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.

The REMAC of New York City has proposed revisions to the current regional Prehospital Treatment Protocols.

Deleted language is BOLD RED AND STRUCK-OUT --- DELETED

New language is BOLD BLUE AND UNDERLINED --- NEW

In order to meet regional needs, the REMAC of New York City is conducting a public notice and is requesting comments from the Emergency Medical community. Comments must be submitted in writing on the attached ‘Comment Form’ or via email to mdiglio@nycremsco.org. If available, appropriate supporting documentation should also be submitted. Comments must be received no later than December 30, 2016.

Draft revised protocols can be reviewed on-line at www.nycremsco.org (under “News and Announcements”). All NYC REMAC Protocols can be accessed in their entirety at www.nycremsco.org.

Date Distributed/Posted: November 30, 2016

DIRECT ALL INQUIRIES AND COMMENTS TO:
Jessica van Voorhees, MD
Chair, Protocol Committee
Regional Emergency Medical Advisory Committee of New York City
c/o Regional EMS Council of NYC
475 Riverside Drive, Suite 1929
New York, New York 10115
Email: mdiglio@nycremsco.org

PLEASE BE ADVISED THAT pursuant to Section 3004-A of Article 30 of the Public Health Law of the State of New York, the Regional Emergency Medical Advisory Committee (REMAC) of New York City is responsible to develop prehospital triage, treatment, and transportation protocols that are consistent with the standards of the State Emergency Medical Advisory Committee and that address specific local conditions with regards to the provision of prehospital medical care rendered by NYS Department of Health certified First Responders, Emergency Medical Technicians and Advanced Emergency Medical Technicians within the City of New York.
Regional Emergency Medical Advisory Committee (REMAC) of New York City
Protocol Revision Comment Form

Name:
Mailing Address:
Telephone Number: Fax Number:
e-mail: Title (e.g., MD, DO, EMT, EMTP, RN, etc.):

Protocol Number: Protocol Title:

Comments: (Please Type)

(Continue on additional sheet if necessary)

If available, appropriate supporting documentation should be submitted

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This form may be duplicated as needed
## GENERAL OPERATING PROCEDURES (GOP)

<table>
<thead>
<tr>
<th>Transportation Procedures and Decisions: Acute Stroke</th>
<th>The time parameter for inclusion of Stroke patient has been changed from 3 ½ hours to 5 hours.</th>
</tr>
</thead>
<tbody>
<tr>
<td>InTRANASAL (IN) Drug Administration</td>
<td>Add Ketamine to the GOP list of medications that can be administered intranasal. Ketamine is already listed as an IN medication in ALS Protocol 530 (Excited Delirium).</td>
</tr>
</tbody>
</table>

## CERTIFIED FIRST RESPONDER (CFR) PROTOCOLS (300 Series)

No changes

## BASIC LIFE SUPPORT (EMT) PROTOCOLS (400 Series)

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Description</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>404 (Suspected MI)</td>
<td></td>
<td>Revised to eliminate age restrictions for administration of aspirin.</td>
</tr>
<tr>
<td>411 (AMS)</td>
<td></td>
<td>Add New Note for Finger Stick for Blood Glucose</td>
</tr>
<tr>
<td>413 (Seizures)</td>
<td></td>
<td>Add New Note for Finger Stick for Blood Glucose</td>
</tr>
</tbody>
</table>

