



<h1>NYC REMAC</h1>			
Advisory No.	2017-05		
Title:	Revision/Update of REMAC Prehospital Treatment & Transport Protocols		
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Supersedes:	n/a	Page:	1 of 38

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

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

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

PROTOCOLS ARE TO BE IMPLEMENTED SEPTEMBER 1ST, 2017.

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

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

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

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

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

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

2017 Protocol Revisions

Summary of Protocol Revisions

GENERAL OPERATING PROCEDURES (GOP)

Transportation Procedures and Decisions: Acute Stroke	The time parameter for inclusion of Stroke patient has been changed from 3 ½ hours to 5 hours.
Intranasal (IN) Drug Administration	Add Ketamine to the GOP list of medications that can be administered intranasal. Ketamine is already listed as an IN medication in ALS Protocol 530 (Excited Delirium).
(NEW) Vasopressor Administration:	All Vasopressor infusions (not bolus) must be administered via 18G or larger IV, or an IO, via an IV flow regulating device (e.g., IV adjustable flow regulator, IV rate control extension set, infusion pump).
Pediatric Protocols: Pediatric Drug Dosage and Fluid Administration	<p>Adding NEW Note:</p> <p>For drug dosage and fluid administration, refer to a regionally approved <i>Length Based Dosing Device</i>. When there is a discrepancy between the protocols and the Length Based Dosing Device regarding a dose, administer the dose listed on the Length Based Dosing Device and note the reason for the drug dosing in the ACR / PCR.</p> <p><u>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).</u></p>

CERTIFIED FIRST RESPONDER (CFR) PROTOCOLS (300 Series)

303 Cardiac Arrest	Remove the following NOTE: "In arrests not witnessed by CFR, perform two (2) minutes of CPR prior to defibrillator use."
311 Altered Mental Status	Revised to mirror changes in 411 (AMS)
330 Emotionally Disturbed Patient	Title changed to Excited Delirium, to mirror change in 430 (ED)

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BASIC LIFE SUPPORT (EMT) PROTOCOLS (400 Series)

403 Cardiac Arrest	Remove the following NOTE: "In arrests not witnessed by CFR, perform two (2) minutes of CPR prior to defibrillator use."
404 (Suspected MI)	Revised to eliminate age restrictions for administration of aspirin.
411 (AMS)	<ul style="list-style-type: none">• Add New Note for Finger Stick for Blood Glucose• Glucometer, if available• Reading reduced to 60mg/dl
413 (Seizures)	<ul style="list-style-type: none">• Add New Note for Finger Stick for Blood Glucose• Glucometer, if available• Reading reduced to 60mg/dl

ADVANCED LIFE SUPPORT (EMT-P) PROTOCOLS (500 Series)

500A (Smoke Inhalation)	<ul style="list-style-type: none">• <u>Norepinephrine</u> was added as an alternate option to Dopamine for hypotension.• Add metering device
500B (Cyanide Exposure)	<ul style="list-style-type: none">• <u>Norepinephrine</u> was added as an alternate option to Dopamine for hypotension.• Add metering device
503 A (Ventricular Fibrillation/Pulseless Ventricular Tachycardia)	<ul style="list-style-type: none">• Eliminate vasopressin.• Remove the following NOTE: "In arrests not witnessed by EMS, perform two (2) minutes of CPR prior to defibrillator use."
503 B (Pulseless Electrical Activity (PEA)/Asystole)	<ul style="list-style-type: none">• Eliminate vasopressin.
504 B (Cardiogenic Shock)	<ul style="list-style-type: none">• Norepinephrine was added as an alternate option to Dopamine for hypotension.• Add metering device
510 (Allergic / Anaphylactic Reaction)	<ul style="list-style-type: none">• Norepinephrine was added as an alternate option to Dopamine for hypotension.• Add metering device

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ADVANCED LIFE SUPPORT (EMT-P) PROTOCOLS (500 Series) – continued

