

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

## Regional Emergency Medical Advisory Committee

### Minutes

February 21, 2017

The Regional Emergency Medical Advisory Committee (REMAC) of New York City met on Tuesday, February 21, 2017 at the Offices of the Regional EMS Council, 475 Riverside Drive, New York City. This meeting can be viewed via webcast at [www.nycremsco.org](http://www.nycremsco.org).

<i>Members</i>		<i>Present</i>	<i>Absent</i>
<b>Burn Surgeon (1)</b>	Robert J. Winchell, MD		√
<b>Downstate New York Ambulance Association</b>			
Ambulance Service Medical Director (1)	Josef Schenker, MD, Chair		√
Emergency Medical Technicians (Basic/Paramedic) (2)	Michael Vatch, EMTP Robert Ackerman, Alt	√	
	Vacant vacant, alt		
<b>EMS Community Emergency Department</b>			
Medical Directors (3)	Nikolaos Alexandrou, MD	√	
	Christopher Graziano, MD	√	
	Vacant		
Nurses (2)	Eric Cohen, RN		√
	Mimi Langsam, RN		√
Administrators (2)	Kevin Munjal, MD	√	
	Cindy Baseluos, MD		√
<b>FDNY EMS</b>			
Commissioner or Non-Physician Designee	Vacant		
Medical Director (3)	Dario Gonzalez, MD	√	
	Glenn Asaeda, MD		√
	Bradley Kaufman, MD, 2 <sup>nd</sup> Vice Chair		√
Online Medical Control Physicians (2)	Doug Isaacs, MD	√	
	Nathan Reisman, MD	√	
Emergency Medical Technicians (Basic/Paramedic) (2)	Telina Lloyd, EMTP	√	
	Joshua Bucklan, RN, EMTP		√
<b>Greater New York Hospital Association</b>			
President or Non-Physician Designee (1)	Alison Burke		√
Emergency Physician (1)	Jeffrey Rabrich, MD, 1 <sup>st</sup> Vice Chair	√	
Ambulance Service Medical Director (1)	Heidi Cordi, MD		√

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On Line Medical Control Physicians (2)	Lewis Marshall, JD, MD	√	
	Michael Redlener, MD	√	
Emergency Department Administrator (2)	Michael Guttenberg, DO	√	
	Pamela Lai, MD	√	
Emergency Medical Technicians (Basic/Paramedic) (2)	Dominick Battinelli, EMTP	√	
	Scott Chiang, EMTP	√	
<b>Medical Society of New York Physician (1)</b>	Peter Wyer, MD	√	
<b>Medical Standards Committee</b>			
ALS Physician (1)	Paul Barbara, MD	√	
BLS Physician (1)	David Ben-Eli, MD	√	
<b>New York City Department of Health &amp; Mental Hygiene- Emergency Preparedness Program Physician (1)</b>	Celia Quinn, MD, MPH Timothy Styles, MD, MPH, alternate	√	
<b>New York City Health &amp; Hospitals Corporation Physician (1)</b>	Vacant		√
<b>New York City Police Department Physician (1)</b>	Charles Martinez, MD	√	
<b>NYS Volunteer Ambulance &amp; Rescue Association/District 4 &amp; 18</b>			
Ambulance Service Medical Director (1)	Joseph Bove, MD	√	
Emergency Medical Technicians (Basic/Paramedic) (2)	Martin Grillo, EMTP		√
	Vacant		√
<b>Pediatric Emergency Medicine Physician (1)</b>	Matthew Harris, MD		√
	Stephen Blumberg, MD, alternate		
<b>Psychiatric Emergency Medicine Physician (1)</b>	William Fisher, MD	√	
<b>Regional EMS Council NYC Physician (1)</b>	Robert Crupi, MD	√	
<b>Training &amp; Education Committee Physician (1)</b>	Jessica van Voorhees, MD		√
<b>Trauma Surgeon (1)</b>	Arthur Cooper, MD	√	
	Gary Marshall, MD, alternate		
<b>Non-Voting Members</b>			
At Large	Yedidiah Langsam, PhD, EMTP		√
At Large	Anthony Shallash, MD	√	
Public	Christopher Sorrentino, RN		√

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**STAFF:** Nancy Benedetto, Executive Director Administration  
Marie Diglio, Executive Director Operations  
Joseph Raneri, Disaster Preparedness Coordinator

**GUESTS:** Madeline Fong, EMTP  
Robert Goldstein, EMTP, NYPS-ESU  
Rich Menaik, MD, FDNY  
M. Meredith Masters, MD, FDNY  
Jason Zimmerman, DO, Maimonides Medical Center / InstaCare

Dr. Josef Schenker, Chair, called the meeting to order. For the purposes of web casting, a roll call was performed. A quorum was present. The Minutes of the November 15, 2016 REMAC Meeting were unanimously approved.