## ADVANCED LIFE SUPPORT (EMT-P) PROTOCOLS (500 Series)

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Description</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>500A (Smoke Inhalation)</td>
<td></td>
<td>Norepinephrine was added as an option to Dopamine.</td>
</tr>
<tr>
<td>500B (Cyanide Exposure)</td>
<td></td>
<td>Norepinephrine was added as an option to Dopamine.</td>
</tr>
<tr>
<td>503 A (Ventricular Fibrillation/Pulseless Ventricular Tachycardia)</td>
<td></td>
<td>Eliminate vasopressin.</td>
</tr>
<tr>
<td>503 B (Pulseless Electrical Activity (PEA)/Asystole)</td>
<td></td>
<td>Eliminate vasopressin.</td>
</tr>
<tr>
<td>504 B (Suspected Myocardial Infarction)</td>
<td></td>
<td>Norepinephrine was added as an option to Dopamine.</td>
</tr>
<tr>
<td>510 (Allergic / Anaphylactic Reaction)</td>
<td></td>
<td>Norepinephrine was added as an option to Dopamine.</td>
</tr>
</tbody>
</table>
| 511 (Altered Mental Status) | | IV/Saline Lock bolus deleted and replaced with IV/IO/IN/IM  
5. If an overdose is strongly suspected, and the patient’s respiratory rate is less than 10/minute the patient’s mental status fails to improve significantly, administer Naloxone, titrate in increments of 0.5 mg |
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>530</td>
<td>Excited Delirium Patient</td>
<td>Remove of the mandatory QA/QI component Add New Note for Finger Stick for Blood Glucose</td>
</tr>
<tr>
<td>550</td>
<td>Pediatric Respiratory Arrest</td>
<td>Make naloxone dosing consistent, including IN administration.</td>
</tr>
<tr>
<td>556</td>
<td>Pediatric AMS</td>
<td>Make naloxone dosing consistent, including IN administration. The Glucometer Note will be updated: A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon. If the glucometer reading is above 120 mg/dl, Dextrose and Glucagon should be withheld.</td>
</tr>
<tr>
<td>557</td>
<td>Pediatric Seizures</td>
<td>The Glucometer Note will be updated: A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon. If the glucometer reading is above 120 mg/dl, Dextrose and Glucagon should be withheld.</td>
</tr>
</tbody>
</table>

**APPENDICES**

<table>
<thead>
<tr>
<th>Appendix</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Appendix P: CPAP</td>
<td>Inclusion Criteria revised</td>
</tr>
<tr>
<td>Appendix L: Regional Modified START Triage</td>
<td>Revised to triage asymptomatic <strong>Infants</strong> as <strong>Orange</strong> Tags. This will discontinue the practice of Red Tagging Infants based on age only.</td>
</tr>
</tbody>
</table>
**TRANSPORTATION PROCEDURES AND DECISIONS**

**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) five (5.0) hours;
- An on-line medical control physician so directs.

**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 and **Ketamine**. The route of administration is contraindicated in patients with epistaxis. Advise SEMAC of revisions.
NOTE: Acute coronary syndrome is a term used for any condition brought on by sudden reduced blood flow to the heart.

1. Monitor the airway.
2. Administer oxygen.
3. Do not permit physical activity.
5. Monitor breathing for adequacy.
6. Place patient in a position of comfort.
7. If the patient is 33 years of age or older, or a patient of any age who has a cardiac history, administer two (2) Chewable Aspirins, totaling 162 mg, by mouth, unless the patient has a known Aspirin allergy or hypersensitivity.
8. 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 or is unknown, transport from the scene should not be delayed.
9. Either during transport or while waiting for the arrival of an ALS unit, if chest pain is still present, assist the patient with self-administration of the patient's own previously prescribed Nitroglycerin, if available. One tablet or spray may be taken provided that the patient's systolic pressure is at least 120 mm Hg.

NOTE: 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.

10. Transport.
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, see Protocol #430.

3. Monitor the airway.

4. Administer oxygen.

   NOTE: IF OVERDOSE IS SUSPECTED, USE HIGH FLOW OXYGEN.

5. Request Advanced Life Support assistance, if appropriate.

6. If an overdose is strongly suspected, and the patient’s respiratory rate is less than 10/minute, administer intra-nasal (IN) Naloxone, if available, via mucosal atomizer device (MAD), as follows:

   a. ADULT patient: 1mg/ml in each nostril. Total of 2 mg/2ml

   b. PEDIATRIC patient: 0.5 mg/0.5 ml in each nostril. Total of 1 mg/1 ml.

