



NYC REMAC

PUBLIC NOTICE

PROPOSED REVISIONS PREHOSPITAL TREATMENT PROTOCOLS

The Regional Emergency Medical Advisory Committee (REMAC) of New York City Prehospital Treatment Protocols define the minimum standard of care provided to patients by Certified First Responders (CFRs), Emergency Medical Technicians (EMTs), and Advanced Emergency Medical Technicians-Paramedic (AEMT-Ps) in New York City. These protocols reflect both the curriculum and certification requirements of the New York State Department of Health Bureau of Emergency Medical Services and the Regional Emergency Medical Advisory Committee (REMAC) of New York City.

The REMAC of New York City has proposed revisions to the current regional Prehospital Treatment Protocols.

Deleted language is BOLD RED AND STRUCK-OUT --- **DELETED**

New language is BOLD BLUE AND UNDERLINED --- **NEW**

In order to meet regional needs, the REMAC of New York City is conducting a public notice and is requesting comments from the Emergency Medical community. Comments must be submitted in writing on the attached 'Comment Form' or via email to operations@nycremsco.org. If available, appropriate supporting documentation should also be submitted. **Comments must be received no later than January 15, 2026.**

Draft revised protocols can be reviewed on-line at www.nycremsco.org (under "News and Announcements"). All NYC REMAC Protocols can be accessed in their entirety at www.nycremsco.org.

Date Distributed/Posted: January 8, 2026

DIRECT ALL INQUIRES AND COMMENTS TO:

**Regional Emergency Medical Advisory Committee of New York City
c/o Regional EMS Council of NYC
475 Riverside Drive, Suite 1929
New York, New York 10115
Email: operations@nycremsco.org**

PLEASE BE ADVISED THAT pursuant to Section 3004-A of Article 30 of the Public Health Law of the State of New York, the Regional Emergency Medical Advisory Committee (REMAC) of New York City is responsible to develop prehospital triage, treatment, and transportation protocols that are consistent with the standards of the State Emergency Medical Advisory Committee and that address specific local conditions with regards to the provision of prehospital medical care rendered by NYS Department of Health certified First Responders, Emergency Medical Technicians and Advanced Emergency Medical Technicians within the City of New York.

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

Regional Emergency Medical Advisory Committee (REMAC) of New York City Protocol Revision Comment Form

Name:	
Mailing Address:	
Telephone Number:	Fax Number:
e-mail:	Title (e.g., MD, DO, EMT, EMTP, RN, etc.):

Protocol Number: N/A	Protocol Title:
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Comments: (Please Type)

(Continue on additional sheet if necessary)

If available, appropriate supporting documentation should be submitted.

Comments must be received no later than January 15, 2026 to:

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c/o Regional EMS Council of NYC
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New York, New York 10115
Email: operations@nycremsco.org

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This form may be duplicated as needed.

Eye Injuries (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Do not apply pressure to the globe of the eye
4. For non-penetrating foreign object/chemical eye injuries, immediately and continuously flush the affected eye(s) with Normal Saline for a minimum of 20 minutes
5. For eye injuries not requiring irrigation, protect the eye from further trauma by applying a bulky dressing or eye shield as appropriate
6. For impaled objects to the eye, stabilize the object with bulky dressings and cover both eyes to prevent ~~conjugate~~consensual eye movement
7. For an avulsed eye:
 - Do not attempt to replace the eye into the socket
 - Cover the eye with saline-moistened, sterile dressings

CFR STOP

EMT

8. Assist the patient with removal of contact lenses as needed
9. Transport

EMT STOP

Paramedic

10. For chemical eye injuries, administer one of the following medications to assist with irrigation as needed:
 - OPTION A: Proparacaine 0.5% 1-2 gtts topically in affected eye(s). Repeat as needed
 - OPTION B: Tetracaine 0.5% 1-2 gtts topically in affected eye(s). Repeat as needed