511 (Altered Mental Status)	<p>IV/Saline Lock bolus deleted and replaced with IV/IO/IN/IM</p> <p>5. If <u>an overdose is strongly suspected</u>, 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.</p> <ul style="list-style-type: none"> • Glucometer reading reduced to 60mg/dl
513 (Seizures)	<ul style="list-style-type: none"> • Glucometer reading reduced to 60mg/dl
515 B (Severe Sepsis/Septic Shock)	<ul style="list-style-type: none"> • Norepinephrine will be added as an 'if available' medical control option
528 (Burns – Adult & Pediatric)	<ul style="list-style-type: none"> • Add infusion doses for adults and peds: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> <u>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.</u> <u>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).</u> <u>*Accurate documentation of pre-arrival fluid administration is required.</u> • Revise Note: The administration of narcotic analgesics is contraindicated in patients with burns involving the face and/or airway. <u>FOR PATIENTS WITH BURNS INVOLVING THE FACE AND/OR AIRWAY, CONSULTATION WITH ON-LINE MEDICAL CONTROL IS REQUIRED PRIOR TO ADMINISTRATION OF ANALGESICS.</u>

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ADVANCED LIFE SUPPORT (EMT-P) PROTOCOLS (500 Series) – continued

530 (Excited Delirium Patient)	<ul style="list-style-type: none">• Remove of the mandatory QA/QI component• Add New Note for Finger Stick for Blood Glucose: <i>A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon.</i> <i>If the glucometer reading is above 120 60 mg/dl, Dextrose and Glucagon should be withheld.</i> <i>Diabetics may exhibit signs of hypoglycemia with a blood sugar between 60-80mg/dl. If suspected, treat accordingly.</i> <ul style="list-style-type: none">• Glucometer is mandatory for ALS• Add IV gauge 14-20
550 (Pediatric Respiratory Arrest)	Make naloxone dosing consistent, including IN administration.
556 (Pediatric AMS)	Make naloxone dosing consistent, including IN administration. The Glucometer Note will be updated: <i>A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon.</i> <i>If the glucometer reading is above 120 60 mg/dl, Dextrose and Glucagon should be withheld.</i> <i>Diabetics may exhibit signs of hypoglycemia with a blood sugar between 60-80mg/dl. If suspected, treat accordingly.</i>
557 (Pediatric Seizures)	The Glucometer Note will be updated: <i>A glucometer should be used to document blood glucose level prior to administration of Dextrose or Glucagon.</i> <i>If the glucometer reading is above 120 60 mg/dl, Dextrose and Glucagon should be withheld.</i> <i>Diabetics may exhibit signs of hypoglycemia with a blood sugar between 60-80mg/dl. If suspected, treat accordingly.</i>

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APPENDICES

Appendix P: CPAP	Inclusion Criteria revised
Appendix L: Regional Modified START Triage	Revised to triage asymptomatic Infants as Orange Tags. This will discontinue the practice of Red Tagging Infants based on age only.

GENERAL OPERATING PROCEDURES (GOP)

TRANSPORTATION PROCEDURES AND DECISIONS

Acute Stroke

If the historical/physical findings indicate an acute stroke, transport the patient to the nearest NYS DOH designated Stroke Center (See Appendix R, Stroke Patient Criteria), unless **one** of the following conditions is met:

- The patient is in cardiac arrest;
- The patient has other medical conditions that warrant transport to the nearest appropriate hospital emergency department as per protocol;
- The total time from when the patient's symptoms and/or signs first began to when the patient is first assessed by EMS is greater than ~~three and one half (3 ½)~~ five (5.0) hours;
- An on-line medical control physician so directs.

INTRANASAL (IN) DRUG ADMINISTRATION

In the absence of intravenous access, the following medications are approved for intranasal administration when an appropriate atomizer device is available: Glucagon, Fentanyl, Lorazepam, Midazolam, ~~and~~ Naloxone and Ketamine. The route of administration is contraindicated in patients with epistaxis. Advise SEMAC of revisions.

VASOPRESSOR DRUG ADMINISTRATION (NEW)

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

PEDIATRIC PROTOCOLS

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

Adding NEW 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).

CERTIFIED FIRST RESPONDER (CFR) PROTOCOLS (300 Series)

303

CARDIAC ARREST

1. Begin Basic Cardiac Life Support procedures.
 2. Update dispatch of a high priority patient.
 3. If an automated external defibrillator (AED) is available,
 - ~~In CFR witnessed arrests,~~ 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.
 5. 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.

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.

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, emergency personnel 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 #330).

3. Monitor the airway.

4. Administer oxygen.

[NOTE: IF OVERDOSE IS SUSPECTED, USE HIGH FLOW OXYGEN.](#)

5. Update dispatch of a high priority patient.

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, **2mg/2ml** via mucosal atomizer device (MAD), as follows: ~~Administer 1mg naloxone in each nostril.~~

[ADULT patient: 1mg/ml in each nostril. Total of 2 mg/2ml](#)

[PEDIATRIC patient: 0.5 mg/0.5 ml in each nostril. Total of 1 mg/1 ml.](#)

a. [Relative](#) Contraindications:

- Cardiopulmonary Arrest,
- Active seizure,
- ~~Pediatric patients,~~
- ~~Therapeutic opiate use through a physician prescription,~~
- Evidence of nasal trauma, nasal obstruction and/or epistaxis.