      Relative Contraindications:

      - Cardiopulmonary Arrest,
      - Active seizure,
      - Evidence of nasal trauma, nasal obstruction and/or epistaxis.

7. Initiate transport.
8. If after 5 minutes, the patient’s respiratory rate is not greater than 10 breaths/minute, administer a repeat dose of naloxone, following the same procedure described in #6.

**NOTE:** A GLUCOMETER (IF AVAILABLE) SHOULD BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO ADMINISTRATION OF GLUCOSE, FRUIT JUICE OR SODA.

IF THE GLUCOMETER READING IS ABOVE 60 MG/DL, WITHHOLD TREATMENT FOR HYPOGLYCEMIA.

DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

9. If the patient is conscious, is able to swallow, and is able to drink without assistance, provide a glucose solution, fruit juice, or non-diet soda by mouth.

   a. Do **not** give oral solutions to unconscious patients.

   b. Do **not** give oral solutions to patients with head injuries.

10. Transport.

11. Assess and monitor the Glasgow Coma score. (See Appendix E.)

   a. Do **not** delay transport.

**Mandatory Quality Assurance Component**

For every administration of intra-nasal (IN) Naloxone, the ACR/PCR documentation must be reviewed by the service medical director who is responsible for forwarding ACR/PCR data electronically to the NY REMAC via an online survey tool for system-wide QA purposes. Patient specific identifiers are omitted. This QA component is effective immediately. For the purposes of patient confidentiality, email mdiglio@nycremsco.org for directions on how to submit data electronically.
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. Avoid unnecessary or excessive restraint.
6. Administer oxygen.
7. Monitor breathing for adequacy.

**NOTE:** A GLUCOMETER (IF AVAILABLE) SHOULD BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO ADMINISTRATION OF GLUCOSE, FRUIT JUICE OR SODA.

IF THE GLUCOMETER READING IS ABOVE 120 MG/DL, WITHHOLD TREATMENT FOR HYPOGLYCEMIA.

DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

8. Request Advanced Life Support assistance for ongoing seizures at time of patient contact.
9. Treat all injuries as appropriate.
10. Transport.
500-A
SMOKE INHALATION

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

1. Begin Basic Life Support Procedures
2. If necessary, perform Advanced Airway Management *.
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

NOTE: Prior to administration of Hydroxocobalamin, obtain three blood samples using the tubes provided in the cyanide toxicity kit, if available.
Whenever Hydroxocobalamin is administered, follow with a 20 ml flush of normal saline (0.9% NS) prior to administration of any other medication.

7. In the event of continued hypotension (SBP <90mmHg):
   a. Administer Norepinephrine 2 mcg/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 mcg/min, IV/Saline Lock drip.

   NOTE: NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (EG. DIAL A FLOW, INFUSION PUMP).

   OR

   b. 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 Advanced Airway Management, refer to Prehospital Sedation in General Operating Procedures. Prior permission from Medical Control is required.
### TABLE 1  One Bottle Kit (5.0gm/200mL/bottle)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Hydroxocobalamin A</th>
<th>Sodium Thiosulfate B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant/Toddler (0-2 years)</td>
<td>¼ bottle</td>
<td>250mg/kg (3cc/kg prepared solution) administered over 10 minutes, IV</td>
</tr>
<tr>
<td>Preschool (3-5 years)</td>
<td>1/4 bottle</td>
<td></td>
</tr>
<tr>
<td>Grade School (6-14 years)</td>
<td>1/2 bottle</td>
<td></td>
</tr>
<tr>
<td>Adult (≥15 years)</td>
<td>1 bottle</td>
<td>12.5g 150mL of a prepared solution) administered over 10 minutes IV</td>
</tr>
</tbody>
</table>

A  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 for the kit.

B  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.

---

**MEDICAL CONTROL OPTIONS:**

**OPTION A:** Transportation Decision.

NOTE: For patients exhibiting signs and symptoms consistent with carbon monoxide poisoning, refer to General Operating Procedures – Transportation Decisions and Procedures.