Paramedic STOP

Medical Control Options

Key Points / Considerations

Oxygen Administration

- All patients who are in respiratory arrest must have ventilatory assistance unless a valid NYS prehospital DNR order, MOLST or eMOLST is presented
- Use of pulse oximetry (SpO₂) is mandatory for ALS and BLS units
- Wherever the term “appropriate oxygen therapy” is used throughout these protocols, oxygen therapy shall be administered via a non-rebreather mask (NRB) at 10-15 liters/min, or a nasal cannula (NC) at 2-6 liters/min and is required for any of the following conditions:
 - SpO₂ < 92%
 - SpO₂ is unavailable
 - Other signs/symptoms of respiratory distress
- Wherever the term “administer oxygen” is used throughout these protocols, administer high concentration oxygen via a non-rebreather mask at 10-15 liters/min. The reservoir bag must remain at least one-third full following inspiration
 - If a mask is not tolerated by the patient, a nasal cannula at 6 liters/min should be used and properly documented
 - Patients who are chronically maintained on oxygen and who do not require high concentration oxygen shall be administered oxygen at their prescribed flowrate
 - Assisted ventilations may be required using a bag valve mask and reservoir with oxygen flowrate at 10-15 liters/min for patients with signs of hypoxia, inability to adequately protect their airway, or signs of inadequate respiration
- **Pediatric Patients:**
 - High concentration oxygen should always be used
 - Blow-by oxygen is an inadequate method of oxygenation. Use the closest age or size-appropriate oxygen delivery mechanism (e.g. nasal cannula, facemask, bag valve mask)
 - Do not allow the mask to press against the eyes
 - Chest rise is the best indication of adequate ventilation in pediatric patients
 - Do not overinflate the lungs when assisting ventilations

Airway Management and Airway Monitoring

AIRWAY MANAGEMENT

- All patients require continuous monitoring of their airway to ensure patency
- ~~Utilize a PEEP valve~~ A PEEP valve should be utilized when performing assisted ventilations, if available, ~~when performing assisted ventilations~~ unless contraindications such as hypotension are present.
- Wherever the term "airway management" is used throughout these protocols, the following shall be considered:
 - Position of the patient's head
 - Need for airway adjuncts
 - Need for oropharyngeal suctioning
 - Need for ALS advanced airway management
- **Pediatric Patients:**
 - Do not hyperextend the neck as this may obstruct the airway.

AIRWAY MONITORING

- ~~Use of pulse oximetry (SpO₂) is mandatory for ALS and BLS units~~
- Continuous waveform capnography (ETCO₂) that is recordable and available for QA is mandatory ~~for ALS~~ and must be used whenever advanced airway management (endotracheal intubation or use of a supraglottic device) is performed EXCEPT when a supraglottic device is used and there are insufficient resources available to provide continuous waveform capnography to all patients requiring advanced airway management (e.g. MCI event or other similar situations)
- Non-invasive capnography is optional for monitoring a patient's respiratory status due to medication administration (i.e. opioids, benzodiazepines) and/or medical condition (i.e. severe asthma, altered mental status)

ADVANCED AIRWAY MANAGEMENT

- Advanced airway management refers to endotracheal intubation or the use of a supraglottic airway device (i.e. dual-lumen esophageal/tracheal tubes, laryngotracheal tubes, or other non-visualized airways as approved by an EMS agency Medical Director)
- During endotracheal intubation, an "attempt" is defined as the introduction of the blade of a laryngoscope (direct or video) past the teeth. This is still an attempt even if there is no insertion of

an endotracheal tube.

- For adult patients, effective bag valve mask ventilation is an acceptable alternative to advanced airway placement, unless the protocol specifically requires an advanced airway.
- After ~~If after two unsuccessful attempts at endotracheal intubation~~ (total attempts, whether by one or multiple providers) , a supraglottic airway device shall be used or the patient should receive effective bag valve mask ventilation.
- For patients in cardiac arrest, there is no preference for the type of advanced airway ~~intervention performed~~placed; however, do not interrupt chest compressions for placement of an advanced airway. ~~If after two unsuccessful attempts at endotracheal intubation, a supraglottic airway device shall be used~~
- Nasal intubation is not an approved form of advanced airway management within the New York City region
- **Pediatric Patients**
 - Effective bag valve mask ventilation is preferred a reasonable alternative to over advanced airway interventions (endotracheal intubation or use of a supraglottic airway) in the management of pediatric airways. During pediatric cardiac arrest, s in the out-of-hospital setting advanced airway management should only be performed if unable to provide effective bag valve mask ventilation
 - ~~When noted in the protocols, or when other maneuvers used to ventilate the pediatric patient are inadequate, When~~ endotracheal intubation is performed in pediatric patients, it should be attempted with a cuffed endotracheal tube

