

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

Regional Emergency Medical Advisory Committee

Minutes

November 17, 2009

The Regional Emergency Medical Advisory Committee (REMAC) of New York City met on Tuesday, November 17, 2009 at the Offices of the Regional EMS Council of NYC, 475 Riverside Drive, Lounge, New York City. This meeting can be viewed via webcast at www.nycremsco.org.

	<u>PRESENT</u>	<u>ABSENT</u>
Burn Surgeon (1)		Roger Yurt, MD (excused)
EMS Community Emergency Department Director (3)	Katherine Vlascia, MD Allen Cherson, DO	Jeffrey Horwitz, DO (excused)
EMS Community Emergency Department Nurses (2)		Vacant Vacant
EMS Community Emergency Department Administrators (2)	Jack Finkelstein, alternate for Clifford Miller	Vacant
Fire Department, City of New York		
<ul style="list-style-type: none"> Commissioner or Non-Physician Designee 		John Peruggia
<ul style="list-style-type: none"> Medical Director (3) 		David Prezant, MD Glenn Asaeda, MD Bradley Kaufman, MD (excused)
<ul style="list-style-type: none"> Online Medical Control Physicians (2) 	Doug Isaacs, MD John Freese, MD	
<ul style="list-style-type: none"> Emergency Medical Technicians (Basic/Paramedic) (2) 	Christopher Swanson, EMTP	Dinorah Claudio, EMTP
Greater New York Hospital Association		
<ul style="list-style-type: none"> President or Non-Physician Designee (1) 	Alison Burke, alternate for Deborah Brown	
<ul style="list-style-type: none"> Emergency Physician (1) 	Jeffrey Rabrich, MD, alternate for Stephen G. Lynn, MD	
<ul style="list-style-type: none"> Ambulance Service 		Heidi Cordi, MD, Second

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Medical Director (1)		Vice Chair (excused)
<ul style="list-style-type: none"> On Line Medical Control Physicians (2) 	Lewis Marshall, JD, MD Chair	
	Josef Schenker, MD	
<ul style="list-style-type: none"> Emergency Department Administrator (2) 	Christopher McCarthy, MD	
	Frank Mineo, PhD, EMTP	
<ul style="list-style-type: none"> Emergency Medical Technicians (Basic/Paramedic) (2) 		Anthony Conrardy, EMTP
		Vacant
Medical Standards Committee		
<ul style="list-style-type: none"> BLS Physician (1) 	David Ben-Eli, MD	
<ul style="list-style-type: none"> ALS Physician (1) 		Vacant
Medical Society of New York Physician (1)		Peter Wyer, MD
New York City Department of Health & Mental Hygiene-Emergency Preparedness Program Physician (1)	Lewis Soloff, MD	
New York City Health & Hospitals Corporation Physician (1)	Lorraine M. Giordano, MD	
New York City Police Department Physician (1)		Charles Martinez, MD
NYS Volunteer Ambulance & Rescue Association/District 4 & 18		
<ul style="list-style-type: none"> Ambulance Service Medical Director (1) 		Joseph Bove, MD, First Vice Chair (excused)
<ul style="list-style-type: none"> Emergency Medical Technicians (Basic/Paramedic) (2) 	Ralph Cefalo, EMT	
	Martin Grillo, EMTP	

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Pediatric Emergency Medicine Physician (1)		George Foltin, MD (excused)
Psychiatric Emergency Medicine Physician (1)		Vacant
Regional EMS Council NYC Physician (1)		Vacant
Trauma Surgeon (1)	Arthur Cooper, MD	
Training & Education Committee Physician (1)		Eliot Lazar, MD
United New York Ambulance Network (UNYAN)		
<ul style="list-style-type: none"> Ambulance Service Medical Director (1) 		Victor Politi, MD
<ul style="list-style-type: none"> Emergency Medical Technicians (Basic/Paramedic) (2) 		Vacant
		Vacant

STAFF

Nancy Benedetto, Executive Director Administration
 Marie Diglio, EMTP, Executive Director Operations

GUESTS

Yedidyah Langsam, PhD, EMTP
 Robert Goldstein
 Dario Gonzalez, MD
 Gary Kaplan
 Jack Quigley
 Jay Reich
 Mark Albert
 Christopher Legaz
 Kevin Munjal
 David Lehnfeld
 Jessica van Voorhees

Dr. Marshall called the meeting to order at 6:30 pm. For the purposes of web casting, a roll call was performed. A quorum was not present. Business will be conducted under consensus. Dr. Yedidyah Langsam recommended since there is no quorum, the REMAC Executive Committee

should be permitted to review and approve tonight's decisions, and represent at the next REMAC meeting.