**CYANIDE TOXICITY KIT (if available)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>One (1) 5.0 g bottle of crystalline powder Hydroxocobalamin</td>
<td>One (1) 2 ml fluoride oxalate whole blood tube</td>
</tr>
<tr>
<td>One (1) 12.5 g bottles of Sodium Thiosulfate (50 mL of 25% solution)</td>
<td>One (1) 2 ml K2 EDTA tube</td>
</tr>
<tr>
<td>Two (2) 100 mL bag 0.9% NS, D5W, LR</td>
<td>One (1) 2 ml lithium heparin tube</td>
</tr>
<tr>
<td>One (1) 100 mL bag D5W</td>
<td></td>
</tr>
</tbody>
</table>
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 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.

NOTE: 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.

2. If necessary, perform Advanced Airway Management *.
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 Advanced Airway Management, refer to Prehospital Sedation in General Operating Procedures. Prior Permission from Medical Control Is Required.
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
   - Seizures
   - Respiratory arrest
   - Cardiac arrest

1 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.
NOTE: Prior to administration of Hydroxocobalamin, obtain three blood samples using the tubes provided in the cyanide toxicity kit, if available.

### TABLE 1 One Bottle Kit (5.0gm/200mL/bottle)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Hydroxocobalamin (^A)</th>
<th>Sodium Thiosulfate (^B)</th>
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<tr>
<td>Infant/Toddler (0-2 years)</td>
<td>¼ bottle</td>
<td>250mg/kg (3cc/kg prepared solution) administered over 10 minutes, IV</td>
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<td>1 bottle</td>
<td>12.5g 150mL of a prepared solution) administered over 10 minutes IV</td>
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\(^A\) 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 for the kit.

\(^B\) 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):

- **c.** Administer Norepinephrine 2 mcg/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 mcg/min, IV/Saline Lock drip.

**NOTE:** NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (EG. DIAL A FLOW, INFUSION PUMP).

**OR**

- **d.** 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 20 ml flush of normal saline (0.9% ns) prior to administration of any other medication.

### MEDICAL CONTROL OPTIONS:

**OPTION A:** Transportation Decision.

### CYANIDE TOXICITY KIT (if available)

<table>
<thead>
<tr>
<th>One (1) 5.0 g bottle of crystalline powder Hydroxocobalamin</th>
<th>One (1) 2 ml fluoride oxalate whole blood tube</th>
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<tbody>
<tr>
<td>One (1) 12.5 g bottles of Sodium Thiosulfate (50 mL of 25% solution)</td>
<td>One (1) 2 ml K2 EDTA tube</td>
</tr>
<tr>
<td>Two (2) 100 mL bag 0.9% NS, D₅W, LR</td>
<td>One (1) 2 ml lithium heparin tube</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>One (1) 100 mL bag D₅W</td>
<td></td>
</tr>
</tbody>
</table>
### 503-A

**VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA**

1. Continue CPR with minimal interruption.  
   **NOTE:** In arrests witnessed by EMS, perform CPR until defibrillator is attached  
   In arrests not witnessed by EMS, perform two (2) minutes of CPR prior to defibrillator use

2. Defibrillate using the maximum joule setting possible (may vary depending on the defibrillator in use).  
   **NOTE:** 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.

3. Continue CPR. If after two minutes of additional CPR if there is no change in the rhythm, Defibrillate a 2\textsuperscript{nd} time as previously stated.

4. Continue CPR. If after two minutes of additional CPR if there is no change in the rhythm, Defibrillate a 3\textsuperscript{rd} time as previously stated.

5. Perform Advanced Airway Management.

6. If, after every two-minute interval of additional CPR, there is no change in the rhythm, Defibrillate as previously stated.

