



<h1>NYC REMAC</h1>			
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Title:	Revision/Update of REMAC Prehospital Treatment & Transport Protocols		
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Supersedes:	n/a	Page:	1 of 13

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

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

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

PROTOCOLS ARE TO BE IMPLEMENTED JULY 1ST, 2016, WITH A SEPTEMBER 1ST SUNSET DATE.

Agencies that require additional time for implementation must submit requests for extension in writing to the NYC REMAC. Requests can be emailed to mdiglio@nycremsco.org

Current and Updated Protocols can be accessed at the Regional EMS Council website: www.nycremsco.org.

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

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

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

2016 Protocol Revisions

Summary of Protocol Revisions

GENERAL OPERATING PROCEDURES:

- No changes

CERTIFIED FIRST RESPONDER PROTOCOLS

- No changes

BASIC LIFE SUPPORT (EMT-B) PROTOCOLS:

- 407 Wheezing: Delete the age limit of 'over 33' for administration of epinephrine.
- 410 Anaphylactic Reaction: Delete the age limit of 'over 33' for administration of epinephrine
- 421: Head and Spine Injuries: Add statement that 'Hyperventilation should NOT be performed

ADVANCED LIFE SUPPORT (Paramedic EMT-P) PROTOCOLS

- 506 Acute Pulmonary Edema: Delete administration of Morphine Sulfate
- 511 Altered Mental Status: Add IN route of administration for glucagon
- 513 Seizures: Add IN route of administration for glucagon
- 528 Burns: Add administration of fentanyl under Standing Orders
- 529 Pain Management for Isolated Extremity Injury: Add administration of fentanyl under Standing Orders
- 556 Pediatric Altered Mental Status: Add IN route of administration for glucagon
- 557 Pediatric Seizures: (1) Add IN route of administration for glucagon, (2) delete administration of Valium rectally
- **NEW ALS Hyperglycemia Protocol**

Deleted language is ~~**Bold Red Strike-out**~~
New Language is **Bold Blue Underscored**

WHEEZING

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

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

NOTE: If patient exhibits signs of imminent respiratory failure, refer to protocol #401 – Adult Respiratory Distress/Failure or #450 – Pediatric Respiratory Distress/Failure.

4. Do not permit physical activity
5. Place the patient in a Fowler's or Semi-Fowler's position
6. Assess the following prior to administration of the first nebulized treatment:
 - Vital signs
 - Patient's ability to speak in complete sentences
 - Accessory muscle use
7. Administer Albuterol Sulfate 0.083%, one (1) unit dose or 3 cc via nebulizer at a flow rate that will deliver the solution over 5 minutes to 15 minutes. Do not delay transport to complete medication administration.
8. Begin transport.

NOTE: For patients in severe respiratory distress, call for advanced life support assistance. Do not delay transport for any reason, including waiting for a potential second dose of epinephrine.

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

NOTE: Patients 9 years of age and older or weighing more than 30 kg (66 lbs) use adult Epinephrine auto-injector (0.3 mg); patients younger than 9 years of age or weighing less than 30 kg (66 lbs) use pediatric Epinephrine auto-injector (0.15 mg). Administration of epinephrine via auto-injector must be reported to your agency's medical director as soon as possible

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

NOTE: Medical control must be contacted for any patient refusing medical assistance or transport.

ANAPHYLACTIC REACTION

NOTE: Anaphylaxis can be a potentially life threatening situation most often associated with a history of exposure to an inciting agent/allergen (bee sting or other insect venom, medications/drugs, or foods such as peanuts, seafood, etc.). The presence of respiratory distress (upper airway obstruction [stridor], severe bronchospasm [wheezing]) and/or cardiovascular collapse/hypotensive shock characterize the clinical findings that authorize and require treatment according to this protocol.

Patients 9 years of age and older or weighing more than 30 kg (66 lbs) use adult Epi-auto injector (0.3 mg); patients younger than 9 years of age or weighing less than 30 kg (66 lbs) use pediatric Epi-auto injector (0.15 mg).

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

NOTE: Administration of epinephrine via auto-injector must be reported to your agency's medical director as soon as possible

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

HEAD AND SPINE INJURIES

1. Establish and maintain airway control while stabilizing the cervical spine.

NOTE **Do not use a nasopharyngeal airway in patients with facial injuries or if severe head injury has occurred.**

2. Patients meeting one or more of the following criteria, either at the time of evaluation or at any time following the injury in question, must have spinal injury precautions during care and transport. Do not use Rapid Takedown technique.