Dr. Marshall asked if there were any corrections to the October 20, 2009 Minutes. After hearing no changes, the REMAC Meeting minutes were accepted as written.

CORRESPONDENCE REPORT

The Offices of the Council received the following correspondence:

Membership:

- The following members requested to be excused:
 - Jeffrey Horwitz, Robert Crupi, Chien-Jung Chu, Doug Isaacs, Martin Grillo, George Foltin, Heidi Cordi
- Memo from Dr. James Kenny asking that the minutes reflect that Dr. Christopher Graziano was also present at the October Medical Standards Meeting

From FDNY:

- PCR monthly inventory report for September 2009.

From NYS DOH:

- **Public Notice from New York State Department of Health, Bureau of EMS, Operations Unit, to be read into the REMAC Minutes of the following enforcement actions:**

Provider Name	EMT #	Penalty	Violation of	County of Operation
Christopher McCabe	303822	Probation 3 years effective 10/21/09 \$2000	Part 800.15 and 800.16	Clifton Park

Protocol:

- Comments received:
 - Oxitocin should be kept

Other:

- The Blanket, issue 2 - 2009

The Office of the Council sent the following correspondence:

- Letter NYS DOH affirming REMAC's decision regarding staffing standards.
- Agendas, Minutes and associated attachments for the November 2009 meetings.

SUBCOMMITTEE REPORTS

Medical Standards Committee (*Josef Schenker, MD, Vice Chair*)

The Medical Standards Committee met immediately prior to REMAC.

Comments from Protocol Public Notice were reviewed. No changes recommended.

Proposed Protocol revisions: approved, UNLESS OTHERWISE STATED

General Operating Procedures

Use of End Tidal Capnography (ETCO₂)

- Remains mandatory for Endotracheal Intubation
- If available for other advanced airways (i.e., King Airway, Combi-tube, LMA)

ALS Protocols

503-A – Ventricular Fibrillation / Pulseless Ventricular Tachycardia

- Hypothermia field treatment added – administration of cooled saline.

503-B – Pulseless Electrical Activity (PEA) / Asystole

- Hypothermia field treatment added – administration of cooled saline.

503-C – **POST-RESUSCITATION MANAGEMENT FOR NON-TRAUMATIC CARDIAC ARRESTS**

- **NEW PROTOCOL**

5XX – Vomiting

- **NEW PROTOCOL**

- Adds Ondansetron IV for patients with severe vomiting, unable to take medication by mouth.
- 4 mg for adults

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- Pediatric dose must be identified by pediatric physicians

These proposed protocols will not make the December 2 SEMAC meeting, due to the SEMAC requirement of a 30 day public notice. These will have to go to the February SEMAC meeting, and not be part of the January 1, 2009 protocol package distributed to the region. REMAC will have to decide if these protocols are emergent and require immediate implementation at that time.

Revisions to the Medical Standard Bylaws to merge the ALS and BLS memberships were approved.

The next meeting of the Medical Standards Committee will be on January 12, 2010

REGIONAL COUNCIL UPDATE

Marie Diglio reported the Regional Emergency Medical Services Council of New York City met on October 27, 2009. The following is a meeting summary:

- No new application for Transfer of Operating Authority or Certificate of Need
- VAC-FDNY 911 System contract draft comments to be submitted to FDNY
- Yedidyah Langsam, PhD, appointed Chair of Ambulance Committee
- Non-acceptance of volunteer unit log-on by FDNY RCC discussed. FDNY representatives presented stated they would investigate this event
 - If this occurs it will interfere/prevent BLS request for ALS back-ups
- Support for the Roosevelt Island BLS First Response unit withdrawn; a cease and desist letter to be sent. Ambulance Committee will investigate whether there is a continued need for BLS FR in this region
- Emergency Aid Training, new BLS course sponsor in Bronx recommended for approval
- REMSCO H1N1 PODs, being activated and working with NYC DOHMH
- The next meeting of the Regional Council Committee will be November 24, 2009.

