seizures
- Respiratory arrest
- Cardiac arrest

**NOTE: ~~DO NOT ADMINISTER HYDROCOBALAMIN OR SODIUM THIOSULFATE.~~**

NOTE: PRIOR TO ADMINISTRATION OF HYDROXOCOBALAMIN, IF POSSIBLE, OBTAIN THREE BLOOD SAMPLES USING THE TUBES PROVIDED IN THE CYANIDE TOXICITY KIT.

AGE GROUP	HYDROXOCOBALAMIN <sup>A</sup>	SODIUM THIOSULFATE <sup>B</sup>
Infant/Toddler (0-2 years)	¼ bottle	250mg/kg (3cc/kg prepared solution) administered over 10 minutes, IV
Preschool (3-5 years)	½ bottle	
Grade School (6-13 years)	1 bottle	
Adult (≥14 years)	2 bottles (entire kit)	12.5g 150mL of a prepared solution) administered over 10 minutes IV

<sup>A</sup> Hydroxocobalamin may be mixed with D5W, normal saline, or lactated ringers. The vented macro drip tubing that accompanies the cyanokit, should be used, wide open to ensure correct administration time of approximately 15 minutes (7.5 minutes per bottle).

<sup>B</sup> Sodium thiosulfate solution should be prepared by adding 12.5g (50mL) to a 100cc bag of D5W.

**6. In the event of continued hypotension (SBP <90mmHg), Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until the desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)**

NOTE: WHENEVER HYDROXOCOBALAMIN IS ADMINISTERED, FOLLOW WITH A 20ML FLUSH OF NORMAL SALINE (0.9% NS) PRIOR TO ADMINISTRATION OF ANY OTHER MEDICATION.

OPTION A **B**: Transportation Decision.

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

*Revision/Update of REMAC Prehospital Treatment & Transport Protocols*

## CYANIDE TOXICITY KIT (if available)

2 – 2.5g bottles of crystalline powder hydroxocobalamin	1 – 2 ml fluoride oxalate whole blood tube
1 – 12.5g bottles of sodium thiosulfate (50 mL of 25% solution)	1 – 2ml K2 EDTA tube
2 – 100mL bag 0.9% NS, D <sub>5</sub> W, LR	1 – 2ml lithium heparin tube
1 – 100mL bag D <sub>5</sub> W	

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

Revision/Update of REMAC Prehospital Treatment & Transport Protocols

## ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS

504

### ~~RESPIRATORY ARREST – delete entire protocol~~

~~For patients in actual or imminent respiratory arrest:~~

---

~~NOTE: IF OVERDOSE IS SUSPECTED, REFER TO PROTOCOL 511 (Altered Mental Status)~~

- ~~1. Begin Basic Life Support Respiratory Distress procedures.~~
- ~~2. If a tension pneumothorax is suspected, perform Needle Decompression. (See Appendix O.)~~
- ~~3. Perform \*.~~
- ~~4. Begin Cardiac Monitoring, record and evaluate EKG rhythm.~~
- ~~5..~~
- ~~6..~~

~~\* If, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.~~

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**503**

**NON-TRAUMATIC CARDIAC ARREST**

1. Begin Basic Life Support Non-Traumatic Cardiac Arrest procedures.
2. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
3. **If BLS care is already being provided, transition from AED use to ALS monitor use must occur only after the completion of the next analysis / shock decision.**

**Sub-Protocols\***

503-A Ventricular Fibrillation/Pulseless Ventricular Tachycardia

503-B Pulseless Electrical Activity (PEA)/Asystole

\* In the event that initial EKG rhythm changes, refer to the appropriate cardiac arrest sub-protocol.

Complete Standing Orders without repetition of previously administered drugs and contact Medical Control for further orders.

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**504-A**

**DRUG THERAPY OF MYOCARDIAL ISCHEMIA**

**1. Administer two (2) Aspirin Tablets, total of 162 mg.**

2. If chest pain persists, administer a Nitroglycerin Tablet 1/150 gr. or Spray 0.4 mg, sublingually, every 5 minutes, **for a total of 3 doses**. Before each administration, check the patient's pulse and blood pressure to ensure the patient is hemodynamically stable.