**Voting Requirements.** A quorum is based on the number of voting seats – whether they are filled or vacant. Currently, REMAC has 30 voting seats, so when voting, a majority of members must vote in the affirmative to pass any motion. That means, 16 votes in the affirmative are needed to pass any motion.

## CORRESPONDENCE REPORT

*The Offices of the Council received the following correspondence:*

➤ **Membership:**

- No new information

➤ **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 /Agency Name	EMT / Agency #	Penalty	Violation	County of Residence
Kenneth Relaya Sr	300531	\$2000 civil penalty	800.16(a)(7)	Canastota
Ali Fattah	400015	\$1000 civil penalty	800.16(4) & 800.3(ap)	Brooklyn

- Copy of a letter sent to Staten Island University Hospital – South Campus, stating it has been designated a Stroke Center.

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- Change in Epi-Auto injector law (3000-C): any who has a prescription can have and administer an epi-auto injector.
- 800.5 Requirement for ALS System – must have controlled substances approved plan.

*The Office of the Council sent the following correspondence:*

- Agendas, Minutes and associated attachments for the meeting.
- Letter to American Heart Association/ American Stroke Association, supporting its application for funding to improve patient care in NYC.

## SUBCOMMITTEE REPORTS

**Medical Standards Committee** (David Ben-Eli, MD, Chair, Paul Barbara, MD, Vice-Chair)

Dr. Ben-Eli presented the seconded motions for discussion and vote:

Section	Changes
GOP Pediatric Protocols Pediatric Drug Dosage and Fluid Administration (557 Pediatric Seizures)	Doses on the length based dosing device may only be used for the specific indication listed on the device.
GOP (New) Administration of Vasopressor Medications (500A, 500B, 504B, 510)	<ul style="list-style-type: none"> <li>• Describes Vasopressor infusions.</li> <li>• <b>Dr. Zimmerman will draft language.</b></li> </ul>
CFR Protocol 303-Cardiac Arrest	Delete 2 minutes CPR in unwitnessed CA to be consistent with AHA
EMT Protocol 403-Non-Traumatic Cardiac Arrest	Delete 2 minutes CPR in unwitnessed CA to be consistent with AHA
EMT Protocol 411-Altered Mental Status New Note Glucometer	<ul style="list-style-type: none"> <li>• Glucometer, if available</li> <li>• Reading reduced to 60mg/dl</li> </ul>
EMT Protocol 413-Seizures New Note Glucometer	<ul style="list-style-type: none"> <li>• Glucometer, if available</li> <li>• Reading reduced to 60mg/dl</li> </ul>
Paramedic Protocol 500A-Smoke Inhalation	<ul style="list-style-type: none"> <li>• Add Norepinephrine for hypotension</li> </ul>
Paramedic Protocol 500B-Cyanide Exposure	<ul style="list-style-type: none"> <li>• Add Norepinephrine for hypotension</li> </ul>
Paramedic Protocol 503A-VFib/Pulseless VTach	Delete 2 minutes CPR in unwitnessed CA to be consistent with AHA
Paramedic Protocol 504B-Cardiogenic Shock	<ul style="list-style-type: none"> <li>• Add Norepinephrine for hypotension</li> </ul>
Paramedic Protocol 510-Allergic/Anaphylactic Reaction	<ul style="list-style-type: none"> <li>• Add Norepinephrine for hypotension</li> </ul>
Paramedic Protocol	<ul style="list-style-type: none"> <li>• Remove reference to diabetic history</li> </ul>

