Regional Emergency Medical Advisory Committee of New York City
Prehospital Treatment Protocols (GOP v05012014C)

These General Operating Procedures Apply to All Levels of Prehospital Providers Unless Stated Otherwise

PURPOSE

The Regional Emergency Medical Advisory Committee (REMAC) of New York City Prehospital Treatment Protocols define the minimum standard of care provided to patients by Certified First Responders (CFRs), Emergency Medical Technicians (EMTs) and Advanced Emergency Medical Technicians-Paramedic (AEMT-Ps) in New York City. These protocols reflect both the curriculum and certification requirements of the New York State Department of Health Bureau of Emergency Medical Services and the Regional Emergency Medical Advisory Committee (REMAC) of New York City, and have been endorsed by the Regional Emergency Medical Services Council of New York City. These protocols are guidelines that should be used in conjunction with good clinical judgment.

SCOPE

These protocols apply to all CFRs, EMTs and AEMT-Ps who are certified by the New York State Department of Health and by the Regional Emergency Medical Advisory Committee (REMAC) of New York City, including supervisory and administrative personnel, operating within the New York City region.

RESPONSIBILITIES

CFRs, EMTs and AEMT-Ps shall provide appropriate care in accordance with these Prehospital Protocols as indicated by the patient’s complaint and/or condition without exceeding the limit of their training.

MEDICAL CONTROL AT THE SCENE

In accordance with Article 30 of the New York State Public Health Law, the Regional Emergency Medical Services Council is responsible for the coordination of emergency medical services within the region. In accordance with Article 30 of the New York State Public Health Law, the Regional Emergency Medical Advisory Committee (REMAC) is responsible for the medical oversight of the emergency medical service system within the region.

In accordance with the Regional Protocol on Coordination of Prehospital Resources, the highest level prehospital provider from the EMS Agency which first arrives at the scene of a prehospital medical emergency is responsible for coordination of patient care resources at the scene. In accordance with the Regional Protocol on Coordination of Prehospital Resources, when a NYC “911” participating EMS Agency is not the first EMS Agency on the scene and is not acting in the role of the primary care provider, it shall act as an operational resource for information regarding hospital diversions, specialty referral center bed availability, and other specialized resources, as well as incident scene safety...
(e.g., environmental conditions, crowd/traffic control in the absence of NYPD, potentially dangerous patient or family member to self and/or others).

The Fire Department, City of New York (FDNY) is responsible for coordination of patient care resources at the scene of Multiple Casualty Incidents (MCIs), unscheduled MEDEVAC transports, Hazardous Material (HAZMAT) situations which require decontamination, fires/crimes in progress or unusual public health or safety emergencies. At the point that FDNY assumes operational responsibility for coordination of prehospital resources, incident command procedures are in effect. (See “Coordination of Prehospital Resources Protocol”).

In all cases where EMTs are present at the scene of a medical emergency and AEMT-Ps are not present, EMTs are responsible for medical control at the scene. EMTs shall assume medical control at the scene if CFRs are present; CFRs shall assume medical control at the scene until the arrival of EMTs. AEMT-Ps shall assume medical control at the scene if AEMT-Ps and EMTs and/or CFRs are present. On calls where AEMT-Ps encounter multiple patients requiring Advanced Life Support treatment and the Transportation Decision requires the use of available Basic Life Support units, any Advanced Life Support protocols initiated by the AEMT-Ps should continue enroute as long as an AEMT-P is attending the patient.

AEMT-Ps may release patients not having received or not requiring Advanced Life Support care to Basic Life Support personnel for care and transportation to a medical facility. However, under no circumstances shall an AEMT-P or EMT transfer responsibility for patient care to a CFR once patient care has been initiated by an AEMT-P or EMT. This does not relieve CFRs of their patient care responsibilities.

AEMT-P/EMT CFR medical control includes, but is not limited to, decisions involving patient care, movement, and transportation, in accordance with scope of practice, these protocols, and agency policy.

If a prehospital care provider receives an order from a public safety official that is detrimental to the patient’s condition, contrary to good patient care, or in violation of these Protocols or agency policy, the crew shall inform the official of such and continue providing appropriate care.

If the official persists, the crew shall request a prehospital care supervisor from the appropriate agency to respond to the scene.

Upon completion of the assignment, the crew shall prepare a written statement and forward it to the Regional Emergency Medical Advisory Committee via appropriate supervisory personnel.

Physicians providing Direct Medical Control at the scene as part of an organized response to a medical emergency by an EMS System/Agency must be credentialed by the EMS System/Agency to provide On-Line Medical Control. Such physicians must be credentialed by REMAC as On-Line Medical Control Physicians, and must limit the provision of Direct Medical Control to the scope of practice described in these protocols.

NOTE: Under no circumstances may CFRs, EMTs, and AEMT-Ps provide emergency treatment that exceeds the limit of their training.

Physicians providing Direct Medical Control at the scene must have their names, and New York State License Numbers or REMAC On-Line Medical Control Physician Numbers documented on the Prehospital Care Report (PCR) / Ambulance Call Report (ACR).
NOTE: Under no circumstances may physicians provide direct medical control to CFRs, EMTs, and AEMT-Ps outside of the EMS system/agency that credentials them.

In the event that a physician who is not credentialed by REMAC but appropriately identifies himself/herself appears at the scene and only wishes to intervene in Basic Life Support care, the EMTs/AEMT-Ps will present the physician with a document outlining the agency's policy regarding "Non-Solicited Medical Intervention". The on-scene physician's requests concerning emergency care and movement of the patient should be followed provided they do not conflict with Basic Life Support Standing Orders, policies and procedures. The on-scene physician's name and address shall be noted in the comment section of the PCR/ACR. If any conflicts arise with the on-scene physician, the EMTs/AEMT-Ps shall contact Medical Control and proceed as directed.