OROGASTRIC TUBE

- After performing advanced airway management and after the device is secured, consider placement of an orogastric tube

- Nasal intubation is not an approved form of advanced airway management within the New York City region
- **Pediatric Patients**
 - Effective bag valve mask ventilation is a reasonable alternative to advanced airway interventions (endotracheal intubation or use of a supraglottic airway) in the management of pediatric cardiac arrests in the out-of-hospital setting
 - When noted in the protocols, or when other maneuvers used to ventilate the pediatric patient are inadequate, endotracheal intubation should be attempted with a cuffed endotracheal tube

OROGASTRIC TUBE

- After performing advanced airway management and after the device is secured, consider placement of an orogastric tube

Blood Drawing

- Blood drawing by Paramedics is permitted at the discretion of an EMS agency Medical Director

Medication Administration

MEDICATION ADMINISTRATION

- With few exceptions, the medications in the REMAC protocols are written as weight-based dosages with maximums that refer to the maximum weight-based dose for the patient. When calculating the appropriate dose, a patient's actual body weight should be used. It is understood that weight-based dosing may lead to calculated patient doses that are difficult to accurately measure and administer. Additionally, the prehospital setting oftentimes necessitates the use of estimated patient weights that may also be less accurate. Therefore, medication dosages may be rounded to the closest, practical-to-administer dose. The actual administered dose must be documented in the ePCR.

PREScribed MEDICATION ADMINISTRATION ASSISTANCE

- Assistance with a patient's prescribed medications shall be within the provider's scope of practice and limited to medications and routes specified within the NYC REMAC Prehospital Treatment Protocols. Contact OLMC for further guidance if medications are not included within the NYC REMAC Prehospital Treatment Protocols

ADVANCED AIRWAY DEVICE ~~ENDOTRACHEAL~~ MEDICATION ADMINISTRATION

- ~~Other than nebulized medications, medication administration via an advanced airway the endotracheal tube device~~ is not ~~approved the standard of care~~ in the NYC region

INTRANASAL (IN) MEDICATION ADMINISTRATION

- In the absence of intravascular access, the following medications are approved for intranasal administration when an appropriate atomizer device is available. Use the dosing as specified in the protocols for the following medications:
 - Glucagon
 - Fentanyl
 - Lorazepam
 - Midazolam
 - Naloxone
 - Ketamine
 - Diazepam
- The intranasal route of administration is contraindicated in patients with epistaxis

INTRAVASCULAR ACCESS AND MEDICATION ADMINISTRATION

- The term “intravascular access” refers to either intravenous (IV) or intraosseous (IO) access. For adult and pediatric patients in shock in which IV access is not obtained after two attempts, IO access shall be attempted (maximum 2 attempts)
- Where ever the term “IV” is used in these Prehospital Treatment Protocols, medications may be administered with the same dosages via IV or IO as these are considered equivalent routes
- For a conscious patient, administer preservative-free 2% Lidocaine 0.5 mg/kg IO (maximum 50 mg) slowly over 2-3 minutes, PRIOR to the administration of any medication or fluid IO. If needed, administer additional preservative-free 2% Lidocaine 0.25 mg/kg IO (maximum 25 mg) slowly over 30 seconds

VASOPRESSOR MEDICATION ADMINISTRATION

- All continuous vasopressor infusions **MUST** be administered using an IV flow regulating device or IV infusion pump
- These infusions should be preferably administered via an 18 gauge or larger IV catheter
- Standard IV administration sets are not considered to be IV flow regulating devices

Anaphylaxis / Severe Allergic Reaction (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen
4. If patient is suspected to have anaphylaxis, perform the following:
 - Assist the patient with administration of their prescribed Epinephrine auto-injector IM
 - If Epinephrine has not been prescribed, administer Epinephrine auto-injector IM according to age and/or weight, if available and trained to do so:
 - Age < 9 years and weight < 30 kg: Pediatric Epinephrine (0.15 mg) auto-injector IM
 - Age ≥ 9 years or weight ≥ 30 kg: Adult Epinephrine (0.3 mg) auto-injector IM
5. Assess for respiratory distress/respiratory failure, shock, cardiac arrest and treat as needed