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511-Altered Mental Status	<ul style="list-style-type: none"><li>• Delete saline lock, replace with IO</li><li>• Reading reduced to 60mg/dl</li></ul>
Paramedic Protocol 528-Burns NOTE revised	<ul style="list-style-type: none"><li>• Consult for admin of analgesics for face/airway burns</li><li>• IV infusion: adult &amp; pediatric doses</li></ul>
Paramedic Protocol 530-Excited Delirium	<ul style="list-style-type: none"><li>• Add IV gauge 14-20</li><li>• Add finger-stick blood glucose</li><li>• Mandatory QA deleted</li></ul>
Paramedic Protocol 550-Pediatric Respiratory Arrest	<ul style="list-style-type: none"><li>• Revise naloxone dose/route</li></ul>
Paramedic Protocol 556-Pediatric Altered Mental Status	<ul style="list-style-type: none"><li>• Revise naloxone dose/route</li><li>• Glucometer Note</li></ul>
Paramedic Protocol 557-Pediatric Seizures	<ul style="list-style-type: none"><li>• Change glucometer reading from 120mg/dl to 60 mg/dl</li><li>• Doses on the length based dosing device may only be used for the specific indication listed on the device.</li><li>• Change Lorazepam dose.</li></ul>

REMAC conducted a roll-call vote and approved all revisions. A copy of the revised protocols, showing all changes is attached.

REMAC Unanimously approved a December 1, 2017 sunset date for the implementation of BLS Glucometry.

REMAC unanimously approved the QA Committee project to request hospital data regarding pediatric dosing in Excited Delirium.

A TAG to review physician credentials for Mass Gatherings was formed.

**The next meeting of the Medical Standards Committee is scheduled for March 21, 2017.**

## **REGIONAL COUNCIL UPDATE**

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The Regional Emergency Medical Services Council of New York City meeting was held on Tuesday, January 31, 2017, at the offices of the Regional Council, NYC. The following is a meeting summary:

- Lewis Marshall, MD, JD, re-appointed as representative to SEMAC.
- Yediyah Langsam, Robert Crupi and Mitchell Powell were approved for nomination to SEMSCO.
- No Applications for Determination of Need
- No Transfer of Operating Authority applications received
- FDNY CFR Demonstration Project approved.
  - This was NOT approved by SEMSCO.

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- Check & Inject Program still in force. Those agencies that participated in the study can continue; others must wait until law is signed.
  - Update: The Law has been signed.
- REMSCO is waiting for delivery of additional naloxone for distribution to non-municipal agencies in NYC.
- SEMSCO: It was stated at the January 2017 SEMSCO meeting that if an item is not in Public Health Law it is NOT enforceable. This includes AEDs, epi-pens, and certain NYS DOH policies (06-06).
  - This does not interfere with the REMAC authority to mandate AEDs and epi-pens as part of regional protocols.
- Epi-Pen use at schools/camps has been removed from statute. REMSCO is no longer responsible to process those applications. Epi-pens can be used by anyone, any agency that has a prescription from a physician.
- The CIC/CLI Instructor Exams have high failure rates. Regional Faculty and other EMS Instructor leadership in NYC will work on developing a prep course.
- The GNYHA/FDNY MCI Program was discussed. The development of this program did not include REMSCO. A meeting will be scheduled to discuss this issue.

**The next meeting of the Regional EMS Council will be held February 28, 2017**

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

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The Joint Regional Emergency Medical Services Council/Regional Emergency Medical Advisory Committee (REMAC) Quality Improvement Committee met on Tuesday, February 8, 2017 at 5:00 PM.

There was a brief discussion regarding replacing Dr. Kaufman with Dr. Pamela Lai. Dr. Lai must be a member of REMAC or REMSCO to have a seat on QI. This will be addressed at REMAC.

### AHA Mission Lifeline

Dr. Redlener stated he hoped the QA Committee and REMSCO/REMAC can work more closely with the AHA. He introduced Ms. Sheree Murphy, who presented information on AHA Mission Lifeline. She stated that there was a program to give EMS Agencies recognition for working with AHA. Goal times for STEMI Care were discussed. There was discussion regarding the submission of 12-lead ECGs to on line medical control facilities. Dr. Langsam stated that some on line medical control facilities do not request 12 lead ECGs from ALS units. The QA Committee suggested that on line medical control facilities and the acceptance of 12 lead ECGs be reviewed. Also, an advisory should be developed identifying STEMI and STROKE data elements (metrics).