In the event that a physician who appropriately identifies himself/herself appears at the scene and also wishes to intervene in Advanced Life Support care, the AEMT-P will present the physician with a document outlining the agency's policy regarding "Non-Solicited Medical Intervention", and must contact Medical Control to approve the AEMT-P taking orders from the physician. If granted approval, the on-scene physician's requests concerning emergency care and movement of the patient should be followed provided they are confined to Advanced Life Support Standing Orders and Medical Control Options contained in the appropriate protocol. In such cases, the on-scene physician may not order Discretionary Decisions. The on-scene physician's name and address and Regional Emergency Medical Advisory Committee (REMAC) of New York City Medical Control number (if applicable) shall be noted in the comment section of the PCR/ACR. If any conflicts arise with the on-scene physician, the EMTs/AEMT-Ps shall contact Medical Control (if available) and proceed as directed. If the AEMT-P is unable to establish contact with Medical Control, the AEMT-P, at his/her option, may follow directions from the on-scene physician within the context of the protocols.

In the event that any licensed health care professional other than a physician appears at the scene and wishes to direct AEMT-P care, the AEMT-P is to maintain responsibility for the care of the patient.

SCENE SAFETY

It is the responsibility of the CFRs/EMTs/AEMT-Ps to evaluate and judge the scene with regard to safety. Safety factors include, but are not limited to, environmental conditions, crowd/traffic control, potentially dangerous patient or family member to self and/or others, Hazardous Material (HAZMAT) situations, fires/crimes in progress, or unusual public health or safety emergencies. Such conditions may be a threat to the health or safety of CFRs/EMTs/AEMT-Ps, patients, and other persons at the scene. CFRs/EMTs/AEMT-Ps must use caution in situations that they are not trained or equipped to handle.

In accordance with the Regional Procedure on Coordination of Prehospital Resources, CFRs/EMTs/AEMT-Ps may use a NYC “911” system participating agency as an operational resource for incident scene safety (e.g., environmental conditions, crowd/traffic control in the absence of NYPD, potentially dangerous patient or family member to self and/or others); and must notify FDNY in situations involving Multiple Casualty Incidents (MCIs), unscheduled MEDEVAC transports, Hazardous Material (HAZMAT) situations which require decontamination, fires/crimes in progress, or
unusual public health or safety emergencies. (See "Coordination of Prehospital Resources Protocol").

**REQUESTING ADDITIONAL ASSISTANCE**

When CFRs respond to an assignment where the patient's condition requires further treatment and/or transport, additional assistance should be requested as soon as possible.

When EMTs respond to an assignment where the patient's condition requires Advanced Life Support, EMTs should request Advanced Life Support assistance as soon as possible.

**INITIATING TRANSPORT**

When CFRs, EMTs and AEMT-Ps are on the scene of an assignment and requesting advanced life support, other medical assistance, or ambulance transport, patient transport procedures should begin in accordance with their level of training. For non-transporting EMS Agencies, ambulance transport should begin once an appropriate transport vehicle from the designated transporting agency is available.

When EMTs are on the scene of an assignment and requesting Advanced Life Support assistance, transport procedures should begin. If the time of arrival of Advanced Life Support exceeds the time to the hospital, transport from the scene should not be delayed unless otherwise specified in a particular protocol.

**TRANSPORTATION PROCEDURES AND DECISIONS**

The term “Transport” appears throughout the Basic Life Support Protocols. The term “Transportation Decision” appears throughout the Advanced Life Support Protocols. These terms encompass all of the following Basic Life Support Transportation Procedures and Advanced Life Support Transportation Decisions:

**NOTE:** Patients with an unmanageable airway must be taken to the nearest New York City 911 system ambulance destination emergency department.

**Basic Life Support Transportation Procedures**

- Manner of extrication, when required, and preparation of the patient for transport;
- Safe conveyance of the patient from the scene to the ambulance on appropriate equipment in an appropriate position;
- Transportation of the patient in a properly equipped ambulance in accordance with current staffing policies of the Regional Emergency Medical Advisory Committee (REMAC) of New York City;
Advanced Life Support Transportation Decisions
- Timing of transport in consultation with Medical Control (e.g., before, during or after Medical Control Options and/or Discretionary Decisions);
- Designation of another unit to transport the patient (e.g., Basic Life Support unit, mortuary unit).

Once appropriate treatment has been initiated in accordance with these protocols, and an Advanced Life Support Decision has been made if appropriate, EMTs/AEMT-Ps should transport the patient as soon as possible to the nearest appropriate hospital:

Acute Stroke
If the historical/physical findings indicate an acute stroke, transport the patient to the nearest NYS DOH designated Stroke Center (See Appendix R, Stroke Patient Criteria), unless one of the following conditions is met:
- The patient is in cardiac arrest;
- The patient has other medical conditions that warrant transport to the nearest appropriate hospital emergency department as per protocol;
- The total time from when the patient’s symptoms and/or signs first began to when the patient is first assessed by EMS is greater than three and one half (3 ½) hours;
- An on-line medical control physician so directs.

Major Trauma
If the mechanism of illness/injury and/or historical/physical findings indicate major trauma, transport the patient to the nearest New York City 911 System Trauma Center (see Appendix F), unless one of the following conditions is met:
- The patient is in cardiac arrest;
- An on-line medical control physician so directs.

Major Burns
If the mechanism of illness/injury and/or historical/physical findings indicate major burns, transport the patient to the nearest New York City 911 System Burn Center (see Appendix G), unless one of the following conditions is met:
- The patient also has major trauma;
- The patient is in cardiac arrest;
- An on-line medical control physician so directs.
• The event is declared a Burn MCI by FDNY-EMS, NYCOEM, NYSDOH, or NYCDOHMH in which case patients may be transported to New York City Burn Disaster Receiving Hospitals (BDRH) as per NYC Burn Disaster Plan (Refer to Appendix S)

NOTE: Patients with major burns and major trauma must be taken to the nearest New York City 911 system trauma center.

STEMI (ST Elevation) / Myocardial Infarction

For all adults, if the historical / physical findings indicate an acute myocardial infarction, and the 12 lead EKG reveals 1 mm ST elevation in 2 or more contiguous leads; transport the patient to the closest 24 hour NYS certified interventional cardiac catheterization facility, as per medical control, unless one of the following conditions is met:

• The patient has other medical conditions (Trauma, Burn, CVA) that warrant transport to the closest appropriate hospital emergency department as per protocol.