7. Begin an IV/IO infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.

8. **Administer Vasopressin, if available, 40 units IV/IO/Saline Lock Bolus, single dose.**

9. If there is no change in the rhythm, administer Amiodarone 300mg, IV/IO/ Saline Lock bolus.

10. If there is no change in the rhythm within 3 – 5 minutes after the administration of Vasopressin, if available, administer Epinephrine 1 mg (10 ml of a 1:10,000 solution), IV/IO/Saline Lock bolus, every 3 – 5 minutes.

11. If there is insufficient improvement in hemodynamic status, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

#### MEDICAL CONTROL OPTIONS:

**OPTION A:** If Ventricular Fibrillation or Pulseless Ventricular Tachycardia recurs, a repeat dose of 150 mg Amiodarone, IV/IO/Saline Lock Bolus may be given.

**OPTION B:** Administer Sodium Bicarbonate 44-88 mEq IV/IO/Saline Lock bolus. Repeat doses of Sodium Bicarbonate 44 mEq, IV/IO/Saline Lock bolus, may be given every 10 minutes.

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

**OPTION D:** In cases of hyperkalemia or Calcium Channel Blocker overdose administer Calcium Chloride (CaCl\textsubscript{2}) 1 gm, SLOWLY, IV/IO/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.

**OPTION E:** Transportation Decision.
503-B

PULSELESS ELECTRICAL ACTIVITY (PEA)/ASYSTOLE

NOTE: Consider the possibility of conditions masquerading as PEA/Asystole which require immediate treatment.

1. Continue CPR with minimal interruption.
2. If a tension pneumothorax is suspected, perform Needle Decompression. (See Appendix O.)
4. Begin an IV/IO/ infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock.
5. Administer Vasopressin, if available, 40 units IV/IO/Saline Lock Bolus, single dose.
6. Administer Dextrose 25 gm (50 ml of a 50% solution), IV/IO/Saline Lock bolus.
7. If there is no change in the rhythm within 3 – 5 minutes after administration of Vasopressin, if available, administer Epinephrine 1 mg (10 ml of a 1:10,000 solution), IV/IO/Saline Lock bolus, every 3 – 5 minutes.
8. If there is insufficient improvement in hemodynamic status, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Administer Sodium Bicarbonate 44-88 mEq IV/IO/Saline Lock bolus. Repeat doses of Sodium Bicarbonate 44 mEq, IV/IO/Saline Lock bolus, may be given every 10 minutes.

OPTION B: In cases of hyperkalemia or Calcium Channel Blocker overdose administer Calcium Chloride (CaCl₂) 1 gm, SLOWLY, IV/IO/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.

OPTION C: Begin rapid IV/IO/Saline Lock infusion of Normal Saline (0.9% NS), up to three (3) liters.

OPTION D: Transportation Decision.
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. **In the event of continued hypotension (SBP <90mmHg):**
   - a. **Administer Norepinephrine 2 mcg/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 mcg/min, IV/Saline Lock drip.

   **NOTE:** NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (E.G. DIAL A FLOW, INFUSION PUMP).

   OR

   - b. 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.)
1. Begin Basic Life Support Anaphylactic Reaction procedures.

2. If the patient is exhibiting obvious airway compromise, perform Advanced Airway Management* simultaneous with # 3a.

3. If the patient has signs of shock OR has a past history of anaphylaxis:
   a. Administer Epinephrine 0.3 mg (0.3 ml of a 1:1,000 solution), IM.
   b. Begin an IV infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) via a large bore (14-16 gauge) catheter up to 3 liters via macro-drip.
   c. **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.**
   d. Administer diphenhydramine 50 mg, IV/Saline Lock bolus, or IM, if IV/Saline Lock access has not been established.

4. If the patient does not have signs of shock and does not have a past history of anaphylaxis:
   a. 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.
   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.**
   c. Administer Diphenhydramine 50 mg, IV/Saline Lock bolus, or IM, if IV/Saline Lock access has not been established.

5. 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.