The next QA meeting will be held on Wednesday, March 8, 2017 at 3:00 pm at the Mount Sinai Hospital. Specific address will be sent out with the agenda.

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## STATE EMS COUNCIL/SEMAC UPDATE (*Yedidyah Langsam, PhD*)

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The State EMS Council (SEMSCO) and State Emergency Medical Advisory Committee (SEMAC) met on January 10 & 11, 2017. Nancy Benedetto, representative to SEMSCO, reported the following:

1. **If something is not in regulation, it is unenforceable—meaning, Policy Statements issued by the Bureau of EMS are GUIDANCE DOCUMENTS, and are NOT enforceable:**
  - CON 0606 will no longer exist;
    - Bureau cannot dictate what “need” is. The definition must be tailored to the specific region.
  - Section 3000-C: EPI AUTO INJECTOR DEVICES:
    - Notice of intent has been eliminated
    - Healthcare collaborative agreements are no longer required
2. Check & Inject program for epi is still waiting signature – presently over 500 agencies are involved in this project, with 61 successful utilizations
3. Rockaway VAC CON is still under appeal
4. Large increase in CON applications—50 this year (2016)
5. NYC REMAC protocols were approved with some minor suggested changes
6. FDNY demo project to train CFRs to administer epi, aspirin, and albuterol –not approved by semsco. But, they did not need approval for epi and aspirin
7. Education and Training:
  - Good deal of discussion regarding critical care levels statewide – does not impact NYC
  - Instructor level exams: failure rate is quite high- this is probably due to semantics of national ems education courses – disconnect on the testing forum – this is being evaluated
  - SPINAL IMMOBILIZATION – SECTION 5- will no longer be on test- but it still must be taught
  - Annual protocol update will occur in the spring
8. May 1<sup>st</sup> deadline for awards submission to NYS—NYC April meeting to approve
9. May 23<sup>rd</sup> EMS Memorial
10. Oct 23-25 Vital Signs Conference in Rochester
11. The EMS Bureau – due to lack of funding etc. – is presently in the “no more initiatives” stage
12. May 9<sup>th</sup> – 10<sup>th</sup> next meeting

## UNFINISHED BUSINESS

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### RTAC

Dr. Ronald Simon, Chair RTAC was present. REMAC will be working with RTAC to develop consistent Trauma Patient notification and criteria. The focus will be why trauma patients are not being transported to trauma centers. The CDC and REMAC Trauma Patient Criteria will be reviewed. The TAG will include members of the QA Committee.

Pediatric Trauma meetings will be scheduled. Members will include Drs. Marshall, Cooper and Harris.

## NEW BUSINESS

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Members of the City College BLS First Response Squad were present. At this time, the application is complete, pending receipt of an executive transportation agreement. The REMAC Executive Committee was empowered to approved the application if the transport agreement was received between meetings.

## Call Review:

Dr. Paul Barbara, Chair C&C Committee, asked physicians to help provide 'call review' cme. There is not enough being conducted and this affects paramedic ability to recertify.

Dr. Isaacs reminded members of the FDNY Symposium being held on May 4-7, 2017. Please reach out to Dr. Isaacs for more information.

The application for On Line Medical Control submitted by Mount Sinai was approved.

No further discussion, the meeting adjourned at 8:00 pm. **The next meeting of the REMAC is scheduled for March 21, 2017.**



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## Pediatric Protocols

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The numbers of encounters with children are far fewer than with adults. These protocols therefore address situations where Advanced Life Support in the field can directly affect a child's survival.

Control of the airway and rapid transport are the underlying principles of the pediatric protocols and best serve the needs of the pediatric patient. Since intravenous or intraosseous access are more difficult in small children, these and other Advanced Life Support interventions are carried out enroute, or during a transport delay, except for special circumstances as clearly noted in the protocols.

### Airway and Ventilation

Airway management by mouth-to mask or bag-valve-mask ventilation should be used in neonates, infants, and children as a first maneuver for providing assisted ventilation. The above will be referred to throughout the pediatric protocols as "Assisted Ventilation." Remember that the correct position to maintain the optimal airway is age-dependent. In pediatric patients with suspected trauma, the airway maneuver of choice is a modified jaw thrust combined with cervical spine stabilization.