- a. Altered mental status for any reason, including possible intoxication due to drugs or alcohol.
- b. GCS <15
- c. Complaint of, or inability of the provider to assess for, neck and/or spine pain or tenderness.
- d. Weakness, paralysis, tingling, or numbness of the trunk or extremities at any time since the injury.
- e. Deformity of the spine not present prior to the injury.
- f. Distracting injury or circumstances, including anything producing an unreliable physical exam or history.
- g. High risk mechanism (axial load such as diving or tackling, high-speed motor vehicle accidents, rollover accidents, falls greater than standing height).
- h. Provider concern for potential spinal injury.

3. Monitor breathing for adequacy.

NOTE: **Monitor breathing continuously. Be alert for signs of hypoxia and/or increasing respiratory distress.**

4. Control external bleeding.

5. If the patient meets any of the criteria described in #2, is not awake or is unstable, apply a rigid cervical collar.

6. Continue to monitor the Glasgow Coma Score. (See Appendix E.)

- 7. Hyperventilation should NOT be performed.**

8. Transport. (See Appendix F.)

ACUTE PULMONARY EDEMA

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

NOTE: Unless otherwise directed by On-Line Medical Control, Nitroglycerin shall not be administered to patients:

- with a systolic blood pressure of less than 100 mm hg
- and/or
- who have used erectile dysfunction medications in the previous 72 hours

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

MEDICAL CONTROL OPTIONS:

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

~~NOTE: If hypoventilation develops, administer Naloxone up to 2 mg, IV/saline lock bolus.~~

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

OR

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

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

OPTION C: Transportation Decision.

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 120 mg/dl, Dextrose and Glucagon should be withheld.
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 the patient's mental status fails to improve significantly, administer Naloxone, titrate in increments of 0.5 mg up to response, up to 4 mg, 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.

SEIZURES

For patients experiencing generalized seizures that are ongoing or recurring

1. Begin Basic Life Support Seizures procedure.
2. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
3. Begin an IV/Saline Lock infusion of Normal Saline (0.9% NS) to keep vein open, or a 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 120 mg/dl, Dextrose and Glucagon should be withheld.
4. Administer Dextrose 25 gm (50 ml of a 50% solution), IV/Saline Lock bolus.
5. In patients with diabetic histories where an IV/Saline Lock route is unavailable, administer Glucagon 1 mg, IM **or** **IN**.
6. Administer Lorazepam 2 mg, IV/Saline Lock bolus, or, if IV access is unavailable, IN or IM. A single repeat dose of Lorazepam 2 mg, may be given after 5 minutes for generalized seizures that are ongoing or recurring.
OR
Administer Diazepam 5 mg, IV/Saline Lock bolus. A single repeat dose of Diazepam 5 mg, IV/Saline Lock bolus, may be given for generalized seizures that are ongoing or recurring. (Rate of administration may not exceed 5 mg/min.)
OR
Administer Midazolam 10 mg, IM or IN, if IV access is unavailable.
7. If seizure activity persists, contact Medical Control for implementation of one or more of the following
MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

- OPTION A: Repeat Lorazepam 2 mg, IV/Saline Lock bolus, or, if IV access is unavailable, IN or IM.
OR
Repeat Diazepam 5 mg, IV/Saline Lock bolus. (Rate of administration may not exceed 5 mg/min.)
OR
Repeat Midazolam 10 mg, IN or IM, if IV access is unavailable.
- OPTION B: Transportation Decision.

BURNS

(ADULT & PEDIATRIC PATIENTS)

1. Begin Basic Life Support Burns procedures.
2. If there is evidence of burns to the upper airway or upper airway compromise is anticipated, perform Advanced Airway Management*.
3. For patients with electrical burns, begin Cardiac Monitoring, record and evaluate the EKG rhythm.
4. Begin Pulse Oximetry monitoring.
5. Begin an IV infusion of Normal Saline (0.9% NS) or Ringer's Lactate (RL) up to 2 liters, via a macro-drip, if transport is delayed or extended.
6. For patients who are experiencing severe pain:

NOTE: **The administration of narcotic analgesics is contraindicated in patients with burns involving the face and/or airway.**