**NOTE: PATIENTS WITH AN ALLERGIC REACTION AND SIGNS OF BRONCHOSPASM MAY REQUIRE TREATMENT FOR ANAPHYLAXIS.**

6. Monitor vital signs every 5 minutes.

7. Begin Cardiac Monitoring, record and evaluate EKG rhythm.

8. 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 B: In the event of continued hypotension (SBP <90mmHg):

a. Administer Norepinephrine 2 mcg/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 mcg/min, IV/Saline Lock drip.

NOTE: NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (EG. DIAL A FLOW, INFUSION PUMP).

OR

b. 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.)

OPTION C: Transportation Decision.

* If the patient is alert prior to performing Advanced Airway Management, refer to Prehospital Sedation in General Operating Procedures. Prior permission from Medical Control is required.
ALTERED MENTAL STATUS

1. Begin Basic Life Support Altered Mental Status procedures.

2. Begin an IV infusion of Normal Saline (0.9% NS) to keep vein open, or Saline Lock.

   NOTE: A GLUCOMETER SHOULD BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO ADMINISTRATION OF DEXTROSE OR GLUCAGON.

   IF THE GLUCOMETER READING IS ABOVE 420 60 MG/DL, DEXTROSE AND GLUCAGON SHOULD BE WITHHELD.

   DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

3. Administer Dextrose 25 gm (50 ml of a 50% solution), IV/Saline Lock bolus.

4. In patients with diabetic histories where an IV/Saline Lock route is unavailable, administer Glucagon 1 mg, IM or IN.

5. If an overdose is strongly suspected, and the patient's respiratory rate is less than 10/minute mental status fails to improve significantly, administer Naloxone, titrate in increments of 0.5 mg up to response, up to 4 mg, IV/IO/IN/IM IV/Saline-Lock bolus. If IV/Saline Lock access has not been established, administer Naloxone 0.5 mg, up to response, up to 4 mg IM or IN.

   NOTE: IF AN OVERDOSE IS STRONGLY SUSPECTED, ADMINISTER NALOXONE PRIOR TO DEXTROSE.

6. If there still is no change in mental status or it fails to improve significantly, repeat Dextrose 25 gm (50 ml of a 50% solution), IV/Saline Lock bolus.

7. If there is still no change in mental status, 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 B: Transportation Decision.
EXCITED DELIRIUM

(ADULT PATIENTS ONLY)


2. Prehospital Chemical Restraint Procedure: If patient continues to struggle while being physically restrained:
   a. Administer Midazolam, 10 mg, IM or IN.

   NOTE: If patient is agitated, the PREFERRED route of choice is IM. Once the patient is sedated, IV access should be established in the event additional sedation is necessary.

3. After adequate sedation, begin IV/Saline Lock infusion of Normal Saline (0.9% NS) or Ringers' Lactate (RL) via a large bore (14-18) gauge catheter, up to 1 liter, via a macro-drip.

4. Begin Cardiac Monitoring, record and evaluate EKG rhythm.

5. Begin pulse oximetry monitoring.

   NOTE: A GLUCOMETER (IF AVAILABLE) SHOULD BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO ADMINISTRATION OF GLUCOSE, FRUIT JUICE OR SODA.

   IF THE GLUCOMETER READING IS ABOVE 120 MG/DL, WITHHOLD TREATMENT FOR HYPOGLYCEMIA.

   DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

6. If the patient continues to struggle while being physically restrained after Standing Orders have been administered, contact medical control for implementation of one of the following MEDICAL CONTROL OPTIONS.

MEDICAL CONTROL OPTIONS:

<table>
<thead>
<tr>
<th>Option</th>
<th>Class</th>
<th>Medication</th>
<th>Route</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Dissociative Agents</td>
<td>Ketamine</td>
<td>IntraMUSCULAR</td>
<td>2-4 mg/kg</td>
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<tr>
<td></td>
<td></td>
<td>Ketamine</td>
<td>IntraNASAL</td>
<td>1-2 mg/kg</td>
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<tr>
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<td>IM Benzodiazepines</td>
<td>Midazolam</td>
<td>IntraMUSCULAR</td>
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<td>Lorazepam</td>
<td>IntraMUSCULAR</td>
<td>4 mg</td>
</tr>
<tr>
<td>C</td>
<td>IN or IV Benzodiazepines</td>
<td>Diazepam</td>
<td>IV/Saline Lock bolus</td>
<td>5-10 mg</td>
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<tr>
<td></td>
<td></td>
<td>Midazolam</td>
<td>IntraNASAL</td>
<td>5 mg</td>
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<td></td>
<td>Lorazepam</td>
<td>IV/Saline Lock bolus</td>
<td>2 mg</td>
</tr>
</tbody>
</table>

OPTION D: Transportation Decision.