Oxygen should always be provided at high concentration in the pediatric patient and should be humidified when feasible. There are **no contraindications** to high concentration oxygen in the pre-hospital setting for the pediatric patient.

### Intubation

When noted in the protocols, or when other maneuvers used to ventilate the pediatric patient are inadequate, Endotracheal Intubation should be attempted. Suspicion of croup/epiglottitis is a contraindication to attempted Endotracheal Intubation.

Children suspected of having croup/epiglottitis may rapidly close off their airways during attempts at Endotracheal Intubation. Children with suspected croup/epiglottitis should be rapidly evacuated to the nearest 911 Ambulance Destination emergency department for definitive airway management. Children in cardiac arrest with upper airway obstruction should have attempts at high-pressure bag-valve-mask ventilation.

### Intravenous (IV) / Saline Lock (SL) Or Intraosseous Access (IO)

IV/Saline Lock or IO access to be started only enroute or during transport delay. There should be only one attempt of each method in obtaining access to pediatric patients. IV access should always precede IO access.

### Nasogastric Tube/Orogastric Tube

It may become necessary to pass a Nasogastric (NG) Tube or an Orogastric (OG) Tube in the neonate, infant, or child in order to successfully perform resuscitation. These patients may swallow air or have air forced into their stomach with CPR and Assisted Ventilation. The diaphragm may be forced upward, resulting in decreased tidal volume, if the stomach is not decompressed by an NG or OG tube.

### Pediatric Drug Dosage and Fluid Administration

For drug dosage and fluid administration, refer to a regionally approved *Length Based Dosing Device*. When there is a discrepancy between the protocols and the Length Based Dosing Device with regard to a

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particular dose, administer the dose listed on the Length Based Dosing Device and note the reason for the drug dosing in the ACR / PCR.

**NOTE: DOSES ON THE LENGTH BASED DOSING DEVICE MAY ONLY BE USED FOR THE SPECIFIC INDICATION LISTED ON THE DEVICE (E.G., THE DOSING OF MIDAZOLAM FOR INDUCTION (pre-Intubation) MAY NOT BE USED TO TREAT SEIZURE IF THERE IS NO MIDAZOLAM DOSING LISTED SPECIFICALLY FOR SEIZURES).**

- REMAC has approved the use of the **Broselow Tape**
- Endotracheal drug administration should only be used as a last resort.
- Initial fluid administration should not exceed 20 ml/kg.

## **Pediatric Values**

Refer to Length Based Dosing Device for drug dosages. Patients who are hypotensive according to blood pressure should be examined for other signs of shock to support the diagnosis. Note that it may be technically difficult to obtain a blood pressure in a small or agitated child; in this case, clinical judgment should be used in assessing for hypovolemic shock, especially in a trauma patient.

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## **(New) Vasopressor Medications**

**All Vasopressor infusions (not bolus) must be administered via 18G or larger IV, or an IO, using an IV flow regulating device (e.g., IV adjustable flow regulator, IV rate control extension set, infusion pump).**

CARDIAC ARREST

1. Begin Basic Cardiac Life Support procedures.
2. Update dispatch of a high priority patient.
3. If an automated external defibrillator is available.
  - ~~In CFR witnessed arrests, P~~perform CPR until defibrillator is attached.
  - ~~In arrests not witnessed by CFR, perform two (2) minutes of CPR prior to defibrillator use.~~

**NOTE:** If an AED utilizing VF waveform analysis is available, perform CPR until the defibrillator is attached for all arrests.

- If pediatric patient, under 9 years of age, see Protocol #353
4. Once a defibrillator is applied, immediately turn the machine 'On.'
  5. Analyze (do not perform CPR while the machine is analyzing).
    - Whenever the "NO SHOCK INDICATED" message appears, CPR should be performed for 2 MINUTES followed by the next analysis.
  6. Until transport arrives, continue CPR, re-analyze every 2 minutes and shock as indicated.