7. If after 5 minutes, there is no improvement, administer a repeat dose of **2mg/2ml** naloxone, [following the same procedure described in #6.](#) ~~via mucosal atomizer device (MAD). Administer 1mg naloxone in each nostril.~~

8. 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.

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b. Do not give oral solutions to patients with head injuries.

9. Continue to monitor initial assessment.

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 then responsible for forwarding a copy of the ACR/PCR 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, copies of the ACR/PCR can be mailed to: The Regional EMS Council of NYC, 475 Riverside Drive, Suite 1929, New York, New York 10115. Please label the envelope "Confidential QA".

~~EMOTIONALLY DISTURBED PATIENT~~ EXCITED DELIRIUM

NOTE: Agitated patients must be presumed to have an underlying medical or traumatic condition.

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. Law enforcement presence is strongly recommended. ~~These patients should be in police custody if they pose a danger to themselves, emergency personnel and/or others.~~

~~2. Assess for an underlying medical or traumatic condition causing an altered mental status and treat as necessary.~~

~~3. 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, proceed as follows:~~

2. If the patient is agitated and presents a risk of physical harm to providers, public or self:

- Request law enforcement assistance, ~~if appropriate.~~
- If the patient continues to struggle while being physically restrained, request Advanced Life Support assistance.
- Attempt to verbally de-escalate the patient's situation.
- ~~Open communications with the patient.~~
- ~~Attempt to determine the cause of the immediate crisis.~~
- ~~Attempt to obtain a past medical history.~~
- ~~Document the exact nature of the problem, including the patient's own words.~~
- The CFR may participate in restraining a patient if a police officer requests assistance or when it becomes necessary for self-protection.

NOTE: Only the amount of force required to effectively restrain the patient may be used.

4. Continue to monitor initial assessment.

BASIC LIFE SUPPORT (EMT) PROTOCOLS (400 Series)

403

NON-TRAUMATIC CARDIAC ARREST

1. Begin Basic Cardiac Life Support procedures.
 2. Request Advanced Life Support assistance.
 - ~~3.~~ Apply an automated external defibrillator (AED, \pm)
 - 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.

SUSPECTED MYOCARDIAL INFARCTION

NOTE: Acute coronary syndrome is a term used for any condition brought on by sudden reduced blood flow to the heart.

1. Monitor the airway.
2. Administer oxygen.
3. Do not permit physical activity.
4. Request Advanced Life Support assistance. Do NOT delay transport.
5. Monitor breathing for adequacy.
6. Place patient in a position of comfort.
7. ~~If the patient is 33 years of age or older, or a patient of any age who has a cardiac history, a~~ Administer two (2) Chewable Aspirins, totaling 162 mg, by mouth, unless the patient has a known Aspirin allergy or hypersensitivity.
8. When EMTs are on the scene of an assignment and requesting Advanced Life Support assistance, transport procedures should begin. If the time of arrival of Advanced Life Support exceeds the time to the hospital or is unknown, transport from the scene should not be delayed.
9. Either during transport or while waiting for the arrival of an ALS unit, if chest pain is still present, assist the patient with self-administration of the patient's own previously prescribed Nitroglycerin, if available. One tablet or spray may be taken provided that the patient's systolic pressure is at least 120 mm Hg.

NOTE: Unless otherwise directed by On-Line Medical Control, patients who have used erectile dysfunction medications in the previous 72 hours shall not be given Nitroglycerin.

10. Transport.

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, 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.

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.
- Do not give oral solutions to unconscious patients.
 - Do not give oral solutions to patients with head injuries.
10. Transport.
11. Assess and monitor the Glasgow Coma score. (See Appendix E.)
- 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 for directions on how to submit data electronically.

SEIZURES

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.
7. Monitor breathing for adequacy.

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, WITHHOLD TREATMENT FOR HYPOGLYCEMIA.

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.

8. Request Advanced Life Support assistance for ongoing seizures at time of patient contact.
9. Treat all injuries as appropriate.
10. Transport.

ADVANCED LIFE SUPPORT (EMT-P) PROTOCOLS (500 Series)

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):
 - a. Administer Norepinephrine 2 mcg/min IV/Saline-Lock drip. 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/Saline-Lock drip.