NOTE: UNLESS OTHERWISE DIRECTED BY ON-LINE MEDICAL CONTROL, NITROGLYCERIN MAY NOT BE ADMINISTERED TO PATIENTS WITH A SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 mmHg.

UNLESS OTHERWISE DIRECTED BY ON-LINE MEDICAL CONTROL, PATIENTS WHO HAVE USED ERECTILE DYSFUNCTION MEDICATIONS IN THE PREVIOUS 72 HOURS SHALL NOT BE GIVEN NITROGLYCERIN.

**~~3. If chest pain or other evidence of myocardial ischemia still persists:~~**

**~~NOTE: IF HYPOVENTILATION DEVELOPS, ADMINISTER NALOXONE UP TO 2 MG, IV/SALINE LOCK BOLUS.~~**

NOTE: FOR PATIENTS EXHIBITING ST ELEVATION, REFER TO GENERAL OPERATING PROCEDURES – TRANSPORTATION DECISIONS AND PROCEDURES: STEMI PATIENTS

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**504-B**

**CARDIOGENIC SHOCK**

1. **Administer a 250 ml IV bolus of Normal Saline (0.9% NS). Repeat once for a maximum total dose of 500 ml.**
  2. **Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until the desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)**
-

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**505-A**

**SUPRAVENTRICULAR TACHYCARDIA**

1. In patients with unstable supraventricular tachycardia, perform Synchronized Cardioversion\* using 100 joules. If this fails to convert the dysrhythmia and the patient still has a pulse, Synchronized Cardioversion may be repeated as necessary, using, 200, 300 and 360 joules.

**NOTE: WHEN USING A DEFIBRILLATOR FOR WHICH THE MAXIMUM JOULE SETTING IS LESS THAN 360 JOULES, UTILIZE EQUIVALENT CARIOVERSION ENERGIES.**

FURTHER REPEATED ATTEMPTS AT SYNCHRONIZED CARIOVERSION SHOULD BE PERFORMED USING THE DEFIBRILLATOR'S MAXIMUM SETTING IN PLACE OF THE ENERGIES NOTED ABOVE.

2. In patients with stable supraventricular tachycardia, administer Adenosine as follows:
  - a. Administer Adenosine 6 mg, IV/Saline Lock bolus, rapidly, followed by a Normal Saline (0.9% NS) flush.
  - b. Observe EKG monitor for 1 – 2 minutes for evidence of cardioversion.
  - c. If there is no evidence of cardioversion, administer Adenosine 12 mg, IV/Saline Lock bolus, rapidly, followed by a Normal Saline (0.9% NS) flush.
  - d. If there is still no evidence of cardioversion, repeat Adenosine 12 mg IV/Saline Lock bolus, rapidly, followed by a Normal Saline (0.9% NS) flush.
1. If Adenosine fails to convert the dysrhythmia or the patient has evidence of low cardiac output, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

**MEDICAL CONTROL OPTIONS:**

OPTION A: If complex width is narrow and blood pressure is normal or elevated, administer Diltiazem 0.25 mg/kg, IV/Saline Lock bolus, slowly, over 2 minutes, monitoring blood pressure continuously.

OPTION B: If complex width is narrow and blood pressure is low, perform Synchronized Cardioversion\* using 100 joules. If this fails to convert the dysrhythmia and the patient still has a pulse, Synchronized Cardioversion\* may be repeated as necessary using, 200, 300, and 360 joules.

OPTION C: Administer Amiodarone 150 mg, diluted in 100 ml D<sub>5</sub> W over 10 minutes.

OPTION D: Transportation Decision.

\* If the patient is alert prior to performing Cardioversion, refer to prehospital sedation in general operating procedures. PPMC

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**505-B**

**ATRIAL FIBRILLATION / ATRIAL FLUTTER**

1. In patients with unstable Atrial Fibrillation or Atrial Flutter, perform Synchronized Cardioversion\* using 100 joules. If this fails to convert the dysrhythmia and the patient still has a pulse, Synchronized Cardioversion may be repeated as necessary, using, 200, 300 and 360 joules.