Mandatory Quality Assurance Component

November 30, 2016 Public Notice
For every administration of Midazolam 10 mg IM or IN under Standing Orders, the ACR/PCR documentation must be reviewed by the service medical director who is responsible for forwarding ACR/PCR data electronically to the NY REMAC for system-wide QA purposes. Patient specific identifiers can be omitted. This QA component is effective immediately. For the purposes of patient confidentiality, email mdiglio@nycremsco.org for directions on how to submit data electronically.
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PEDIATRIC RESPIRATORY ARREST

For pediatric patients in actual or impending respiratory arrest, or who are unconscious and cannot be adequately ventilated:

Note: If overdose is suspected, refer to protocol 556 (Pediatric Altered Mental Status)

   
   Note: Do not hyper-extend the neck. If an obstructed airway is suspected, see protocol #551.

2. Perform Endotracheal Intubation, if less invasive methods of airway management are not effective.

3. If a tension pneumothorax is suspected, perform Needle Decompression, using an 18-20 gauge catheter. (See Appendix O.)

   Note: Tension pneumothorax in a child in respiratory arrest may develop after resuscitative efforts have begun.

During transport, or if transport is delayed:

4. Administer Naloxone, titrate in increments of 0.5 mg, IN/IM, up to response, up to 2 mg, in patients two (2) years of age or older. In patients less than two (2) years of age, titrate up to 1 mg. (Refer to Length Based Dosing Device)

5. If abdominal distention occurs, pass a Nasogastric Tube. If unsuccessful, pass an Orogastric Tube.

6. If there is insufficient improvement in respiratory status, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Begin an IV or IO infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock. Attempt vascular access no more than twice.

OPTION C: Transportation Decision.
**PEDIATRIC ALTERED MENTAL STATUS**

_For pediatric patients in coma, with evolving neurological deficit, or with altered mental status of unknown etiology._

**NOTE:** Maintenance of normal respiratory and circulatory function is always the first priority. Patients with altered mental status due to respiratory failure or arrest, obstructed airway, shock, trauma, near drowning or other anoxic injury should be treated under other protocols.

1. Begin Basic Life Support Altered Mental Status procedures.
2. During transport, or if transport is delayed:
   a. Administer Glucagon 1 mg, IM or IN.
3. Begin an IV or IO infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock. Attempt vascular access no more than twice.

   **NOTE:** A GLUCOMETER SHOULD BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO ADMINISTRATION OF DEXTROSE OR GLUCAGON.

   IF THE GLUCOMETER READING IS ABOVE 60 MG/DL, DEXTROSE AND GLUCAGON SHOULD BE WITHHELD.

   DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

4. Administer Dextrose 0.5 gm/kg, IV/Saline Lock or IO bolus. Use 10% Dextrose in patients less or equal to one (1) month of age. Use 25% Dextrose in patients greater than one (1) month of age and less than 15 years of age. (Refer to Length Based Dosing Device)

5. If the patient's mental status fails to improve significantly, administer Naloxone, titrate in increments of 0.5 mg up to response, up to 2 mg, IN/IM IV/Saline Lock or IO bolus. If IV/Saline Lock IO access has not been established, administer Naloxone 0.5 mg up to response, up to 2 mg, IM or IN.

6. If there is still no change in mental status, 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 B:** Transportation Decision.
PEDIATRIC SEIZURES

For patients experiencing seizures that are ongoing or recurring


   NOTE: A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon.