**Special Considerations When Using an AED**

- If present, remove Nitroglycerin patch and wipe off remaining paste; avoid contact with your skin.
- Prior to pad placement, the chest should be dry and, if needed, shave chest hair
- Attach automated external defibrillator pads
- If the patient has a pacemaker, position the pads at least one (1) inch away from the pacemaker device.

NON-TRAUMATIC CARDIAC ARREST

1. Begin Basic Cardiac Life Support procedures.
  2. Request Advanced Life Support assistance.
  3. Apply an automated external defibrillator:
    - a. ~~In EMS-witnessed arrests,~~ Perform CPR until defibrillator is attached.
    - ~~b. In arrests not witnessed by EMS, perform two (2) minutes of CPR prior to defibrillator use.~~
- NOTE:** If an AED utilizing VF waveform analysis is available, perform CPR until the defibrillator is attached for all arrests.
- c. If pediatric patient, under 9 years of age, see Protocol #453
  4. Analyze (do not perform CPR while the machine is analyzing).
    - Whenever the “NO SHOCK INDICATED” message appears, CPR should be performed for 2 minutes followed by the next analysis.
  5. After a total of three (3) cycles of CPR and analysis, continue CPR.
  6. Transport. During transport, or if transport is delayed, continue CPR, re-analyze every 2 minutes, and shock as indicated.

Special Considerations When Using an AED

- If present, remove Nitroglycerin patch and wipe off remaining paste; avoid contact with your skin.
- Prior to pad placement, the chest should be dry and, if needed, shave chest hair
- Attach automated external defibrillator pads
- If the patient has a pacemaker, position the pads at least one (1) inch away from the pacemaker device.

ALTERED MENTAL STATUS

**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.

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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, treatment for hypoglycemia should be withheld.

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](mailto:mdiglio@nycremsco.org) for directions on how to submit data electronically.

SEIZURES

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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.

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, treatment for hypoglycemia should be withheld. If Glucose is below 60, refer to Protocol 411 AMS.

7. Monitor breathing for adequacy.
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), administer:
  - a. Norepinephrine 2 mcg/min IV/IO. 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/IO.
  - OR
  - b. Dopamine 5 ug/kg/min, IV/IO ~~Saline Lock drip~~. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/IO ~~Saline Lock drip~~.)



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- \* *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.*

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TABLE 1: One Bottle Kit (5.0gm/200mL/bottle)		
Age Group	Hydroxocobalamin <sup>A</sup>	Sodium Thiosulfate <sup>B</sup>
Infant/Toddler (0-2 years)	¼ bottle	250mg/kg (3cc/kg prepared solution) administered over 10 minutes, IV
Preschool (3-5 years)	1/4 bottle	
Grade School (6-14 years)	1/2 bottle	
Adult (≥15 years)	1 bottle	12.5g 150mL of a prepared solution) administered over 10 minutes IV

<sup>A</sup> 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.

<sup>B</sup> 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)

One (1) 5.0 g bottle of crystalline powder Hydroxocobalamin	One (1) 2 ml fluoride oxalate whole blood tube
One (1) 12.5 g bottles of Sodium Thiosulfate (50 mL of 25% solution)	One (1) 2 ml K2 EDTA tube
Two (2) 100 mL bag 0.9% NS, D <sub>5</sub> W, LR	One (1) 2 ml lithium heparin tube
One (1) 100 mL bag D <sub>5</sub> W	

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500-B

CYANIDE EXPOSURE

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*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<sup>1</sup> 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.

1. Begin Basic Life Support Procedures.
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

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<sup>1</sup> 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.

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

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

<sup>A</sup> 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.

<sup>B</sup> 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), administer:

a. Norepinephrine 2 mcg/min IV/IO. 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/IO.

OR

b. Dopamine 5 ug/kg/min, IV/IO Saline Lock drip. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/IO 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.

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## MEDICAL CONTROL OPTIONS:

OPTION A: Transportation Decision.

### CYANIDE TOXICITY KIT (if available)

One (1) 5.0 g bottle of crystalline powder Hydroxocobalamin	One (1) 2 ml fluoride oxalate whole blood tube
One (1) 12.5 g bottles of Sodium Thiosulfate (50 mL of 25% solution)	One (1) 2 ml K2 EDTA tube
Two (2) 100 mL bag 0.9% NS, D <sub>5</sub> W, LR	One (1) 2 ml lithium heparin tube
One (1) 100 mL bag D <sub>5</sub> W	

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<sup>nd</sup> 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<sup>rd</sup> 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<sub>2</sub>) 1 gm, SLOWLY, IV/IO/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.