**NOTE: WHEN USING A DEFIBRILLATOR FOR WHICH THE MAXIMUM JOULE SETTING IS LESS THAN 360 JOULES, UTILIZE EQUIVALENT CARIOVERSION ENERGIES.**

FURTHER REPEATED ATTEMPTS AT SYNCHRONIZED CARIOVERSION SHOULD BE PERFORMED USING THE DEFIBRILLATOR'S MAXIMUM SETTING IN PLACE OF THE ENERGIES NOTED ABOVE.

2. If Synchronized Cardioversion fails to convert the dysrhythmia, or the patient has stable Atrial Fibrillation or Atrial Flutter with a heart rate of 150 beats per minute or higher, contact Medical Control for implementation of one or more of the following Medical Control options:

**MEDICAL CONTROL OPTIONS:**

OPTION A: If complex width is narrow and blood pressure is normal or elevated, administer Diltiazem 0.25 mg/kg, IV/Saline Lock bolus, slowly, over 2 minutes, monitoring blood pressure continuously.

OPTION B: Administer Amiodarone 150 mg, diluted in 100 ml D<sub>5</sub>W over 10 minutes.

OPTION C: Transportation Decision.

*\* If the patient is alert prior to performing Cardioversion, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.*

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**505-C**

**VENTRICULAR TACHYCARDIAC WITH A PULSE /  
WIDE COMPLEX TACHYCARDIA OF UNCERTAIN TYPE**

NOTE: IN PATIENTS WITH PULSELESS VENTRICULAR TACHYCARDIA, SEE SUB-PROTOCOL 503-A.

1. In patients with unstable ventricular tachycardia with a pulse, perform Synchronized Cardioversion\* using 100 joules. If this fails to convert the dysrhythmia and the patient still has a pulse, Synchronized Cardioversion\* may be repeated as necessary using 200, 300 and 360 joules.

**NOTE: WHEN USING A DEFIBRILLATOR FOR WHICH THE MAXIMUM JOULE SETTING IS LESS THAN 360 JOULES, UTILIZE EQUIVALENT CARIOVERSION ENERGIES.**

FURTHER REPEATED ATTEMPTS AT SYNCHRONIZED CARIOVERSION SHOULD BE PERFORMED USING THE DEFIBRILLATOR'S MAXIMUM SETTING IN PLACE OF THE ENERGIES NOTED ABOVE.

2. Administer Amiodarone 150 mg, diluted in 100 ml D<sub>5</sub>W over 10 minutes.
3. If Amiodarone fails to convert the dysrhythmia or the patient has evidence of low cardiac output, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

**MEDICAL CONTROL OPTIONS**

OPTION A: Perform Synchronized Cardioversion\* using 100 joules. If this fails to convert the dysrhythmia and the patient still has a pulse, Synchronized Cardioversion may be repeated as necessary using 200, 300, and 360 joules.

OPTION B: Administer Magnesium Sulfate 2 gm, IV/Saline Lock bolus, diluted in 10 ml of Normal Saline (0.9% NS), over 2 minutes.

OPTION C: In cases of hyperkalemia or Calcium Channel Blocker overdose administer Calcium Chloride (CaCl<sub>2</sub>) 1 gm, SLOWLY, IV/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.

OPTION D: Administer Sodium Bicarbonate 44 - 88 mEq, IV/Saline Lock bolus, for pre-existing acidosis. Repeat doses of Sodium Bicarbonate 44 mEq, IV/Saline Lock bolus, may be given every 10 minutes.

OPTION E: Transportation Decision.

*\* If the patient is alert prior to performing Cardioversion, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.*

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**506**

**ACUTE PULMONARY EDEMA**

1. Begin Basic Life Support Respiratory Distress procedures.
2. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
3. Begin an IV infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.
4. Monitor vital signs every 2-3 minutes.
5. Administer Nitroglycerin Tablet 1/150 gr or Spray 0.4 mg, sublingually, every 5 minutes, . Before each administration, check the patient's pulse and blood pressure to ensure the patient is hemodynamically stable.