EMS Notification to a STEMI Center: Those patients with ST elevation ≥2mm should be noted as DIRECT REFERRAL.

Specialty Care

If the mechanism of illness/injury and/or historical/physical findings indicates a need for another type of specialty care, transport the patient to the nearest New York City 911 Ambulance Receiving Facility with the specialty care capability. These capabilities may include:

• hyperbaric care,
• replantation capability,
• interventional cardiology for specific cases,
• left ventricular assist device (LVAD) care
• venomous bite care,
• sexual assault care,
• child abuse and neglect or
• other such specialty care that may be required.

See Appendix H for lists of facilities and the specialty care available.

Other Care

If the mechanism of illness/injury and/or historical/physical findings do not indicate major trauma or burns or a need for these other types of specialty care, the patient must be transported to the nearest New York City 911 System Ambulance Destination Emergency Department (see Appendix I), unless one of the following conditions is met:
The patient remains stable or potentially unstable throughout transport, and the patient requests transport to an alternative destination, and the estimated transport time to the alternative destination is less than or equal to an additional ten minutes;

The patient requires specialty care as described above that is available at an alternative destination, but is unavailable at the nearest New York City 911 System Ambulance Destination Facility, or an on-line medical control physician so directs.

NOTE: Patients who become critical or unstable must be transported to the nearest New York City 911 system ambulance destination emergency department.

CARDIOPULMONARY RESUSCITATION

Basic Cardiac Life Support in adults, children, infants, and newborns, when not specifically described in these protocols, should 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:

CPR should be initiated on all patients who are not breathing (apneic) and pulseless unless one of the following conditions exists:

- Extreme dependent lividity;
- Rigor mortis;
- Tissue decomposition;
- Obvious mortal injury; or
- A valid Do Not Resuscitate (DNR) order and/or MOLST is present. (See Appendix C)

NOTE: Terminal illness is not a contraindication to CPR.

NOTE: Cardiac arrests secondary to drowning, hanging, electrocution, and smoke inhalation / cyanide toxicity should be treated as MEDICAL in nature. While addressing traumatic injuries (e.g., c-spine immobilization, hemorrhage control), emphasis should be given to high quality CPR and interventions as specified in the Non-Traumatic Cardiac Arrest protocols, and, when appropriate, in the Smoke Inhalation and Cyanide Exposure protocols.

CPR should also be initiated in newborns, infants, and children under 9 years of age with heart rates less than 60 (severe bradycardia) and signs of inadequate central (proximal) perfusion (decompensated shock).

NOTE: CPR is necessary in unconscious newborns, infants, and children under 9 years of age with extremely slow heart rates and poor vital organ perfusion to ensure adequate circulation to the heart, lungs, and brain.

CPR should be continued until one of the following occurs:

- Spontaneous circulation has been restored;
- Resuscitative efforts have been transferred to providers of equal or higher level of training;
A qualified, licensed physician assumes responsibility for the outcome of the patient;
The crew is exhausted to the point of not being able to continue resuscitative efforts.

AIRWAY MANAGEMENT

All patients require continuous monitoring of their airways to ensure airway patency. Wherever the term "Monitor Airway" is used throughout these protocols, the following elements shall be utilized:

- Position of the patient’s head
- Need for airway adjuncts
- Need for oropharyngeal suctioning
- Need for Advanced Life Support airway management techniques
- Use of Pulse Oximetry ($S_{p}O_2$):
  - Mandatory for Advanced Life Support
  - Optional for Basic Life Support
- Use of End Tidal Capnography (ETCO$_2$)
  - Mandatory for Advanced Life Support

NOTE: Whenever Advanced Airway Management is implemented, the use of continuous end-tidal waveform Capnography is mandatory.

OXYGEN ADMINISTRATION

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).

NOTE: Do not use a demand valve resuscitator due to the possibility of causing severe, life-threatening complications.

Adult patients who require supplemental oxygen should receive high concentration oxygen via a non-rebreather mask set at 10 to 15 liters per minute. The reservoir bag must remain at least one-third full following inspiration. If a mask is not tolerated by the patient, a nasal cannula set at 6 liters per minute should be used and such use properly documented.

Patients who are chronically maintained on oxygen and do not require high concentration oxygen shall be administered oxygen at their prescribed rate of flow.

NOTE: There is no reason to withhold high concentration oxygen when required in adult patients.
For Adult patients with signs of on-going hypoxia, inability to adequately protect their airway, and/or exhibiting signs of inadequate respiration, assisted ventilations may be required. This should be done utilizing one of the following methods:

- Pocket mask with supplemental oxygen set at 10-15 liters/minute.
- Bag-Valve-Mask and reservoir with flow set at 10-15 liters/minute.

Pediatric patients who require oxygen should receive high concentration oxygen via the mask that best fits around the mouth and nose, preferably a non-rebreather mask. Humidified oxygen is preferred. If a mask is not tolerated, then "blow by" oxygen is acceptable.

**NOTE:** **High concentration oxygen should always be used in pediatric patients.**

Pediatric patients exhibiting signs of respiratory failure require assisted ventilations via a mask that completely covers the mouth and nose, but not the eyes. This shall be done utilizing one of the following methods:

- Pocket mask with supplemental oxygen set at 10-15 liters/minute;
- Bag-Valve-Mask and reservoir with flow set at 10-15 liters/minute;

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**DEFINITION OF COMPENSATED SHOCK**

Any adult patient having a **systolic** blood pressure **above** 90 mm Hg and exhibiting signs of inadequate perfusion, which may include:

- Altered mental status (e.g., agitation, confusion);
- Increased Pulse Rate (Tachycardia);
- Pale Skin (Pallor);
- Cool, Clammy Skin (Diaphoresis);
- Orthostatic vital sign changes (EMT and AEMT-P only)

Any pediatric patient with signs of inadequate **peripheral** (distal) perfusion, which may include:

- Altered mental status (e.g., agitation, confusion);
- Increased Pulse Rate (Tachycardia);
- Pale Skin (Pallor);
- Cool, cyanotic lower extremities;
- Delayed capillary refill;
- "Blotchy" Skin (Mottling);
- Weak or absent **peripheral** (distal) pulses (radial, tibial, pedal).