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OPTION E: Transportation Decision.

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504-B

CARDIOGENIC SHOCK

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1. Administer a 250 ml IV bolus of Normal Saline (0.9% NS). Repeat once for a maximum total dose of 500 ml.
2. Administer:
  - a. Norepinephrine 2 mcg/min IV/IO. 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/IO.

OR

- b. Dopamine 5 ug/kg/min, IV/~~IO Saline Lock drip~~. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/~~IO Saline Lock drip~~.)



ALLERGIC / ANAPHYLACTIC REACTION

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.

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8. Contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

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MEDICAL CONTROL OPTIONS:

OPTION A: Repeat any of the above Standing Orders.

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OPTION B: Administer:

- a) Norepinephrine 2 mcg/min IV/IO. 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/IO.

OR

- b) Dopamine 5 ug/kg/min, IV/~~IO~~ ~~Saline Lock drip~~. If there is insufficient improvement in hemodynamic status, the infusion rate may be increased until desired therapeutic effects are achieved or adverse effects appear. (Maximum dosage is 20 ug/kg/min, IV/~~IO~~ ~~Saline Lock drip~~.)

OPTION C: Transportation Decision.

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- \* *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 60 ~~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/IO ~~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 ~~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/IO/IN/IM.

**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.

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BURNS

*(ADULT & PEDIATRIC PATIENTS)*

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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:
  - 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).

NOTE: ACCURATE DOCUMENTATION OF PRE-ARRIVAL FLUID ADMINISTRATION IS REQUIRED.

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.~~ FOR PATIENTS WITH BURNS INVOLVING THE FACE AND/OR AIRWAY, CONSULTATION WITH ON-LINE MEDICAL CONTROL IS REQUIRED PRIOR TO ADMINISTRATION OF ANALGESICS.

- 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.)

OR

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

**NOTE:** If hypoventilation develops, administer Naloxone, titrate in increments of 0.5 mg up to response, up to 4 mg, IV/IO/IN/IM.

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MEDICAL CONTROL OPTIONS:

OPTION A: Transportation Decision.

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\* *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.*

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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:
  - 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 [14 to20-gauge catheter](#), up to 1 liter, via a macro-drip.
4. Begin Cardiac Monitoring, record and evaluate EKG rhythm, [and obtain finger stick blood glucose](#).
5. Begin pulse oximetry monitoring.
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
A	Dissociative Agents	Ketamine	IntraMUSCULAR	2-4 mg/kg
		Ketamine	IntraNASAL	1-2 mg/kg
B	IM Benzodiazepines	Midazolam	IntraMUSCULAR	10 mg
		Lorazepam	IntraMUSCULAR	4 mg
C	IN or IV Benzodiazepines	Diazepam	IV/Saline Lock bolus	5-10 mg
		Midazolam	IntraNASAL	5 mg

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		Lorazepam	IV/Saline Lock bolus IntraNASAL	2 mg
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OPTION D: Transportation Decision.

## Mandatory Quality Assurance Component

~~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 NYC 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](mailto:mdiglio@nycremsco.org) for directions on how to submit data electronically.~~



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)

1. Begin Basic Life Support Pediatric Respiratory Distress/Failure procedures.

**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 to 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, 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). If IV/IO access has not been established, administer Naloxone 0.5 mg up to response, up to 2 mg, IM or IN.
5. If abdominal distention occurs, pass a Nasogastric Tube. If unsuccessful, pass an Orogastic 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 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.

**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/~~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 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). 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~~ 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.) (~~Refer to Length Based Dosing Device~~)

**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, 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~~ 0.1 mg/kg, IV/IN/Saline Lock or IO bolus, slowly, over 2 minutes. Repeat doses of Lorazepam ~~0.05~~ 0.1 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 ~~0.1~~ 0.2 mg/kg, IV/Saline Lock or IO bolus, slowly, over 2 minutes. Repeat doses of Diazepam ~~0.1~~ 0.2 mg/kg, IV/Saline Lock or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

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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.