JOINT REMSCO/REMAC QA COMMITTEE UPDATE (JOSEPH SCHENKER, MD, CHAIR)

The QA Committee will meet on January 5, 2010.

STATE EMS COUNCIL/SEMAM UPDATE

The State EMS Council and SEMAM will meet on December 2 & 3, 2009.

UNFINISHED BUSINESS

The REMAC Bylaw revisions will be voted on at the next meeting due to lack of quorum.

NEW BUSINESS

No new business.

The meeting adjourned at 7:30 pm. The next meeting of the REMAC Committee will be January 12, 2010.

GENERAL OPERATING PROCEDURES

Use of End Tidal Capnography (ETCO₂)

- **Mandatory for Advanced Life Support (*Effective date: January 1, 2009*)**

NOTE: ALL PATIENTS WITH ENDOTRACHEAL TUBE PLACEMENT REQUIRE CONTINUOUS END-TIDAL WAVEFORM CAPNOGRAPHY TO CONFIRM ADVANCED AIRWAY DEVICE PLACEMENT.

WHEN AVAILABLE, THE USE OF WAVEFORM CAPNOGRAPHY SHOULD ACCOMPANY THE USE OF ALTERNATIVE ADVANCED AIRWAY DEVICES (i.e. Combitube, King Airway, LMA).

- **For ALL patients with (ENDOTRACHEAL TUBE) placement (arrest or not), waveform Capnography is MANDATORY. Wherever the term 'monitor airway' is used throughout the protocols, the following elements shall be utilized:**

- *Use of a secondary form of Endotracheal Tube confirmation is mandatory.*

- *Secondary confirmation devices are not a substitute for primary confirmation techniques that rely upon direct visualization and auscultation.*
- *Secondary confirmation devices serve as an additional method of documenting proper endotracheal tube placement.*

Rationale

While the use of waveform capnography for all advanced airways (Combitube, King, LMA, and ETT) is important for ensuring proper airway placement and maintenance, its use with alternative airways (Combitube, King, LMA) is not as essential. To date, there has never been a study showing that capnography improves placement or maintenance

of these devices, and our own internal data suggest that these issues are actually not issues with these devices. That said, the use of capnography will allow for more appropriate ventilatory management of these patients, so we recommend that its use with such devices be recommended and not mandatory.

The second issue that this change addresses is the multi-patient scenario. Under our present protocol, if two paramedics possessing a single capnography device were presented with two patients in need of airway management (i.e. two patients in arrest who are removed from a fire, a multi-patient shooting, etc), they would be able to place an airway in only one of those patients. While we feel that intubation remains a skill that requires capnography, this change in the GOPs would allow for alternative airway placement in a number of patients when such scenarios occur (which they already have) without violation of protocol or good patient care.

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 PATIENT HAS A PERMANENT PACEMAKER IN PLACE, POSITION THE PADDLES OR 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 2nd time as previously stated.
4. Continue CPR. If after two minutes of additional CPR if there is no change in the rhythm, Defibrillate a 3rd time as previously stated.
5. Perform Endotracheal Intubation.
6. If, after every two minute interval of additional CPR, there is no change in the rhythm, Defibrillate* as previously stated.

7. Initiate IV / IO access using at least an 18g device.

8. Begin rapid IV/IO infusion of ice-cold (4° Celcius) Normal Saline (30mL/kg, maximum 2 liters) utilizing a 300mmHg pressure infusion sleeve.

9. Administer Vasopressin 40 unit IV/IO/Saline Lock Bolus, single dose.

10. If there is no change in the rhythm, administer Amiodarone 300mg, diluted up to a total of 20mL of D₅W, IV / IO / Saline Lock bolus.

11. If there is no change in the rhythm within 3 – 5 minutes after the administration of Vasopressin, administer Epinephrine 1 mg (10 ml of a 1:10,000 solution), IV/IO/Saline Lock bolus, every 3 – 5 minutes.
12. 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 diluted up to a total of 10 ml D₅W, 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 (CaCl₂) 1 gm, SLOWLY, IV/IO/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.