NOTE: UNLESS OTHERWISE DIRECTED BY ON-LINE MEDICAL CONTROL, NITROGLYCERIN SHALL NOT BE ADMINISTERED TO PATIENTS:

- WITH A SYSTOLIC BLOOD PRESSURE OF LESS THAN 100 mm Hg  
AND/OR
- WHO HAVE USED ERECTILE DYSFUNCTION MEDICATIONS IN THE PREVIOUS 72 HOURS

6. Initiate CPAP Therapy, if available, (see Appendix P)
7. Contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Administer Morphine Sulfate 0.1mg/kg (not to exceed 5mg), IV/Saline Lock bolus. Repeat doses of Morphine Sulfate 0.1mg/kg (not to exceed 5mg) IV/Saline Lock bolus, may be given as necessary. (Maximum total dosage is 15 mg.)

NOTE: IF HYPOVENTILATION DEVELOPS, ADMINISTER NALOXONE UP TO 2 MG, IV/SALINE LOCK BOLUS

OPTION B: Administer Lorazepam 1 – 2 mg, IV/IN Saline Lock bolus.

OR

Administer Midazolam 1 – 2 mg, IV/IN Saline Lock bolus.

OPTION C: Administer Furosemide 20 – 80 mg, IV/Saline Lock bolus. (Maximum combined total dosage is 80 mg.)

OPTION D: Transportation Decision.

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**507**

**ASTHMA**

*In patients with acute asthma and/or active wheezing:*

1. Begin Basic Life Support Respiratory Distress procedures.
2. Administer Albuterol Sulfate 0.083% (one unit dose of 3 ml), by nebulizer, at a flow rate that will deliver the solution over 5 to 15 minutes. May be repeated until patient shows improvement
3. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by nebulizer, in conjunction with **the first 3 doses of each** Albuterol Sulfate dose.

NOTE: ALBUTEROL SULFATE AND IPRATROPIUM BROMIDE **SHALL MAY** BE MIXED AND ADMINISTERED SIMULTANEOUSLY, **FOR A MAXIMUM OF THREE DOSES IF APPROVED BY THE AGENCY MEDICAL DIRECTOR.**

DO NOT DELAY TRANSPORT TO ADMINISTER ADDITIONAL NEBULIZER TREATMENTS.

4. In patients with signs of impending respiratory failure, administer Epinephrine 0.3 mg (0.3 ml of a 1:1,000 solution), IM.
5. Begin Cardiac Monitoring, record and evaluate EKG rhythm, in patients in severe respiratory distress with history of dysrhythmia or cardiac disease.
6. In patients in severe respiratory distress, begin an IV/Saline Lock infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.
7. In patients with persistent severe respiratory distress, administer Magnesium Sulfate, 2 gm, IV/Saline lock, diluted in 50-100 ml Normal Saline (0.9% NS) over 10-20 minutes.
8. In patients with persistent severe respiratory distress, administer Methylprednisolone 125 mg, IV/Saline lock bolus, or IM,

OR

Administer Dexamethasone, 12 mg, IV/Saline Lock bolus, or IM.

9. If the patient develops or remains in severe respiratory distress, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Repeat Epinephrine 0.3 mg (0.3 ml of a 1:1,000 solution), IM.

OPTION B: Transportation Decision.

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**508**

**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

In patients in severe respiratory distress due to chronic obstructive pulmonary disease:

1. Begin Basic Life Support Respiratory Distress procedures.
2. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
3. Administer Albuterol Sulfate 0.083% (one unit dose of 3 ml), by nebulizer, at a flow rate that will deliver the solution over 5 to 15 minutes. May be repeated until patient shows improvement
4. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by nebulizer, in conjunction with the first 3 doses of each Albuterol Sulfate dose.

NOTE: ALBUTEROL SULFATE AND IPRATROPIUM BROMIDE ~~SHALL MAY~~ BE MIXED AND ADMINISTERED SIMULTANEOUSLY, FOR A MAXIMUM OF THREE DOSES ~~IF APPROVED BY THE AGENCY MEDICAL DIRECTOR.~~

DO NOT DELAY TRANSPORT TO ADMINISTER ADDITIONAL NEBULIZER TREATMENTS.