CFR STOP

EMT

6. Request ALS assistance
7. If patient has symptoms of anaphylaxis, administer Epinephrine as follows:
 - Age < 9 years and weight < 30 kg:
 - OPTION A: Epinephrine 0.15 mg IM via syringe
 - OPTION B: Pediatric Epinephrine auto-injector IM
 - Age ≥ 9 years or weight ≥ 30 kg:
 - OPTION A: Epinephrine 0.3 mg IM via syringe
 - OPTION B: Adult Epinephrine auto-injector IM
8. Transport
9. For continued symptoms after 3-5 minutes, administer a repeat dose of Epinephrine IM (maximum 2 doses, including Epinephrine dose that was administered by CFR)
10. For wheezing, administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) mixed with 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)

EMT STOP

Paramedic

11. Perform advanced airway management as needed
12. For patients with symptoms of anaphylaxis, administer Epinephrine 0.01 mg/kg IM (maximum 0.53 mg) of a 1:1,000 concentration. For continued symptoms after 3-5 minutes, repeat as needed [maximum 3 doses, including Epinephrine doses administered by BLS and/or CFR]
13. For patients with signs of shock:
 - 13.2 Obtain intravascular access

13.3 Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

14. Administer one of the following:

- OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
- OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)

15. Administer Diphenhydramine 1 mg/kg IV/IM (maximum 50 mg)

16. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)

17. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

EMT:

18. Administer weight-appropriate dose of Epinephrine IM, if available as follows:

- Age < 9 years and weight < 30 kg:
 - OPTION A: Epinephrine 0.15 mg IM via syringe, if available
 - OPTION B: Pediatric Epinephrine auto-injector IM
- Age ≥ 9 years or weight ≥ 30 kg:
 - OPTION A: Epinephrine 0.3 mg IM, if available
 - OPTION B: Adult Epinephrine auto-injector IM

19. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes

Paramedic:

20. Administer Epinephrine 0.01 mg/kg IM (maximum 0.53 mg) of a 1:1,000 concentration

21. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes

22. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

Key Points / Considerations

- Do not delay transport for any reason, including waiting for a potential second dose of Epinephrine
- Anaphylaxis is considered as an allergic reaction with any of the following:
 - Respiratory compromise (dyspnea, wheezing, stridor, hypoxemia)
 - Signs of shock
 - Two or more signs/symptoms from the following systems:
 - Skin (urticaria, itchy skin)
 - Mucosal (swollen tongue or lips)
 - Gastrointestinal (vomiting, abdominal pain)
 - History of anaphylaxis AND exposure to a known allergen AND one of the mucosal or gastrointestinal signs/symptoms listed above

- Anaphylaxis can be a potentially life-threatening situation most often associated with a history of exposure to:
 - Inciting agent/allergen (bee sting or other insect venom)
 - Medication/drugs
 - Food (i.e. peanuts, seafood)
- IV formulation of Dexamethasone may be administered orally (PO)
- Administration of steroids via IV shall be performed slowly over 2 minutes
- Do not delay transport to the hospital
- Under standing orders:
 - CFR may administer one (1) dose of Epinephrine
 - BLS may administer up to a total of two (2) doses of Epinephrine, including any doses that were administered by CFR
 - ALS may administer up to a total of three (3) doses of Epinephrine, including any doses that were administered by CFR or BLS
 - If first on scene, ALS shall administer the appropriate weight-based dose of Epinephrine as their first dose

Asthma / COPD / Wheezing (Adult and Pediatric)**CFR and All Provider Levels**

1. ABCs and vital signs
2. Airway management
3. Administer oxygen
4. Place the patient in a position of comfort
5. Assist the patient with administering their prescribed Albuterol (metered dose inhaler or nebulizer), if available and trained to do so
6. Evaluate for any respiratory distress/respiratory failure, shock, cardiac arrest and treat as needed