OPTION E: Transportation Decision.

Rationale

There are two changes recommended for this protocol in order to facilitate intra-arrest hypothermia induction:

- 1) The addition of ice-cold (4° Celcius) was added to induce hypothermia early in the arrest. There are four reasons to place it this early in the protocol. First, some of the physiologic advantages of hypothermia may be augmented by early induction. Second, for those patients who achieve ROSC and/or survive, this will maximize the reduction in time between the patient's arrival at the hospital and achieving target temperature. Third, the vasomotor response to the ice-cold saline may reduce the need for pharmacologic vasopressor agents and their associated post-resuscitation myocardial effects. Fourth, for patients in VF/VT, lowering core temperature toward target temperature is known to improve the efficacy of defibrillation attempts.
- 2) The changes include the combined use of an 18g (or larger) catheter or IO and a pressure infusion sleeve. This is necessary to allow for the more rapid infusion that

is needed to induce hypothermia. Infusion via an 18g angiocath with gravity-dependent flow will achieve an infusion rate of 55 ml/min, while the infusion sleeve will increase this rate to 164cc/min, allowing us to provide the necessary fluid bolus during the 20-minute course of most arrests.

503 - B
PULSELESS ELECTRICAL ACTIVITY (PED) / ASYSTOLE

NOTE: CONSIDER THE POSSIBILITY OF CONDITIONS MASQUERADING AS PEA/ASYSOLE 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 Endotracheal Intubation.
4. Initiate IV / IO access using at least an 18g device.
5. Begin rapid IV/IO infusion of ice-cold (4° Celcius) Normal Saline (30mL/kg, maximum 2 liters) utilizing a 300mmHg pressure infusion sleeve.
6. Administer Vasopressin 40 unit IV/IO/Saline Lock Bolus, single dose.
7. Administer Dextrose 25 gm (50 ml of a 50% solution), IV/Saline Lock bolus.

NOTE: A GLUCOMETER (IF AVAILABLE) MUST BE USED TO DOCUMENT BLOOD GLUCOSE LEVEL PRIOR TO DEXTROSE ADMINISTRATION.

IF THE GLUCOMETER READING IS ABOVE 120 mg/dl, DEXTROSE SHOULD BE WITHHELD.

8. If there is no change in the rhythm within 3–5 minutes after administration of Vasopressin, administer Epinephrine 1 mg (10 ml of a 1:10,000 solution), IV/IO/Saline Lock bolus, every 3 – 5 minutes.
9. If the patient has a heart rate (based on rhythm strip) less than 60 beats/min, administer Atropine Sulfate 1 mg, IV/IO/Saline Lock bolus. If the heart rate, remains less than 60 bpm, repeat Atropine Sulfate 1 mg, IV/IO/Saline Lock bolus, every 3 – 5 minutes. (Maximum total dosage is 3 mg.)
10. 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.

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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

Rationale

The changes recommended for this protocol are no different than those suggested for Protocol 503A.

NEW PROTOCOL

503 - C

POST-RESUSCITATION MANAGEMENT FOR NON-TRAUMATIC CARDIAC ARRESTS

1. Perform, record, and evaluate a 12-lead EKG.
2. If the patient is intubated or has an advanced airway in place, ensure adequate ventilation to maintain a waveform capnography values between 35-45 mmHg.
3. If the patient is NOT awake and NOT able to follow commands:
 - a. Continue the infusion of ice cold (4° Celcius) normal saline via IV / IO to a total of 30mL/kg (maximum total volume = 2 liters).
 - b. Administer Fentanyl 1mcg/kg IV/IO (maximum dose 100mcg) to suppress shivering.
4. Administer Dopamine 5 ug/kg/min, IV/Saline Lock drip to maintain a systolic blood pressure >90mmHg. 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.)
5. If Fentanyl was administered and the patient develops or continues to shiver, administer Midazolam 0.1mg/kg IV / IO (maximum dose 10mg).
6. Initiate transport.
7. If the nearest 911 receiving facility is not a Cardiac Arrest Center, contact OLMC to request selective transport to the nearest Cardiac Arrest Center.
 - a. If the 12-lead EKG performed meets STEMI criteria, contact OLMC to request selective transport to a Cardiac Arrest Center that is also capable of performing PCI.