4. Begin an IV infusion of Normal Saline (0.9% NS) to keep vein open, or Saline Lock.
5. In patients with persistent severe respiratory distress, administer Methylprednisolone 125 mg, IV/Saline lock bolus, or IM,  
OR  
Administer Dexamethasone, 12 mg, IV/Saline Lock bolus, or IM.
6. If the patient remains in severe respiratory distress, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**510**

**ANAPHYLACTIC REACTION**

- 1) Begin Basic Life Support Anaphylactic Reaction procedures.
- 2) If the patient is exhibiting obvious airway compromise, perform Endotracheal Intubation\*.
- 3) Administer Epinephrine 0.3 mg (0.3 ml of a 1:1,000 solution), IM.
- 4) If the patient has signs of bronchospasm, administer Albuterol Sulfate 0.083% (one unit dose bottle of 3 ml), by nebulizer, at a flow rate that will deliver the solution over 5 – 15 minutes.
- 5) Monitor vital signs every 5 minutes.
- 6) Begin Cardiac Monitoring, record and evaluate EKG rhythm.
- 7) Begin an IV infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) via a large bore (14 - 16 gauge) catheter to keep vein open, or a Saline Lock.
- 8) If the patient has signs of decompensated shock:
  - a) Administer Methylprednisolone 125 mg, IV/Saline Lock bolus, slowly, over 2 minutes.

**OR**

Administer Dexamethasone 12 mg, IV/Saline Lock bolus, slowly over 2 minutes.

- b) Begin rapid IV/Saline Lock infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL), up to 3 liters via macro-drip.**

- 9) If the patient has no signs of shock, administer Diphenhydramine 50 mg, IV/Saline Lock bolus, or IM, if IV/Saline Lock access has not been established.
- 10) Contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

**MEDICAL CONTROL OPTIONS:**

OPTION A: Repeat any of the above Standing Orders.

OPTION C: Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/Saline Lock drip.)

**OPTION D:** Transportation Decision.

\* If the patient is alert prior to performing endotracheal intubation, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**515**

**NON-CARDIOGENIC SHOCK**

1. Begin Basic Life Support Shock procedures.
  2. If a tension pneumothorax is suspected, perform Needle Decompression. (See Appendix O.)
  3. Begin rapid IV/Saline Lock infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) via one to two large bore (14 - 16) gauge catheters, up to 3 liters, via a macro-drip.
  4. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
  5. If transportation of the patient is delayed or extended and/or the above measures fail to maintain or improve hemodynamic status, contact Medical Control ~~for implementation of one or more of the following MEDICAL CONTROL OPTIONS:~~
-

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**520**

**TRAUMATIC CARDIAC ARREST**

NOTE: IN PATIENTS IN TRAUMATIC CARDIAC ARREST, RAPID TRANSPORT IS THE HIGHEST PRIORITY!

1. Begin transportation of the patient and other Basic Life Support Traumatic Cardiac Arrest procedures.
  2. If a tension pneumothorax is suspected, perform Needle Decompression. (See Appendix O.)
  3. Perform Endotracheal Intubation if other methods of airway control are not effective.
  4. Excluding patients with penetrating chest trauma, begin cardiac monitoring, record and evaluate EKG rhythm. If the EKG demonstrates ventricular fibrillation or pulseless ventricular tachycardia, while in route, treat as per protocol 503A.
  5. Begin rapid IV/IO/Saline Lock infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) via one or two large bore (14 -16 gauge) catheters, up to 3 liters, via a macro-drip.
  6. If transportation of the patient is delayed or extended and/or the above measures fail to improve hemodynamic status, contact Medical Control ~~for implementation of one or more of the following MEDICAL CONTROL OPTIONS:~~
-

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**521**

**HEAD INJURIES**

In patients with head trauma with a Glasgow Coma Scale (GCS) score of 13 or lower