**NOTE:** The definition of shock in the pediatric patient does not depend upon blood pressure.
**Definition of Decompensated Shock**

Any adult patient having a *systolic* blood pressure **below** 90 mm Hg **and** exhibiting signs of inadequate perfusion, which may include:

- Altered mental status (e.g., lethargy, coma);
- Increased Pulse Rate (Tachycardia);
- Pale Skin (Pallor);
- Cool, Clammy Skin (Diaphoresis);

Any pediatric patient having a *systolic* blood pressure **below** 70 mm/Hg + 2x age in years, **or** the following signs of inadequate *central* (proximal) perfusion:

- Altered mental status (e.g., lethargy, coma);
- Extensive cyanosis of all extremities;
- Weak or impalpable *central* (proximal) pulses (femoral, brachial, carotid).

**Control of External Bleeding**

Whenever the term "Control external bleeding" is used throughout these protocols, the following elements must be considered:

- Application of direct pressure with a sterile dressing.
- Application of a pressure dressing/bandage.
- If a severe extremity hemorrhage cannot be controlled by direct pressure, apply a tourniquet (Protocol 426) (see Appendix T).

**Medication Administration**

CFRs, EMTs and AEMT-Ps may allow a patient to self-administer the patient’s own medication as prescribed by the patient’s physician.

**Maintenance of IVs by EMT-Basics**

According to NYS Department of Health EMS Policy # 04-02 (issued 02/26/04) it is allowable for an EMT-B to transport a patient with a secured saline lock device in place as long as no fluids or medication are attached to the port. However, the EMT-B must ensure the venous access site is secured and dressed prior to leaving the health care facility.
Suspected Child/Spouse/Elder Abuse

Whenever child, spouse, or elder abuse is suspected, visually assess the scene for evidence of possible abuse, and record all appropriate information on the PCR/ACR. In addition to the written report, make a verbal report summarizing the above to the responsible medical personnel upon arrival at the Emergency Department.

New York State Social Services Law considers EMTs and AEMT-Ps, but not CFRs, to be mandatory child abuse reporters under New York State Social Services Law. Failure to report suspected cases of child abuse to the New York State Child Abuse and Maltreatment Register (“State Central Register”) may subject the EMT or AEMT-P to liability for criminal and civil prosecution and penalties. Notification of suspected child abuse is to be accomplished in accordance with agency policy. The State Central Register may be contacted by telephone at 1-800-635-1522.

NOTE: Do not delay transport to obtain the information needed to complete the above reports. Do not make accusatory, confrontational, angry or threatening statements to the parties present, or attempt to conduct an investigation at the scene.

Abandoned Infant Protection Act

New York State Social Services Law states that infants five days of age or younger may be abandoned by their parents or caretakers in a suitable safe location, such as a hospital, ambulance, police station, or fire house, or with an appropriate person. Some of these parents or caretakers may wish to remain anonymous, but if they offer their name and address, they should be recorded in the comment section of the PCR/ACR.

If an infant is abandoned to the care of a CFR, EMT, or AEMT-P, the CFR, EMT, or AEMT-P should refer to the Regional Protocol on Care of the Newly Born, if appropriate, and transport the infant to the nearest appropriate hospital. The parents or caretakers should be informed of the hospital destination, and told they may contact the hospital for further information should they wish to do so.

NOTE: The Abandoned Infant Protection Act does not relieve the EMT or AEMT-P of the responsibility to report such abandonment to the New York State Child Abuse and Maltreatment Register (“State Central Register”). The State Central Register may be contacted by telephone at 1-800-635-1522.

The Abandoned Infant Protection Act does provide the parent or caretaker with an acceptable defense against prosecution for infant abandonment.

Pediatric Patients

Any patient 14 years of age shall be considered an adult patient, and the appropriate protocols shall be used. To further define pediatric patients, the following age separations shall be used:

- Premature – birth prior to the eighth month of gestation;
- Neonate – Immediately following birth;
- Infant – from birth to 1 year;
Child – from 1 year to less than 14 years of age.

Avoid agitating pediatric patients. Conducting an assessment or treatment procedure, which is not tolerated by the patient, may provoke or increase respiratory distress.

Obtaining a blood pressure is not necessary when it agitates the patient or delays transport.

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.

Every attempt should be made to keep pediatric patients warm during transport.

If an appropriate pediatric protocol does not exist, follow the adult protocol that would be indicated.

**NOTE:** Use infant or child techniques and rates for CPR and assisted ventilations in pediatric patients under 9 years of age

Automated external defibrillation should not be delayed or withheld for any reason in patients under 9 years of age who present with non-traumatic cardiac arrest.

**MINORS**

A person under the age of 18 is a minor. Any minor with a life-threatening condition should be treated and transported without delay. A minor may request or refuse treatment without parental consent under the Laws of Emancipation if the minor:

- Is a mother;
- Is married;
- Has left home and is self-supporting;
- Is enlisted in the Armed Forces;
- Is requesting treatment for a sexually transmitted disease, drug abuse, or child abuse.

Minors are considered emancipated only during the period when they can be placed into one of the above categories.

**NOTE:** Patients categorized as minors who are 14 years of age or older shall be treated under the adult protocols.
STANDARD APPROACH TO THE PATIENT

1. Perform Initial Scene Survey.
   
   NOTE: Refrain from making direct contact with patients exposed to hazardous materials until they have been decontaminated.

2. Initiate Basic Cardiac Life Support, if appropriate.

3. Perform Initial Assessment (Primary Survey). (See Appendix B.)

4. Administer oxygen, if appropriate.

5. Monitor breathing for adequacy.

6. Determine if Advanced Life Support assistance is required.

7. Obtain at least two sets of vital signs and monitor as necessary.
   
   NOTE: Obtaining vital signs should not interfere with treatment or delay transport of the critically ill or injured patient.