NOTE: NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (EG. DIAL A FLOW, INFUSION PUMP).

OR

7. In the event of continued hypotension (SBP <90mmHg):
 - b. Administer Dopamine 5 ug/kg/min, IV/Saline-Lock drip. 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.)

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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.

Age Group	Hydroxocobalamin ^A	Sodium Thiosulfate ^B
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 (50mL of a prepared solution) administered over 10 minutes IV

^A 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.

^B 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 ₅ W, LR	One (1) 2 ml lithium heparin tube
One (1) 100 mL bag D ₅ W	

500-B

CYANIDE EXPOSURE

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 order¹ 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

¹ 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 ^A	Sodium Thiosulfate ^B
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 (50mL of a prepared solution) administered over 10 minutes IV

^A 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.

^B 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):

- c. Administer Norepinephrine 2 mcg/min IV drip. 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 drip.

NOTE: NOREPINEPHRINE MUST BE ADMINISTERED VIA 18 G OR LARGER IV, IO, USING AN IV DRIP CHAMBER OR OTHER SUITABLE METERING DEVICE (EG. DIAL A FLOW, INFUSION PUMP).

OR

- d. Administer Dopamine 5 ug/kg/min, IV/~~Saline Lock~~ drip. 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.)

NOTE: Whenever Hydroxocobalamin is administered, follow with a 20 ml flush of normal saline (0.9% ns) prior to administration of any other medication.

MEDICAL CONTROL OPTIONS:

OPTION A: Transportation Decision.

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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 ₅ W, LR	One (1) 2 ml lithium heparin tube
One (1) 100 mL bag D ₅ 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 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 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.~~ Epinephrine 1 mg (10 ml of a 1:10,000 solution).
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 (CaCl₂) 1 gm, SLOWLY, IV/IO/Saline Lock bolus. Follow with a Normal Saline (0.9% NS) flush.
- OPTION E: Transportation Decision.

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 Epinephrine 1 mg (10 ml of a 1:10,000 solution). ~~Vasopressin, if available, 40 units IV/IO/Saline Lock Bolus, single dose.~~
6. Administer 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 (CaCl₂) 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.

504-B

CARDIOGENIC SHOCK

1. Administer a 250 ml IV bolus of Normal Saline (0.9% NS). Repeat once for a maximum total dose of 500 ml.
2. In the event of continued hypotension (SBP <90mmHg):
 - 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:

MEDICAL CONTROL OPTIONS:

OPTION A: Repeat any of the above Standing Orders.

OPTION B: In the event of continued hypotension (SBP <90mmHg):

- 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.

* *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 ~~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 Dextrose 25 gm (50 ml of a 50% solution), IV/~~Saline Lock~~ bolus.
4. In patients with diabetic histories where an IV/~~Saline Lock~~ route is unavailable, administer Glucagon 1 mg, IM or IN.
5. If 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 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.

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 Dextrose 25 gm (~~50 ml of a 50% solution~~), IV/~~Saline Lock~~ bolus.
5. In patients with diabetic histories where an IV/~~Saline Lock~~ route is unavailable, administer Glucagon 1 mg, IM or IN.
6. Administer Lorazepam 2 mg, IV/~~Saline Lock~~ bolus, or, if IV access is unavailable, IN or IM. A single repeat dose of Lorazepam 2 mg, may be given after 5 minutes for generalized seizures that are ongoing or recurring.

OR

Administer Diazepam 5 mg, IV/~~Saline Lock~~ bolus. A single repeat dose of Diazepam 5 mg, IV/~~Saline Lock~~ bolus, may be given for generalized seizures that are ongoing or recurring. (Rate of administration may not exceed 5 mg/min.)

OR

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

7. If seizure activity persists, contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Repeat Lorazepam 2 mg, IV/~~Saline Lock~~ bolus, or, if IV access is unavailable, IN or IM.

OR

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

OR

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

OPTION B: Transportation Decision.

515-B

SEVERE SEPSIS/SEPTIC SHOCK

NOTE: THIS PROTOCOL IS TO BE USED FOR PATIENTS WITH ILLNESS OF A PRESUMED INFECTIOUS SOURCE. REFER TO APPENDIX U FOR CRITERIA.