1. Begin Basic Life Support Head and Spine Injuries procedures.
2. Perform **Advanced Airway Management** in patients for whom the Glasgow Coma Scale score is less than 8 **AND if less invasive methods of airway management are not effective.**  
Begin Cardiac Monitoring, record and evaluate EKG rhythm. **4. Begin an IV infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.**
5. If a seizure is witnessed:
  - a. Administer Lorazepam 2 mg, IV/Saline Lock bolus, or, if IV access is unavailable, IN or IM. A single repeat dose of Lorazepam 2 mg, may be given after 5 minutes if seizure activity persists or recurs.  
OR
  - b. Administer Diazepam 5 mg, IV/Saline Lock bolus. A single repeat dose of Diazepam 5 mg, IV/Saline Lock bolus, may be given if seizure activity persists or recurs. (Rate of administration may not exceed 5 mg/min.)  
OR
  - c. Administer Midazolam 10 mg, IM or IN, if IV access is unavailable.
6. If the Glasgow Coma Scale (GCS) score is less than 8, and active seizures or one or more of the following signs of brain herniation are present, hyperventilate the patient to maintain a continuous end-tidal waveform capnography value between 30-35mmHg:
  - a. Fixed or asymmetric pupils
  - b. Abnormal flexion or extension (neurologic posturing)
  - c. Hypertension and bradycardia (Cushing's Reflex)
  - d. Intermittent apnea (periodic breathing)
  - e. Further decrease in GCS score of 2 or more points (neurologic deterioration)
7. If seizure activity persists, contact Medical Control for implementation of one or more of the following **MEDICAL CONTROL OPTIONS:**

**MEDICAL CONTROL OPTIONS:**

**OPTION A:** Repeat Lorazepam 2 mg, IV/Saline Lock bolus, or, if IV access is unavailable, IN or IM.

OR

Repeat Diazepam 5 mg, IV/Saline Lock bolus. (Rate of administration may not exceed 5 mg/min.)

OR

Repeat Midazolam 10 mg, IN or IM, if IV access is unavailable.

**OPTION B:** Transportation Decision.

*\* If the patient is alert prior to performing endotracheal intubation, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required*

**ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS**

**528**

**BURNS**

**(ADULT & PEDIATRIC PATIENTS)**

1. Begin Basic Life Support Burns procedures.
2. If there is evidence of burns to the upper airway or upper airway compromise is anticipated, perform Endotracheal Intubation\*.
3. For patients with electrical burns, begin Cardiac Monitoring, record and evaluate the EKG rhythm.
4. Begin Pulse Oximetry monitoring.
5. Begin an IV infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) up to 2 liters, via a macro-drip, if transport is delayed or extended.
6. For patients who are experiencing severe pain due to the burn injury:
  - a) For patients with a systolic blood pressure greater than 110mmHg, administer Morphine Sulfate 0.1mg/kg (not to exceed 5mg), IV/Saline Lock bolus. For continued pain, repeat dose of 0.1mg/kg (not to exceed 5mg) may be repeated five minutes following the initial dose. (Maximum total dose is 10mg.)

---

NOTE: IF HYPOVENTILATION DEVELOPS, ADMINISTER NALOXONE UP TO 2 MG, IV/IN/SALINE LOCK BOLUS.

THE ADMINISTRATION OF NARCOTIC ANALGESICS IS CONTRAINDICATED IN PATIENTS WITH BURNS INVOLVING THE FACE AND/OR AIRWAY.

---

**MEDICAL CONTROL OPTIONS:**

**OPTION A: For hypotensive patients, administer Fentanyl (1 mcg/kg to max 100 mcg), "if available".**

**OPTION BA:** Transportation Decision.

---

\* If the patient is alert prior to performing Endotracheal Intubation, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.

ADVANCED EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC) PROTOCOLS

529

PAIN MANAGEMENT FOR ISOLATED EXTREMITY INJURY  
(ADULT & PEDIATRIC PATIENTS)

For patients with isolated extremity injury, if there is severe pain

1. Begin Basic Life Support Procedures.
2. Begin cardiac monitoring. Record and evaluate rhythm.
3. Begin Pulse Oximetry monitoring.
4. Begin an IV/Saline Lock infusion of Normal Saline (0.9% NS) at a KVO rate.
5. Monitor vital signs every 5 minutes.
6. For patients with a systolic blood pressure greater than 110 mmHg, administer Morphine Sulfate 0.1 mg/kg (not to exceed 5 mg), IV/Saline Lock bolus. For continued pain, repeat dose of 0.1 mg/kg (not to exceed 5 mg) may be administered. (Maximum total dose is 10 mg).

---

NOTE: IF HYPOVENTILATION DEVELOPS, ADMINISTER NALOXONE UP TO 2 MG, IV/IN/SALINE LOCK BOLUS.

---

**MEDICAL CONTROL OPTIONS:**

**OPTION A: For hypotensive patients, administer Fentanyl (1 mcg/kg to max 100 mcg), “if available”.**

**OPTION BA:** Transportation Dec