CFR STOP**EMT**

7. For **ADULT** and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with previously prescribed treatment with a history of Albuterol ~~use~~), administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) mixed with 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
8. Transport
 - Initiate transport after starting nebulizer treatment
 - Do not delay transport to complete medication administration
9. For **ADULT** patients with persistent respiratory distress, begin continuous positive airway pressure (CPAP) therapy (Appendix N: Continuous Positive Airway Pressure Therapy), if available
10. For patients who are in severe respiratory distress/respiratory failure and/or shock, administer Epinephrine as follows:
 - Age < 9 years and weight < 30 kg:
 - OPTION A: Epinephrine 0.15 mg IM via syringe, if available
 - OPTION B: Pediatric Epinephrine auto-injector IM
 - Age ≥ 9 years or weight ≥ 30 kg:
 - OPTION A: Epinephrine 0.3 mg IM via syringe, if available
 - OPTION B: Adult Epinephrine auto-injector IM

EMT STOP**Paramedic**

11. For **ADULT** and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with previously prescribed a history of Albuterol ~~use~~), administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
12. For patients with persistent symptoms:
 - 12.1 Obtain intravascular access

- 12.2 For **ADULT** patients, administer Magnesium Sulfate 2 g IV (diluted in 50-100 ml Normal Saline) over 10 minutes
- 12.3 For **ADULT and PEDIATRIC** patients ≥ 2 years old, administer one of the following:
 - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
 - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)
13. For patients who are in severe respiratory distress/respiratory failure and/or shock:
 - 13.1 Perform advanced airway management as needed
 - 13.2 If not already administered, or for persistent symptoms despite prior administration, administer Epinephrine 0.01 mg/kg IM (maximum 0.53 mg) of a 1:1,000 concentration [maximum 2 doses, including Epinephrine administered by BLS. Multiple Epinephrine doses shall be given at least 20 minutes apart]
14. Monitor vital signs every 5 minutes
15. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

EMT:

16. Administer additional weight-appropriate dose of Epinephrine IM, if needed and as available:
 - Age < 9 years and weight < 30 kg:
 - OPTION A: Epinephrine 0.15 mg IM, if available
 - OPTION B: Pediatric Epinephrine auto-injector IM
 - Age ≥ 9 years or weight ≥ 30 kg:
 - OPTION A: Epinephrine 0.3 mg IM, if available
 - OPTION B: Adult Epinephrine auto-injector IM
17. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)

Paramedic:

18. Administer Epinephrine 0.01 mg/kg IM (maximum 0.53 mg) of a 1:1,000 concentration
19. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
20. For **PEDIATRIC** patients, administer Magnesium Sulfate 50 mg/kg IV (maximum 2 g) diluted in 50-100 ml Normal Saline over 10 minutes
21. For **PEDIATRIC** patients age < 2 years, administer one of the following:
 - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
 - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)

Key Points / Considerations

- Children < 2 years with their first episode of wheezing likely have viral bronchiolitis. There is no role for racemic Epinephrine, Albuterol, Ipratropium Bromide or steroids in bronchiolitis
- The management of bronchiolitis includes supplemental oxygen for hypoxic or dyspneic patients, intravenous fluids for signs of severe dehydration, or ventilatory support as needed
- ~~For children ≥ 18 months for whom there is a history of Albuterol use, or a strong family history of asthma, atopy or eczema; Albuterol may be administered followed by evaluation for clinical response~~
- Epinephrine should be used with caution in patients with COPD
- A silent chest is an ominous sign that indicates respiratory failure and arrest are imminent
- Under standing orders, ALS may administer a total of 2 doses of Epinephrine, if it was not previously administered by BLS
- IV formulation of Dexamethasone may be administered orally (PO)
- Administration of steroids via IV shall be performed slowly over 2 minutes
- When administering steroids to pediatric patients, Dexamethasone is preferred over Methylprednisolone

Non-Traumatic Cardiac Arrest (Adult)

CFR and All Provider Levels

1. Begin CPR as per AHA guidelines
2. Turn on the Automated External Defibrillator (AED)
3. Apply the AED pads to the patient's bare chest with minimal interruption of chest compressions
4. Connect AED pads and follow the AED voice prompts
5. Continue CPR, re-analyze every two (2) minutes and shock as indicated