8. Obtain a focused medical history.

9. Complete the detailed physical examination as the patient's condition dictates.

10. Treat the patient according to the appropriate REMAC of New York City protocol(s).

11. Provide continuous emotional support.

12. Maintain body temperature.

13. Transport the patient as soon as possible to the nearest appropriate facility.

14. Patients may be removed to the ambulance by stair chair, scoop stretcher, long board, ambulance cot, or other appropriate means.
   
   NOTE: The method of transportation should not aggravate the patient's condition or injuries.

   For trauma patients, immediate transport is a priority!

15. Monitor and continue patient care enroute to the hospital, unless relieved by a provider with a higher level of training.

16. Document all findings and information, as they pertain to patient condition or care, on the PCR/ACR.
The following General Operating Procedures Apply To Paramedics (AEMT-P) Only

**INTERPRETATION OF PROTOCOLS**

The Advanced Life Support (Paramedic) Treatment Protocols are for the use of the AEMT-P in the field and the Medical Control physician. They have been developed to ensure high quality, standardized prehospital emergency medical care. The protocols are specific for Advanced Life Support treatment. Patient assessment and Basic Life Support treatment have not been enumerated herein. However, they are the foundation upon which these protocols are based, and are always to be performed as necessary. All references to Basic Life Support procedures refer to the appropriate Regional Emergency Medical Advisory Committee (REMAC) of New York City Basic Life Support Treatment Protocols.

**STANDING ORDERS**

Standing Orders may be performed without contacting Medical Control. However, Medical Control may be used as a resource at any time prior to the implementation or completion of Standing Orders.

Unless specific conditions are outlined in a protocol, Endotracheal Intubation may be performed under Standing Orders whenever it is required for advanced airway management. Other methods of advanced airway management (e.g., Dual Lumen Esophageal/Tracheal Intubation) are permitted as an alternative to Endotracheal Intubation provided that they have been approved by the Regional Emergency Medical Advisory Committee (REMAC) of New York City.

**BLOOD DRAWING**

Blood drawing by AEMT-Ps in the field is no longer routinely performed, but is permitted at the discretion of the EMS Agency Medical Director.

**MEDICAL CONTROL OPTIONS**

Medical Control Options require contact with Medical Control prior to their implementation. Once Medical Control has been contacted, only those options listed in the particular protocol(s) being utilized may be considered.
PREHOSPITAL SEDATION

Definition of Prehospital Sedation:
Prehospital sedation is a fully monitored pharmacologic intervention applied in instances where conscious patients may need short-term analgesic and/or anxiolytic therapy for procedures that may be painful or anxiety producing, such as Endotracheal Intubation, Synchronized Cardioversion, and Transcutaneous Pacing. Prior permission from Medical Control is required.

Indications for Prehospital Sedation:
Conscious patients requiring Endotracheal Intubation

a) Administer Diazepam 5 – 10 mg, IV/Saline Lock bolus. Repeat doses of Diazepam 5 – 10 mg, IV/Saline Lock bolus, may be given as necessary. (Maximum total dosage is 20 mg.)

OR

b) Administer Midazolam 1 – 2 mg, IV/IN/Saline Lock bolus. Repeat doses of Midazolam 1 mg, IV/IN/Saline Lock bolus, may be given as necessary. (Maximum total dosage is 5 mg.)

OR

c) Administer Etomidate 0.3 mg/kg, IV/Saline Lock bolus, over 30-60 seconds. (Maximum total dose is 40 mg.) After successful intubation, administer Diazepam 5 mg IV/Saline Lock bolus or Lorazepam 2 mg, IV/Saline Lock or IM, for continued sedation.

d) Administer oxygen by nasal cannula at maximum flow rate during laryngoscopy and intubation.

Conscious patients requiring Synchronized Cardioversion OR Transcutaneous Pacing

a) Administer Diazepam 5 – 10 mg, IV/Saline Lock bolus. Repeat doses of Diazepam 5 – 10 mg, IV/Saline Lock bolus, may be given as necessary. (Maximum total dosage is 20 mg.)

OR

b) Administer Midazolam 1 – 2 mg, IV/IN/Saline Lock bolus. Repeat doses of Midazolam 1 mg, IV/IN/Saline Lock bolus, may be given as necessary. (Maximum total dosage is 5 mg.)

OR

c) For synchronized Cardioversion only, administer Etomidate, 0.15mg/kg, IV/Saline Lock bolus. (Maximum total dose is 10mg.)

NOTE: Patients receiving prehospital sedation must be continuously administered high concentration oxygen and must be continuously monitored using cardiac monitoring and pulse oximetry.
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-cardiac arrest situation, the use of alternative airways is not allowed.

In the cardiac 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.

NOTE: Nasal intubation is considered to be an unacceptable form of airway management within the New York City region.

DEFINITION OF STABLE DYSRHYTHMIAS

For the purpose of these protocols, a stable dysrhythmia is defined as follows:
- Any adult patient having a dysrhythmia NOT associated with signs of hypoperfusion
- Any pediatric patient having a dysrhythmia NOT associated with depressed mental status and absent peripheral pulses and/or hypotension, i.e., decompensated shock.

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);

Any pediatric patient having a dysrhythmia associated with:
- Depressed mental status and absent peripheral pulses
- Hypotension (systolic blood pressure BELOW 70 mm Hg + [2x age in years]), i.e., decompensated shock.
**Discretionary Decisions**

These protocols should be considered as the “model” guidelines by which all patients should be treated. Since patients do not always fit into a rigid formula approach, situations may occur which do not fit these guidelines. For patients who do not fit into a rigid formula approach, or where there is no existing protocol and a clear need for Advanced Life Support exists, the term “Discretionary Decision” shall be utilized between the AEMT-P and the Medical Control physician.

The AEMT-P shall initiate appropriate therapy (oxygen administration, cardiac monitoring, intravenous access, and/or transportation) and should contact Medical Control in order to differentiate the most emergent clinical problem and define the most suitable therapy. At that time, the Medical Control physician shall order the most appropriate treatment within the AEMT-P’s scope of practice. AEMT-Ps should not exceed their level of training while carrying out a Discretionary Decision.

