NYC REMAC

Advisory No.	2017-04		
Title:	**Drug Shortage: Dextrose & Sodium Bicarbonate**		
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Supersedes:	2017-03	Page:	1 of 4

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 been made aware of shortages of the following medications:

1. Dextrose (D50W): The following protocols have been revised to allow agency medical directors to substitute equivalent medication:
    a. 503 B: Pulseless Electrical Activity (PEA) / Asystole (Additional revisions)
    b. 511: Altered Mental Status
    c. 513: Seizures
        - *Each agency medical director must decide how to administer Dextrose.*
        - *Note that the threshold to withhold Dextrose & Glucagon has been changed from 120 mg/dl to 60 mg/dl.*

1. Sodium Bicarbonate: There is no substitution for this medication. This effects the following protocols:
    a. 503-A: Ventricular Fibrillation/Pulseless Ventricular Tachycardia
    b. 503-B: Pulseless Electrical Activity (Pea)/Asystole
    c. 505-C: Ventricular Tachycardia with A Pulse/Wide Complex Tachycardia of Uncertain Type
    d. 505-D: Brady Dysrhythmias and Complete Heart Block
    e. 553: Pediatric Non-Traumatic Cardiac Arrest

If your agency has, or anticipates a medication shortage, advise the NYC REMAC as soon as possible, by emailing mdiglio@nycremsco.org. The REMAC is investigating alternate medications that may be utilized.

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.

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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.)
3. Perform Advanced Airway Management.
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. **If glucose level is 60mg/dL or less,** administer **up to 25 gm of** 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 ($CaCl_2$) 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.

511

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~~ 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 **up to 25 gm** Dextrose ~~**25 gm (50 ml of a 50% solution),**~~ IV/IO~~/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 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.

513

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~~ 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 **up to 25 gm** Dextrose ~~**25 gm (50 ml of a 50% solution)**~~**,** IV/IO~~/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.