CFR STOP

EMT

6. Request ALS assistance
7. Continue CPR and AED analysis with minimal interruption of chest compressions
- 7-8. Only if unable to provide effective bag valve mask ventilation, perform advanced airway management (i.e. supraglottic airway) May place supraglottic airway, if available and trained to do so and authorized, only after second rhythm analysis
- 8-9. Only initiate transport after at least total of three (3) cycles of CPR and AED analysis

EMT STOP

Paramedic

- 9-10. Continue CPR and defibrillation cycles with minimal interruption of chest compressions
- 10-11. If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring. Use the maximum joule setting possible when defibrillating
- 11-12. Perform needle decompression for a suspected tension pneumothorax (Appendix M: Needle Decompression of Tension Pneumothorax) as needed
- 12-13. Obtain intravascular access
- 13-14. Administer Epinephrine 1 mg IV (10 ml of a 1:10,000 concentration). Repeat every 3-5 minutes until patient achieves return of spontaneous circulation (ROSC)
- 14-15. If performing advanced airway management, only do so after second rhythm analysis if needed
- 15-16. Obtain blood glucose level and treat as needed
- 16-17. If the rhythm is ventricular fibrillation/pulseless ventricular tachycardia, administer one of the following:
 - OPTION A: Amiodarone 300 mg IV
 - OPTION B: Lidocaine 100 mg IV
- 17-18. If on scene and after 20 minutes of ALS treatment, consider contacting OLMC for medical control options if indicated, or for termination of resuscitation

Paramedic STOP

Medical Control Options

- 18-19. For suspected tricyclic antidepressant overdose, salicylate toxicity, or hyperkalemia, administer Sodium Bicarbonate 44-88 mEq IV. Repeat Sodium Bicarbonate 44 mEq IV as needed every 10 minutes
- 19-20. For suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride -1 g IV slowly followed with a crystalloid fluid flush
- 20-21. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)
- 21-22. For persistent or recurring ventricular fibrillation or pulseless ventricular tachycardia, administer one of the following:
- OPTION A: Amiodarone 150 mg IV
 - OPTION B: Lidocaine 50 mg IV
 - OPTION C: Magnesium Sulfate 2 g IV diluted in 10 ml Normal Saline over 2 minutes

Key Points / Considerations

- Do not interrupt compressions for placement of an advanced airway
- Minimize interruption in compressions for placement of a mechanical CPR device
- Do not delay compressions to begin ventilations
- Do not delay ventilations to connect supplemental oxygen
- An AED should be placed as soon as possible without interrupting compressions
- Artifact from vibrations in a moving ambulance may compromise the effectiveness of an AED
- Maximum joule setting may vary depending on the defibrillator used
- Consider the possibility of conditions with reversible causes masquerading as PEA/asystole that require immediate treatment
- Routine use of Calcium Chloride and/or Sodium Bicarbonate in cardiac arrest has not been shown to improve outcomes
- Calcium Chloride and Sodium Bicarbonate should be given in separate IV lines or separated by a flush of at least 20 ml of crystalloid fluid to prevent precipitation
- As per AHA, the benefit of double sequential defibrillation for refractory shockable rhythms has not been established

Non-Traumatic Cardiac Arrest (Pediatric)

CFR and All Provider Levels

1. Begin CPR as per AHA guidelines
2. Turn on the Automated External Defibrillator (AED)
3. Apply appropriately-sized AED pads to the patient's bare chest with minimal interruption of chest compressions
4. Connect AED pads and follow the AED voice prompts
5. Continue CPR, re-analyze every two (2) minutes and shock as indicated

CFR STOP

EMT

6. Request ALS assistance
7. Continue CPR and AED analysis with minimal interruption of chest compressions
8. ~~Transport Only~~ initiate transport after at least total of three (3) cycles of CPR and AED analysis