*Discretionary decisions may include, but are not limited to:*

- Use of drugs contained in the REMAC Formulary at doses other than those described in the protocols, for specific reasons that must be documented both by the AEMT-P administering the drug and the On-Line Medical Control Physician prescribing it, e.g., high dose Furosemide for acute pulmonary edema,

- Use of drugs contained in the REMAC Formulary for purposes other than those described in the protocols, for specific reasons that must be documented both by the AEMT-P administering the drug and the On-Line Medical Control Physician prescribing it, e.g., high dose Atropine for organophosphate poisoning.

**Communications with Medical Control Facilities**

In the event of failure of voice contact with Medical Control, AEMT-Ps will perform only those procedures which come under Standing Orders and will be required to transport the patient.

**Endotracheal Drug Administration**

Endotracheal drug administration is no longer the standard of care for adult patients in this region. Endotracheal drug administration continues to be an option for pediatric patients.

**Intraosseous (IO) Access and Drug Administration**

In cases of adult cardiopulmonary arrest or patients in decompensated shock, in which IV access is unable to be obtained after no more than two attempts, IO access should be attempted via an approved extremity approach. Drug administration via this route will utilize doses identical to those used for IV administration. IO access via the sternum is considered to be unacceptable in the NYC region.
1. If intraosseous access is established on a conscious patient, administer 0.5 mg/kg of 2% preservative-free Lidocaine via IO port, slowly over 2-3 minutes, up to a maximum of 50 mg prior to any other administration.

2. For continued discomfort or pain due to infusion repeat 0.25 mg/kg Lidocaine via IO port, slowly over 30 seconds, up to a maximum of 25 mg.

**NOTE:** When administering 2% preservative-free Lidocaine, it must be infused slowly to prevent it from being sent directly into the central circulation. Medications intended to remain in the medullary space, such as a local anesthetic, must be administered very slowly until the desired anesthetic effect is achieved.

**NOTE:** Drug administration via IO route will utilize doses identical to those used for IV administration.

IO access via the sternum is considered to be unacceptable in the NYC region.

**INTRANASAL (IN) DRUG ADMINISTRATION**

In the absence of intravenous access, the following medications are approved for intranasal administration when an appropriate atomizer device is available: Glucagon, Fentanyl, Lorazepam, Midazolam, and Naloxone. The route of administration is contraindicated in patients with epistaxis.

**PHARMACOLOGY TABLE**

The following are recommended doses for adult patients fourteen (14) years of age and older and under 40 kg in weight:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiodarone</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>Atropine Sulfate</td>
<td>0.02 mg/kg (minimum dose 0.1 mg)</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>0.01 mg/kg/dose</td>
</tr>
<tr>
<td>Furosemide (Lasix)</td>
<td>1 mg/kg/dose</td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>1 mEq/kg/dose</td>
</tr>
</tbody>
</table>

**NOTE:** The dose of Epinephrine 1:1,000 should not exceed 0.3 mg, IM.

**NOTE:** Dosing should not exceed dose from appropriate adult protocol.
General Operating Procedures

Drug Advisory Guidelines

**Aspirin** should **not** be administered to patients with known hypersensitivity to aspirin. Gastrointestinal complaints are **not** a contraindication to aspirin administration.

**Ondansetron** has been associated with prolongation of the QT interval, possibly resulting in Torsades de Pointes. Therefore, this drug should be used with caution in patients with a history of cardiac disease and those taking other medications known to prolong the QT interval. This drug should not be administered to patients with a history of familial QT prolongation.

**Diphenhydramine Hydrochloride** has an atropine-like action and must be used with caution in patients with a history of increased intraocular pressure, hyperthyroidism, cardiovascular disease, and/or hypotension.

**Normal Saline (0.9 NS)** may be used interchangeably with **Ringer’s Lactate (RL)** for intravenous or intraosseous infusion.

**Diltiazem** must be used with caution in patients with liver or kidney disease, congestive heart failure, atrioventricular conduction abnormalities, and/or hypotension. Medical Control should be alerted to these conditions, and the dose should be reduced to half the normal dose.

**Nitroglycerine** shall not be administered to patients who have used erectile dysfunction medications within the past 72 hours.

Controlled Substances

Refer to individual protocols for directions regarding the administration of controlled substances.

Pediatric Protocols

The numbers of encounters with children are far fewer than with adults. These protocols therefore address situations where Advanced Life Support in the field can directly affect a child’s survival.

Control of the airway and rapid transport are the underlying principles of the pediatric protocols and best serve the needs of the pediatric patient. Since intravenous or intraosseous access are more difficult in small children, these and other Advanced Life Support interventions are carried out enroute, or during a transport delay, except for special circumstances as clearly noted in the protocols.

**Airway and Ventilation**

Airway management by mouth-to-mask or bag-valve-mask ventilation should be used in neonates, infants, and children as a first maneuver for providing assisted ventilation. The above will be referred to throughout the pediatric protocols as "Assisted Ventilation." Remember that the correct position to maintain the optimal airway is age-dependent. In pediatric patients with suspected trauma, the airway maneuver of choice is a modified jaw thrust combined with cervical spine stabilization.

Oxygen should always be provided at high concentration in the pediatric patient and should be humidified when feasible. There are **no contraindications** to high concentration oxygen in the pre-
hospital setting for the pediatric patient.

**Intubation**

When noted in the protocols, or when other maneuvers used to ventilate the pediatric patient are inadequate, Endotracheal Intubation should be attempted. Suspicion of croup/epiglottitis is a contraindication to attempted Endotracheal Intubation.

Children suspected of having croup/epiglottitis may rapidly close off their airways during attempts at Endotracheal Intubation. Children with suspected croup/epiglottitis should be rapidly evacuated to the nearest 911 Ambulance Destination emergency department for definitive airway management. Children in cardiac arrest with upper airway obstruction should have attempts at high-pressure bag-valve-mask ventilation.

**Intravenous (IV) / Saline Lock (SL) Or Intraosseous Access (IO)**

IV/Saline Lock or IO access to be started only enroute or during transport delay. There should be only one attempt of each method in obtaining access to pediatric patients. IV access should always precede IO access.