1. Begin Basic Life Support Shock Measures.
2. If the patient is demonstrating signs of inadequate ventilation, perform Advanced Airway Management*.
3. Begin rapid IV/~~Saline Lock~~ infusion of Normal Saline (0.9% NS) or Ringers' Lactate (RL) via one to two large bore (14-16) gauge catheters, up to 2 liters, via a macro-drip. Attempt IV access no more than twice. Consider using the intraosseous route if peripheral attempts have failed.
 - a. Accurate documentation of pre-arrival fluid administration is required.
4. Begin Cardiac Monitoring, record and evaluate EKG rhythm.
5. Measure and record lactate level (if available).
6. Measure and record oral temperature (if available), also consider using last temperature obtained at patient's facility (if available).
7. Transport decision.
8. Contact Medical Control for implementation of one or more of the following MEDICAL CONTROL OPTIONS:

MEDICAL CONTROL OPTIONS:

OPTION A: Administer one (1) additional liter of Normal Saline (0.9% NS) or Ringers' Lactate (RL) via one to two large bore (14-16) gauge catheters.

OPTION B: In the event of continued hypotension (SBP <90mmHg) administer 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.

* *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.*

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).

*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.

MEDICAL CONTROL OPTIONS:

OPTION A: Transportation Decision.

* *If the patient is alert prior to performing Advanced Airway Management, refer to Prehospital Sedation in General Operating Procedures. Prior permission from Medical Control Is Required.*

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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 ~~large bore (14-18)~~ 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, and cardiac monitoring. Obtain Finger Stick Blood Glucose (FSBG) level.

NOTE: A GLUCOMETER SHALL 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, 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.

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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
		Lorazepam	IV/ Saline Lock bolus IntraNASAL	2 mg

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 NY 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 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 18-20 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, IN/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.

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 in patients two (2) years of age or older. IV/~~Saline Lock~~ or IO bolus. 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 SHALL 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/~~Saline Lock~~ or IO bolus, slowly, over 2 minutes. Repeat doses of Lorazepam ~~0.05~~ 0.1 mg/kg, IV/~~Saline Lock~~ or IO bolus, slowly, over 2 minutes, may be given if seizures persist. (Refer to Length Based Dosing Device)

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)

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)~~

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

OPTION C: Transportation Decision.

APPENDICES

APPENDIX P

USE OF THE CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) DEVICE

Scope: Paramedics ~~trained and authorized by the service medical director~~ may utilize Continuous Positive Airway Pressure (CPAP), ~~if available and for any~~ appropriate indication as authorized by the service medical director.

INCLUSION CRITERIA

1. ~~Be at least 18~~ 15 years of age or older.
2. Be Alert, cooperative, and able to maintain an open, patent airway on their own.
3. ~~Be able to maintain an open and patent airway on their own~~
4. ~~Have a blood pressure of at least 100 mm Hg systolic~~
5. ~~Have significant~~ respiratory distress, ~~indicated by cyanosis, accessory muscle use or other signs and symptoms.~~

EXCLUSION CRITERIA ~~CONTRAINDICATIONS~~

1. ~~Less than 18 years of age~~
2. 1. Respiratory failure or need for immediate Endotracheal Intubation. ~~or other methods of airway control~~
3. ~~Altered Mental Status or unresponsive patients~~
4. 2. Systolic blood pressure less than 100 mmHg. ~~Hemodynamically unstable patients~~
5. 3. Airway Obstruction ~~Patients who are unable to control their own airway~~
6. ~~Trauma, 4. facial burns~~ with possible airway involvement, ~~impending respiratory or cardiac arrest~~
5. Trauma
7. ~~Known Active unstable angina or acute myocardial infarction~~
8. ~~Uncooperative patient~~
9. ~~Known Pneumonia, 6. Suspected~~ pneumothorax, ~~anaphylaxis, pulmonary embolism, or aspiration.~~
10. 7. Active vomiting, upper GI bleeding or other aspiration risks ~~Gastric Distention~~
8. Inability to tolerate the mask due to pain or discomfort.
9. An adequate mask seal is unobtainable.

NOTE: _____ CPAP IS TO BE IMMEDIATELY DISCONTINUED IF ANY OF THE EXCLUSION CRITERIA DEVELOP

1. ~~An immediate need for advanced airway control arises~~
2. ~~The patient becomes hemodynamically unstable~~
3. ~~The patient cannot tolerate the mask due to pain or discomfort~~

APPENDIX L
 TRIAGE / S. T. A. R. T.

Revised to triage asymptomatic **Infants** as **Orange** Tags. This will discontinue the practice of Red Tagging Infants based on age only.

Updated Modified START Triage