   If the glucometer reading is above 120 mg/dl, Dextrose and Glucagon should be withheld.

   DIABETIC PATIENTS WITH A BLOOD GLUCOSE LEVEL READING BETWEEN 60-80 MAY STILL BE EXPERIENCING HYPOGLYCEMIA, AND IF THEY DISPLAY SUCH SIGNS AND SYMPTOMS SHOULD BE TREATED ACCORDINGLY.

2. Administer Glucagon 1 mg, IM or IN.

3. If patient is still seizing, administer Midazolam 0.2 mg/kg, IM or IN. IN is the preferred route of administration. (Maximum dose is 5 mg.) (Refer to Length Based Dosing Device)

   During transport, or if transport is delayed:

4. Begin an IV or IO infusion of Normal Saline (0.9% NS) to keep vein open, or a Saline Lock. Attempt vascular access no more than twice.

5. Administer Dextrose 0.5 gm/kg, IV/Saline Lock or IO bolus. Use 10% Dextrose in patients less or equal to one (1) month of age. Use 25% Dextrose in patients greater than one (1) month of age and less than 15 years of age. (Refer to Length Based Dosing Device)

6. If seizures persist, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

   OPTION A: Administer Lorazepam 0.05 mg/kg, IV/IN/Saline Lock or IO bolus, slowly, over 2 minutes. Repeat doses of Lorazepam 0.05 mg/kg, IV/IN/Saline Lock or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

       OR

       Administer Diazepam 0.1mg/kg, IV/Saline Lock or IO bolus, slowly, over 2 minutes. Repeat doses of Diazepam 0.1 mg/kg, IV/Saline Lock or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

   OPTION B: If IV/Saline Lock or IO access has not been established, repeat administration of Midazolam 0.2 mg/kg, IM or IN. IN is the preferred route of administration. (Maximum repeated dose is 5 mg.) (Refer to Length Based Dosing Device)

       NOTE: Do not administer Lorazepam, Diazepam, or Midazolam if the seizures have stopped.

   OPTION C: Transportation Decision.
APPENDIX P
USE OF THE CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) DEVICE

Scope: Paramedics trained and authorized by the service medical director may utilize Continuous Positive Airway Pressure (CPAP), if available and for any appropriate indication as authorized by the service medical director.

INCLUSION CRITERIA
1. Be at least 18 years of age or older.
2. Be alert, cooperative, and able to maintain an open, patent airway on their own.
3. Be able to maintain an open and patent airway on their own
4. Have a blood pressure of at least 100 mm Hg systolic
5. Have significant respiratory distress, indicated by cyanosis, accessory muscle use or other signs and symptoms.

EXCLUSION CRITERIA CONTRAINDICATIONS
1. Less than 18 years of age
2. Respiratory failure or need for immediate Endotracheal Intubation, or other methods of airway control
3. Altered Mental Status or unresponsive patients
4. Systolic blood pressure less than 100 mmHg; Hemodynamically unstable patients
5. Airway Obstruction Patients who are unable to control their own airway
6. Trauma, facial burns with possible airway involvement, impending respiratory or cardiac arrest
7. Known Active unstable angina or acute myocardial infarction
8. Une-cooperative patient
9. Known Pneumonia, Suspected pneumothorax, anaphylaxis, pulmonary embolism, or aspiration.
10. Active vomiting, upper GI bleeding or other aspiration risks, Gastric Distention
8. Inability to tolerate the mask due to pain or discomfort.
9. An adequate mask seal is unobtainable.

NOTE: CPAP IS TO BE IMMEDIATELY DISCONTINUED IF ANY OF THE EXCLUSION CRITERIA DEVELOP
1. An immediate need for advanced airway control arises
2. The patient becomes hemodynamically unstable
3. The patient cannot tolerate the mask due to pain or discomfort
Revised to triage asymptomatic **Infants** as **Orange** Tags. This will discontinue the practice of Red Tagging Infants based on age only.