- a. **Administer Morphine Sulfate, for patients with a systolic blood pressure greater than 110mmHg, 0.1mg/kg (not to exceed 5mg), IV/IO/IM. For continued pain, repeat dose of 0.1mg/kg (not to exceed 5mg) may be repeated five minutes following the initial dose. (Maximum total dose is 10mg.)** ~~**For patients with a systolic blood pressure greater than 110mmHg, administer Morphine Sulfate 0.1mg/kg (not to exceed 5mg), IV/Saline Lock bolus. For continued pain, repeat dose of 0.1mg/kg (not to exceed 5mg) may be repeated five minutes following the initial dose. (Maximum total dose is 10mg.)**~~

OR

- b. **Administer Fentanyl 1mcg/kg (maximum total dose is 100mcg.), IV/IO/IN/IM, if available**

NOTE: If hypoventilation develops, administer Naloxone up to 2 mg, IV/IN/Saline Lock bolus.

~~**The administration of narcotic analgesics is contraindicated in patients with burns involving the face and/or airway.**~~

MEDICAL CONTROL OPTIONS:

~~**OPTION A: For hypotensive patients, administer Fentanyl, 1 mcg/kg (max 100 mcg), IV/IN/Saline Lock bolus, if available.**~~

OPTION **A**: 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.

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

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

NOTE: If mechanism of injury (e.g., pedestrian struck) suggests that there may be other injuries, transport should begin and pain management be done enroute after consultation with On-Line Medical Control.

1. Begin Basic Life Support Procedures.
2. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
3. Begin Pulse Oximetry monitoring.
4. Begin an IV/Saline Lock infusion of Normal Saline (0.9% NS) at a KVO rate.
5. Monitor vital signs every 5 minutes.
6. **For patients who are experiencing severe pain:** ~~For patients with a systolic blood pressure greater than 110 mmHg, administer~~
 - a. **Administer Morphine Sulfate, for patients with a systolic blood pressure greater than 110mmHg, 0.1mg/kg (not to exceed 5mg), IV/IO/IM. For continued pain, repeat dose of 0.1mg/kg (not to exceed 5mg) may be repeated five minutes following the initial dose. (Maximum total dose is 10mg.)** ~~Morphine Sulfate 0.1 mg/kg (not to exceed 5 mg), IV/Saline Lock bolus. For continued pain, repeat dose of 0.1 mg/kg (not to exceed 5 mg) may be administered. (Maximum total dose is 10 mg).~~
 - b. **Administer Fentanyl 1mcg/kg (maximum total dose is 100mcg), IV/IO/IN/IM, if available.**

OR

7. NOTE: If hypoventilation develops, administer Naloxone up to 2 mg, IV/IN/Saline Lock bolus.

MEDICAL CONTROL OPTIONS:

~~OPTION A: For hypotensive patients, administer Fentanyl, 1 mcg/kg (max 100 mcg), IV/IN/Saline Lock bolus, if available.~~

OPTION **A** ~~B~~: 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.
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, 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

1. Begin Basic Life Support Seizures procedures.

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.

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:

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)

~~OPTION C: Only if above options have been exhausted or are unavailable, administer Diazepam 0.5 mg/kg, via rectum. (Refer to Length Based Dosing Device)~~

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

OPTION C: Transportation Decision.

Hyperglycemia Protocol (NEW Advanced Life Support Protocol)

(Adult and Pediatrics)

1. Begin Basic Life Support Shock Measures.
2. If the patient is demonstrating signs of inadequate ventilation, perform Advanced Airway Management.
3. Use a glucometer to measure a blood glucose level.
4. For patients with blood glucose levels above 300 mg/dL who have altered mental status, tachypnea, or signs of dehydration; or any patient with a blood glucose level above 500 mg/dL or a glucometer reading of “high”:
 - a. For adult patients: Begin rapid IV infusion of Normal Saline (0.9% NS) or Ringer’s Lactate (RL) IV, up to a maximum of 1 liter.
 - b. For pediatric patients: Begin rapid IV infusion of Normal Saline (0.9% NS) or Ringer’s Lactate (RL), up to 20ml/kg (maximum of 1 liters).
5. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
6. Transport decision.
7. Contact Medical Control for implementation of one or more of the following MEDICAL

CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: For adult patients, administer one (1) additional liter of Normal Saline (0.9% NS) or Ringer’s Lactate (RL).

OPTION B: For pediatric patients, administer an additional bolus of 10 ml/kg (maximum of 1 liter) of Normal Saline (0.9% NS) or Ringer’s Lactate (RL).