**Nasogastric Tube/Orogastric Tube**

It may become necessary to pass a Nasogastric (NG) Tube or an Orogastric (OG) Tube in the neonate, infant, or child in order to successfully perform resuscitation. These patients may swallow air or have air forced into their stomach with CPR and Assisted Ventilation. The diaphragm may be forced upward, resulting in decreased tidal volume, if the stomach is not decompressed by an NG or OG tube.

**Pediatric Drug Dosage and Fluid Administration**

For drug dosage and fluid administration, refer to a regionally approved *Length Based Dosing Device*. When there is a discrepancy between the protocols and the Length Based Dosing Device with regard to a particular dose, administer the dose listed on the Length Based Dosing Device and note the reason for the drug dosing in the ACR / PCR.

- REMAC has approved the use of the **Broselow Tape**
- Endotracheal drug administration should only be used as a last resort.
- Initial fluid administration should not exceed 20 ml/kg.

**Pediatric Values**

Refer to Length Based Dosing Device for drug dosages. Patients who are hypotensive according to blood pressure should be examined for other signs of shock to support the diagnosis. Note that it may be technically difficult to obtain a blood pressure in a small or agitated child; in this case, clinical judgment should be used in assessing for hypovolemic shock, especially in a trauma patient.
INTRODUCTION
The purpose of this protocol is to set forth New York City Regional guidelines for the coordination of prehospital resources at the scene when multiple Emergency Medical Service (EMS) Agencies are present. An EMS Agency is any NYS DOH or REMAC of New York City approved ambulance or first response service, including municipal, hospital, volunteer or commercial entities, authorized to provide patient care and/or transport in NYC.

The protocol addresses who has the authority to determine:

- who will provide patient care;
- who will accompany the patient;
- which ambulance(s) will provide transport;
- the appropriate destination(s); and
- the need for additional resources.

1. PARTICIPATION GUIDELINES
All providers must properly and reasonably identify themselves and their certification levels. The provider must provide his/her name, organization name, and provider number (shield or NYS DOH certification number). Written identification (i.e., patch, agency ID tag, etc.) is preferable to avoid confusion.

All providers present at an incident must function as part of a response by the EMS Agency with which they are affiliated and remain within their scope of training and practice.

The EMS Agency must be authorized to provide prehospital care within the New York City region and operate under regionally approved protocols specific to the agency’s approved level(s) of care.

2. RESPONSIBILITY FOR PATIENT CARE
The prehospital emergency care provider with the highest level of certification who first establishes patient contact at the scene assumes responsibility for providing initial patient care. S/he retains responsibility for patient care, until relinquished to a prehospital emergency care provider as determined by patient condition/medical necessity, mutual consent, operational necessity, or patient request.

If an ALS provider assumes patient care responsibility from a BLS provider, the BLS provider should assist in the delivery of patient care as requested until such time as the primary ALS care provider determines that assistance is no longer required.

A BLS provider must relinquish patient care to an ALS provider who requests it.
In cardiac arrest situations, CFR-D or EMT-B units will be considered a higher level of patient care provider over units not equipped with a defibrillator.

When a patient requires ALS care and is on a BLS ambulance, and an ALS provider is present, the BLS unit shall assist the ALS provider and transport the patient with the ALS provider and equipment as soon as appropriate.

Under no circumstances should patients be transferred between units unnecessarily or transport be delayed.

3. **COORDINATION OF PREHOSPITAL RESOURCES**

The prehospital emergency care provider with the highest level of certification who first establishes patient contact at the scene assumes responsibility for decisions related to coordination of prehospital resources.

Higher level prehospital providers must assume responsibility for coordination of prehospital resources if they assume responsibility for patient care.

Responsibility for coordination of prehospital resources may be relinquished to later arriving prehospital providers based on mutual consent.

When a NYC “911 System” participating EMS Agency is not the first EMS Agency on the scene and is not acting in the role of primary care provider, it shall act as an operational resource for:

- Information regarding hospital diversions, specialty referral center bed availability and other specialized resources; and
- Incident scene safety (e.g., environmental conditions, crowd/traffic control in the absence of NYPD, potentially dangerous patient or family member to self and/or others).

FDNY shall be responsible for coordination of prehospital resources in situations involving:

- Multiple Casualty Incidents (MCIs);
- Unscheduled MEDEVAC transports;
- Hazardous Materials (HAZMAT) and/or Weapons of Mass Destruction (WMD) situations which require decontamination;
- Fires/Crimes in progress; or
- Unusual public health or safety emergencies.

At the point that FDNY assumes operational responsibility for coordination of prehospital resources, incident command procedures are in effect, incorporating all participating EMS Agencies and resources into the response, as appropriate.
4. **MULTIPLE CASUALTY INCIDENTS (MCIs)**

MCIs are generally defined as five (5) or more patients with the potential need for extraordinary resources. However, the criteria for the definition of MCIs are not primarily dependent upon the number of patients.

The Regional Emergency Medical Services Council of New York City and FDNY should include all EMS Agencies participating in MCIs into MCI planning, and should coordinate training in MCIs for all participating EMS Agencies.

5. **PATIENT TRANSPORTATION**

The provider who is responsible for patient care will determine who accompanies the patient and, except in MCI’s, the appropriate destination, in accordance with state and regional protocol. In all practical circumstances the number of individuals in the patient compartment, excluding the patient, shall not exceed four (4). However, the provider who is responsible for patient care makes the ultimate decision regarding who is in the patient compartment.

6. **IMPLEMENTATION/EVALUATION**

Each EMS Agency shall develop guidelines, policies and procedures to ensure the implementation of this protocol, including continuing education in the use of the protocol. Complaints shall be first addressed agency to agency, secondly to the Regional EMS Council/REMAC Quality Assurance Committee. Evaluation of the effectiveness of the protocol shall be ongoing as part of each EMS Agency’s QA processes and integrated into system-wide QA activities pursuant to Article 30 of the New York State Public Health Law.
MUTUAL AID MOBILIZATION PROTOCOL

INTRODUCTION
The purpose of this protocol is to provide a uniform procedure for the request and utilization of voluntary hospital, volunteer, and proprietary ambulance resources for mutual aid during times when these resources are needed to manage an incident within the New York City region.

