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

NYC REMAC

Advisory No.	2019-03		
Title:	Glucagon Typographical Corrections		
Issue Date:	April 10, 2019		
Effective Date:	April 10, 2019		
Supersedes:	n/a	Page:	1 of 7

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.

Reference to administration/with-holding of Glucagon has been corrected in the following ALS protocols:

- **511 ALTERED MENTAL STATUS**
- **513 SEIZURES**
- **530 EXCITED DELIRIUM *(ADULT PATIENTS ONLY)***
- **556 PEDIATRIC ALTERED MENTAL STATUS**
- **557 PEDIATRIC SEIZURES**

NEW LANGUAGE IS BOLD-BLUE.

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.

Josef Schenker, MD, CPE, FACEP, FAEMS
Chair, Regional Emergency Medical Advisory Committee of New York City

Marie C. Diglio, BA, EMT-P
Executive Director Operations, Regional Emergency Medical Services Council of New York City

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.

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.

3. Administer up to 25 gm Dextrose, IV/IO bolus.
4. In patients with diabetic histories where an IV 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, administer Naloxone, titrate in increments of 0.5 mg up to response, up to 4 mg, IV/IO/IN/IM.

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

6. If there still is no change in mental status or it fails to improve significantly, repeat administration of up to 25 gm Dextrose, IV/IO 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.

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 infusion of Normal Saline (0.9% NS) to keep vein open.

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 up to 25 gm Dextrose, IV/IO bolus.
5. In patients with diabetic histories where an IV route is unavailable, administer Glucagon 1 mg, IM or IN.
6. Administer Lorazepam 2 mg, IV 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 bolus. A single repeat dose of Diazepam 5 mg, IV-bolus, may be given for generalized seizures that are ongoing or recurring. (Rate of administration may not exceed 5 mg/min.)

   OR

   Administer Midazolam 5 mg, IV/IO, or if IV/IO access is unavailable, 10 mg, IM or IN.
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-bolus, or, if IV access is unavailable, IN or IM.

OR

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

OR

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

OR

Repeat Midazolam 5 mg, IV/IO bolus.

OPTION B: Transportation Decision.

530
EXCITED DELIRIUM
(ADULT PATIENTS ONLY)

1. Begin Basic Life Support procedures.
2. Prehospital Chemical Restraint Procedure: If patient continues to struggle while being physically restrained administer Midazolam, 10 mg, IM.
3. After adequate sedation, begin IV infusion of Normal Saline (0.9% NS) or Ringers' Lactate (RL) via a 14 to 20-gauge catheter, up to 1 liter, via a macro-drip.
4. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
5. Begin pulse oximetry. Obtain Finger Stick Blood Glucose (FSBG) level.

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

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.

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:

Option	Class	Medication	Route	Dose
Option A	Dissociative Agents	Ketamine	IntraMUSCULAR	2-4 mg/kg
		Ketamine	IntraNASAL	1-2 mg/kg
Option B	IM Benzodiazepines	Midazolam	IntraMUSCULAR	Up to 10 mg
		Lorazepam	IntraMUSCULAR	4 mg
Option C	IN or IV Benzodiazepines	Diazepam	IV /IO bolus	5-10 mg
		Midazolam	IV/IO bolus IntraNASAL	Up to 5 mg
		Lorazepam	IV bolus IntraNASAL	2 mg

OPTION D: Transportation Decision.

556
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 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. Attempt vascular access no more than twice.

NOTE: **A GLUCOMETER SHALL 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 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 IN/IM IV/IO:
   a. In patients two (2) years of age or older, titrate in increments of 0.5 mg up to response, up to 2 mg. (Refer to Length Based Dosing Device).
   b. In patients, less than two (2) years of age, titrate up to 1 mg. (Refer to Length Based Dosing Device).
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.

557
PEDIATRIC SEIZURES

For patients experiencing seizures that are ongoing or recurring

1. Begin Basic Life Support Seizures procedures.

NOTE: **A GLUCOMETER SHALL 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.

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.)

NOTE: **THE MIDAZOLAM DOSAGE LISTED ON THE LENGTH BASED DOSING DEVICE FOR INDUCTION (Pre-Intubation) MAY NOT BE USED FOR SEIZURES.**

During transport, or if transport is delayed:

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

5. Administer Dextrose 0.5 gm/kg, IV 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 0.1 mg/kg, IV/IN or IO bolus, slowly, over 2 minutes. Repeat doses of Lorazepam 0.1 mg/kg, IV/IN or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

OR

Administer Diazepam 0.2 mg/kg, IV or IO bolus, slowly, over 2 minutes. Repeat doses of Diazepam 0.2 mg/kg, IV or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

OR

Administer Midazolam 0.2 mg/kg IV/IO bolus, slowly, over 2 minutes. Repeat doses of midazolam 0.2 mg/kg, IV/IO bolus, slowly, over 2 minutes may be given if seizures persist. (Refer to Length Based Dosing Device.)

Glucagon Typographical Corrections

OPTION B: If IV 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.)

NOTE: **DO NOT ADMINISTER LORAZEPAM, DIAZEPAM, OR MIDAZOLAM IF THE SEIZURES HAVE STOPPED.**

OPTION C: Transportation Decision.