NOTE: OLMC APPROVAL IS REQUIRED FOR ALL STEMI TRANSPORTS, EVEN WHEN THE NEAREST 911 RECEIVING FACILITY IS ALSO A STEMI CENTER, INCLUDING 12-LEAD EKG TRANSMISSION.

Rationale

Because this is a new protocol, the rationale for each step will be provided below:

- 1) Given the need to facilitate transport to either a Cardiac Arrest Center, the acquisition of a 12-lead EKG will provide the information necessary to decide whether that Cardiac Arrest Center needs to also be a PCI-capable facility.
- 2) With the availability of this information, we should be ventilating patients at a physiologically appropriate rate based upon available data, not a randomly selected rate.
- 3) Though this has been a medical control option in the past, we find that the paramedics in this system are calling for it when appropriate and not being refused by OLMC physicians. Keep in mind that the issue of hypovolemia will have already been corrected via the 30cc/kg bolus provided to induce hypothermia.
- 4) There are three components to this step:

- a. Obviously, patients who demonstrate a highly-functioning neurologic status (awake, following commands) would not benefit from therapeutic hypothermia, so we need to ensure that they are not included in the population for whom therapeutic hypothermia is pursued.
- b. Shivering can not only make it more difficult to achieve target temperature, but by failing to provide medications to prevent shivering can actually cause the patient to be cooled too aggressively so that, once those medications are finally provided, the patient's core temperature will fall below the target range ("overshoot"). And though fentanyl will require approval from both the SEMAC and state narcotic's bureau as a standing order, its short-lived effects with respect to sedation (therefore not falsely obscuring the ED neuro exams), its significant anti-shivering properties, and its lack of hemodynamic compromise (when compared to benzodiazepines) or other adverse drug effects (when compared to meperidine and other agents) makes it the preferred agent for our system as a part of this program.
- c. In the event that shivering is not controlled with fentanyl, the addition of midazolam should provide sufficient control.

- 5) With the above items complete, transport should be initiated ASAP.
- 6) When the nearest ED is also a Cardiac Arrest Center, the only benefit to the OLMC contact (particularly if hemodynamic therapy – i.e. dopamine – is a standing order) is the notification that will occur as a result of the OLMC contact (no "approval" is needed to bypass a closer facility because the destination of choice is the closest facility). And because these notifications can be made via EMD, we recommend that no OLMC contact / approval be required for such patients.

- a. While Cardiac Arrest Center transports are presently only concerned with notifications and (when necessary) transport approvals, STEMI transports have the additional involvement of EKG transmission and physician verification, not to mention the impact on in-hospital time that

may result from transmission of STEMI EKGs to the receiving facilities. For this reason, as well as the state insistence that continue to exist for this program, patients whose post-ROSC 12-lead EKG meet STEMI criteria will continue to require OLMC approval.

NEW PROTOCOL

NEW – 5XX

VOMITING

For adult and pediatric patients with persistent vomiting or severe nausea.

1. Begin Basic Life Support Abdominal Pain procedures.
2. Begin an IV/Saline Lock infusion of Normal Saline (0.9% NS).
3. Monitor vital signs every 5 minutes.
4. Consider and treat, as per the appropriate protocol, underlying causes of the patient's gastrointestinal emergency (i.e. Poisoning, Myocardial Ischemia, etc).
5. Administer Ondansetron 0.1mg/kg (not to exceed 4mg), IV or Saline Lock bolus over 2 – 5 minutes.

Rationale – Protocol 5XX

In 2008, the paramedics of the FDNY treated over 10,000 patients with a presenting problem that included nausea or vomiting. Extrapolated to the entire 911 system, and there may be over 16,000 patients to whom this protocol would apply. In the entire NYC EMS system, this number is obviously even larger. The low cost of the medication suggested along with its safety (little effect of GI motility, safety in pregnancy, limited drug interactions, etc) make this drug an ideal selection for such a protocol.