To ensure a reliable and safe response by ambulance resources from New York City EMS Agencies to any incident within New York City.

PROTOCOL AUTHORITY
New York State Public Health Law.

PARTICIPATION GUIDELINES
Ambulance units or EMS personnel, in accordance with Regional Emergency Medical Services Council of New York City Coordination of Prehospital Resources protocol, will not respond to any incident outside of their community or primary operating territory without a specific request from Fire Department City of New York (FDNY) and/or the NYC Office of Emergency Management (OEM).

In the event of a major emergency when mutual aid is requested by FDNY and/or OEM, ambulance service participants will at the minimum, staff and field ambulance units to maintain or enhance service to the provider’s primary operating territory, and then if possible provide units for Multiple Casualty Incident (MCI) response as follows:

- Voluntary hospitals – initially contact FDNY Resource Communication Center (RCC) to identify any need for additional 911 units. Ensure all essential and contract services are maintained. Additional units may be made available for mutual aid.

- Volunteer Services – staff a community based ambulance first, and log on the unit with FDNY RCC. Additional units may be made available for mutual aid.

- Proprietary Services – ensure all essential and contract services are maintained, and log on with FDNY RCC. Additional units may be made available for mutual aid.

Ambulance units shall respond to Mobilization Points identified by FDNY and are not to respond directly to any incident scene unless specifically directed to by the MCI Command structure. Ambulance units and/or EMS personnel will be dispatched from Mobilization Points to specific assignments as needed.
WEAPONS OF MASS DESTRUCTION PROCEDURE

INTRODUCTION
The purpose of this protocol is to set forth New York City Regional guidelines regarding Hazardous Materials and/or Weapons of Mass Destruction (Biological, Nuclear, Incendiary, Chemical, Explosive: B-NICE).

1. The safety of both crew and public is paramount. Do not endanger yourselves or others.
2. Patients must be decontaminated prior to being removed from the scene.
3. EMS personnel shall wear appropriate Personal Protective Equipment (PPE), as determined by the Incident Commander.
4. When a situation is identified where either the release of hazardous materials (HAZMAT), or the use of weapons of mass destruction (WMD) are suspected, ambulance units and/or EMS personnel shall:
   - Immediately notify 911 and agency dispatcher. Provide an initial scene survey report.
   - If not exposed or contaminated, immediately withdraw to a safe distance upwind.
   - If exposed or contaminated, isolate the unit and crew, and await decontamination instructions.
   - Operate within the Incident Command System and under FDNY’s operational responsibility for the coordination of prehospital resources and patient care.
5. Only those resources specifically designated by the 911 FDNY incident command shall be initially utilized on-scene or within the immediate vicinity of the incident.
6. Ambulances not already on the scene shall report to an established mobilization or staging area as directed.
7. Any non-911 ambulance inadvertently responding to, or “flagged down” for such an event, will upon recognizing the situation as HAZMAT or WMD, immediately withdraw to a safe distance upwind and simultaneously notify 911 and their dispatcher.
SEVERE ACUTE RESPIRATORY SYNDROME

In the event that a competent authority determines that SARS or another severe communicable respiratory illness is being transmitted in the New York City region:

1. The safety of both the EMS crew and public is paramount. Do not endanger yourselves or others.
2. EMS personnel shall wear appropriate Personal Protective Equipment (PPE).
3. If possible, a surgical mask should be placed on the patient to contain droplets during coughing.
4. Oxygen delivery with a non-rebreather face mask may be used to provide oxygen support during transport.
5. In addition, the following shall be implemented:
   - Administration of all nebulized and endotracheal medications is suspended;
   - Endotracheal intubation should be avoided, if at all possible – utilize Bag Valve Mask when assisted ventilation is required.
   - Patients ONLY are to be transported in the ambulance; and
   - Healthcare facilities shall be notified in advance that they are receiving a patient with suspected SARS or other communicable respiratory illness.

NOTE: This protocol shall not be utilized unless activated by NYC REMAC and/or the FDNY Office of Medical Affairs.
In the event that a competent authority determines that a severe communicable respiratory illness [acute febrile respiratory illness, including influenza-like-illness (ILI)] is being transmitted in the New York City region:

1. The safety of both the EMS crew and public is paramount. Do not endanger yourselves or others.
2. EMS personnel shall wear appropriate Personal Protective Equipment (PPE), which includes an N95 respirator, gloves and eye protection.
   - Fit-tested N95 respirators, eye protection (goggles or face shields), and gowns should ALWAYS be worn by EMS personnel performing aerosol-generating procedures on patients with febrile respiratory illness
   - Aerosol-generating procedures include nebulized treatments, intubation, tracheal suctioning, and laryngoscopy performed on patients with acute febrile respiratory illness
3. If possible, a surgical mask should be placed on the patient to contain droplets during coughing.
4. Oxygen delivery with a non re-breather face mask may be used to provide oxygen support during transport.
5. In addition, the following shall be implemented:
   - Administration of nebulized (aerosolized) medications (e.g., Albuterol) may only be done via a nebulizer with a one-way valve or via a disposable metered dose inhaler (MDI) with spacer.
   - As an alternative, epinephrine IM (including via an epinephrine auto-injector for BLS providers) should be considered as a Medical Control Option.
   - Endotracheal intubation may continue (unless otherwise notified through a separate class order), but it is preferable to use a Bag Valve Mask when assisted ventilation is required.
   - ONLY the patient is to be transported in the ambulance (i.e., no other individuals besides the crew) unless the patient is a minor, in which case parents or guardians may accompany the patient, but should also wear a surgical mask.
   - When possible, an attempt should be made to notify healthcare facilities in advance that they are receiving a patient with suspected communicable respiratory illness.

NOTE: This protocol shall not be utilized unless activated by NYC REMAC and/or the FDNY Office of Medical Affairs.