EMT STOP

Paramedic

9. Continue CPR and defibrillation cycles with minimal interruption of chest compressions
- ~~10. Perform advanced airway management after second rhythm analysis only if unable to provide effective bag valve mask ventilations~~
- ~~10.11.~~ If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring
- ~~11.12.~~ Obtain intravascular access
- ~~12.13.~~ Administer Epinephrine 0.01 mg/kg IV (maximum 1 mg) (0.1 ml/kg of a 1:10,000 concentration). Repeat every 3-5 minutes until patient achieves return of spontaneous circulation (ROSC)
- ~~13.9. Perform advanced airway management after second rhythm analysis only if unable to provide effective bag valve mask ventilations~~
14. If the rhythm is ventricular fibrillation/pulseless ventricular tachycardia:
 - 14.1 Defibrillate with the following energy settings using appropriately-sized AED/monitor pads:
 - Initial defibrillation: 2 joules/kg
 - Second defibrillation as needed: 4 joules/kg
 - Subsequent defibrillations as needed: 10 joules/kg
 - 14.2 Administer one of the following medications:
 - OPTION A: Amiodarone 5 mg/kg IV (maximum 300 mg)
 - OPTION B: Lidocaine 1 mg/kg IV (maximum 100 mg)
15. Obtain blood glucose level (BGL). If BGL < 60 mg/dl, administer Dextrose 0.5 g/kg IV

(maximum 25 g)

16. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

17. For suspected tricyclic antidepressant overdose, salicylate toxicity, or hyperkalemia, administer Sodium Bicarbonate 1 mEq/kg IV (maximum 44 mEq). Repeat as needed every 10 minutes
18. For suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride 20 mg/kg IV (maximum 1 g) slowly, followed with a crystalloid fluid flush
19. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)
20. For persistent or recurring ventricular fibrillation or pulseless ventricular tachycardia, administer one of the following:
 - OPTION A: Amiodarone 5 mg/kg IV (maximum 150 mg). Repeat as needed (maximum cumulative 3 doses, maximum cumulative 450 mg)
 - OPTION B: Magnesium Sulfate 25-50 mg/kg IV (maximum 2 g)

Key Points / Considerations

- Defibrillation should not be delayed or withheld for any reason
- If the cardiac monitor is unable to deliver the desired weight-based joule setting, use the closest setting without exceeding the desired setting
- Do not interrupt chest compressions for placement of an advanced airway
- Effective bag valve mask ventilation is a reasonable alternative to advanced airway interventions (endotracheal intubation or use of a supraglottic airway) in the management of pediatric cardiac arrests in the out-of-hospital setting
- Utilize a PEEP valve, if available, when performing assisted ventilations
- 10% Dextrose is strongly preferred for patients with age $\leq$ 1 month; 5% Dextrose may be used if 10% Dextrose is unavailable. For patients with age between 1 month – 14 years, 5% Dextrose, 10% Dextrose or 25% Dextrose may be used
- Magnesium Sulfate must be diluted prior to administration. An example method uses Magnesium Sulfate 2 g diluted in 50 ml Normal Saline (final concentration 40 mg/ml). Agitate the solution prior to withdrawing the desired volume
- If the provider is uncertain whether a patient should be treated under adult or pediatric cardiac arrest protocols, begin CPR and consult OLMC

Traumatic Cardiac Arrest (Adult and Pediatric)

CFR and All Provider Levels

1. Begin CPR as per AHA guidelines
2. Control any bleeding as needed without interrupting CPR
3. Turn on the Automated External Defibrillator (AED)
4. Apply appropriately-sized AED pads to the patient's bare chest with minimal interruption of chest compressions
5. Connect AED pads and follow the AED voice prompts
6. Continue CPR, re-analyze every two (2) minutes and shock as indicated

CFR STOP

EMT

7. Request ALS assistance, ~~but do not delay transport awaiting ALS~~
8. Continue CPR and AED analysis with minimal interruption of chest compressions
9. Transport

~~9. Do not delay transport for ALS assistance~~

EMT STOP

Paramedic

10. Perform needle decompression for a suspected tension pneumothorax (Appendix M: Needle Decompression of Tension Pneumothorax) as needed
11. Continue CPR and defibrillation cycles with minimal interruption of chest compressions
- ~~10-12. Transport~~
 - ~~Other than needle decompression, all other ALS interventions should not delay transport and shall be performed enroute to the hospital~~
13. Perform advanced airway management after second rhythm analysis only if unable to provide effective bag valve mask ventilations

~~Perform advanced airway management after second rhythm analysis~~

- ~~11-13.~~ If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring. Defibrillate with the following energy settings using appropriately-sized AED/monitor pads:

- ~~ADULT: Maximum joule setting possible~~

- ~~PEDIATRIC:~~

- Initial defibrillation: 2 joules/kg
- Second defibrillation as needed: 4 joules/kg
- Subsequent defibrillations as needed: 10 joules/kg

- ~~12.10. If the cause of the cardiac arrest is suspected to be secondary to a medical condition that is non-traumatic, treat accordingly as a non-traumatic cardiac arrest~~
- ~~13.10. Perform needle decompression for a suspected tension pneumothorax (Appendix M: Needle Decompression of Tension Pneumothorax) as needed~~
- ~~14.10. Perform advanced airway management after second rhythm analysis~~
- 15.14. Obtain intravascular access via either large bore IV or intraosseous site. ~~Consider intraosseous access for pediatric patients if needed~~
- 16.15. Administer crystalloid fluid 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

18. Administer additional crystalloid fluid 20 ml/kg IV (maximum 1 L)

Key Points / Considerations

—If the cause of the cardiac arrest is suspected to be secondary to a medical condition that is non-traumatic, treat accordingly as a non-traumatic cardiac arrest

- Do not interrupt compressions for placement of an advanced airway
- Traumatic arrests should be transported as soon as possible
- AED should be placed as soon as possible without interrupting compressions
- Artifact from vibrations in a moving ambulance may compromise the effectiveness of an AED
- Maximum joule setting may vary depending on the defibrillator used
- As per AHA, the benefit of double sequential defibrillation for refractory shockable rhythms has not been established
- If the cardiac monitor is unable to deliver the desired weight-based joule setting, use the closest setting without exceeding the desired setting

Respiratory Distress / Respiratory Failure (Adult)

CRITERIA

- This protocol is for patients who have respiratory distress or respiratory failure from an unclear etiology or who have persistent respiratory distress or respiratory failure despite treatment under other existing protocols
- Patients with respiratory distress or respiratory failure due to specific reasons (e.g. obstructed airway, anaphylaxis/severe allergic reaction) should be treated accordingly

CFR and All Provider Levels

1. ABCs and vital signs
2. Use airway adjuncts as needed and administer oxygen as follows:
 - For respiratory distress, administer oxygen and allow the patient to maintain a position of comfort
 - For respiratory failure, assist ventilations at a rate of 10 breaths/min with supplemental oxygen
3. Assess and treat for an overdose as needed

CFR STOP

EMT

4. Request ALS assistance
5. For patients with persistent respiratory distress, begin continuous positive airway pressure (CPAP) therapy (Appendix N: Continuous Positive Airway Pressure Therapy), if available
6. Transport

EMT STOP

Paramedic

7. Perform advanced airway management as needed
8. Assess and treat for a tension pneumothorax as needed (Appendix M: Needle Decompression of a Tension Pneumothorax)
9. Begin cardiac monitoring
10. Perform, record and evaluate EKG rhythm
11. Obtain intravascular access
12. For patients with suspected acute cardiogenic pulmonary edema AND who have a SBP > 120 mmHg, administer Nitroglycerin 0.4 mg SL/IV. Repeat every 5 minutes as needed
13. Monitor vital signs every 2-3 minutes

Paramedic STOP

Medical Control Options

14. Administer Furosemide 20-80 mg IV, if available

Key Points / Considerations

- All patients who are in respiratory arrest must receive ventilatory assistance unless a valid New York State Prehospital DNR Order and/or MOLST/eMOLST form is presented to the crew
- Patients who require supplemental oxygen should receive high concentration oxygen via a non-rebreather mask set at 10-15 liters/min:
 - If a mask is not tolerated by the patient, a nasal cannula set at 6 liters/minute should be used and properly documented
 - There is no reason to withhold high concentration oxygen when required in adult or pediatric patients
 - Patients who are chronically maintained on oxygen and who do not require high concentration oxygen shall be administered oxygen at their prescribed flowrate
- Monitor breathing continuously and assess for signs of hypoxia and/or increasing respiratory distress
- Nitroglycerin shall not be administered to patients who have used erectile dysfunction medications within the past 72 hours, unless otherwise directed by OLMC