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

NYC REMAC

Advisory No.	2021-03		
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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 the NYC Unified Protocols. All protocols have been approved by the New York State Emergency Medical Advisory Committee for use in the NYC region.

PROTOCOLS ARE TO BE IMPLEMENTED JANUARY 1, 2022.

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.

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

List of Revised Protocols

Non-Traumatic Cardiac Arrest (Adult)	Non-Traumatic Cardiac Arrest (Pediatric)
Severe Bradycardia (Pediatric)	Obstructed Airway (Adult and Pediatric)
Respiratory Distress / Respiratory Failure (Adult)	Respiratory Distress / Respiratory Failure (Pediatric)
Altered Mental Status (Adult and Pediatric)	Anaphylaxis / Severe Allergic Reaction (Adult and Pediatric)
Excited Delirium (Adult and Pediatric)	Acute Coronary Syndrome / Suspected Myocardial Infarction / Chest Pain (Adult)
Dysrhythmia (Adult)	Atrial Fibrillation / Atrial Flutter (Adult)
Brady-Dysrhythmia (Adult)	Supraventricular Tachycardia (SVT) (Adult)
Ventricular Tachycardia with a Pulse / Wide-Complex Tachycardia of Uncertain Type (Adult)	Dysrhythmia (Pediatric)
Obstetric Emergencies	Emergency Childbirth
Neonatal Care / Resuscitation	Asthma / COPD / Wheezing (Adult and Pediatric)
Stridor / Croup / Epiglottitis (Pediatric)	Heat Emergencies (Adult and Pediatric)
Cold Emergencies (Adult and Pediatric)	Poisoning (Adult and Pediatric)
Overdose (Adult and Pediatric)	Seizures (Adult and Pediatric)
Severe Sepsis and Septic Shock (Adult and Pediatric)	Undifferentiated Shock (Adult)
Stroke [Cerebrovascular Accident (CVA)] (Adult and Pediatric)	Abdominal Pain / Severe Nausea / Severe Vomiting (Adult and Pediatric)
Hyperglycemia (Adult and Pediatric)	Decompression Sickness (Adult and Pediatric)
General Pain Management (Adult and Pediatric)	Procedural Sedation (Adult and Pediatric)
Vaccine Administration (Adult and Pediatric)	General Trauma Care (Adult and Pediatric)
Amputation (Adult and Pediatric)	Avulsed Tooth (Adult and Pediatric)
Bleeding / Hemorrhage Control (Adult and Pediatric)	Burns (Adult and Pediatric)
Eye Injuries (Adult and Pediatric)	Bone and Joint Injuries (Adult and Pediatric)
Head, Neck, and Spine Injuries (Adult and Pediatric)	Carbon Monoxide Poisoning (Adult and Pediatric)
Smoke Inhalation (Adult and Pediatric)	Cyanide Poisoning (Adult and Pediatric)
Weapons of Mass Destruction: Nerve Agent Exposure (Adult and Pediatric)	

INTRODUCTION

- The Regional Unified Protocols of New York City include the statewide Basic Life Support Adult and Pediatric Treatment Protocols as the current minimal standards for basic life support (BLS) delivered by Certified First Responders (CFR), and Emergency Medical Technicians (EMT) in New York State. Advanced Life Support (ALS) protocols have been included in the unified format to ensure a continuous transition of care from CFR through ALS
- Each level provider shall start from the beginning of any given protocol and complete the treatments in the order listed while using good clinical judgment. EMTs and Paramedics shall complete the treatments and procedures listed before their respective sections before proceeding to the section for their level
- Standing orders for each provider level follows a colored header with a **STOP** indicating the end of the respective treatments and procedures for that provider level
- Definitions of each section are described below

CFR and All Provider Levels

1. Standing order treatments start in this section and applies to CFRs and all provider levels

CFR STOP

EMT

2. EMT and Paramedic standing orders continue in this section after performing the treatments in the CFR and all provider levels section listed above

EMT STOP

Paramedic

3. Paramedic standing orders continue in this section after performing the treatments in the CFR and all providers level and EMT sections listed above

Paramedic STOP

Medical Control Options

4. Treatments and procedures listed in this section may only be administered or performed after contacting online medical control (OLMC). Aside from a few exceptions which are explicitly listed, these treatments and procedures are only within the Paramedic scope of practice

Key Points / Considerations

- This section applies to all provider levels and contains additional guidance and information pertinent to the protocol

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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. Plug in 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 after a 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. Use the maximum joule setting possible when defibrillating
10. If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring
11. Perform needle decompression for a suspected tension pneumothorax (Appendix O: Needle Decompression of Tension Pneumothorax) as needed
12. Obtain intravascular access
13. 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. Perform advanced airway management after second rhythm analysis
15. Obtain blood glucose level and treat as needed
16. 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. 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

DRAFT

Medical Control Options

18. 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. For suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride 1 g IV slowly followed with a crystalloid fluid flush
20. Administer crystalloid fluids 20 ml/kg (maximum 2 L)
21. 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 of 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
- AED should be placed as soon as possible without interrupting compressions
- Artifact from vibrations in a moving ambulance may compromise the effectiveness of the AED
- Maximum joule setting may vary depending on the defibrillator used
- Consider the possibility of conditions masquerading as PEA/asystole which 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

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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. Plug in 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 after a 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. If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring
11. Obtain intravascular access
12. Administer Epinephrine 0.01 mg/kg IV (0.1 ml/kg of a 1:10,000 concentration). Repeat every 3-5 minutes until patient achieves return of spontaneous circulation (ROSC)
13. Perform advanced airway management after second rhythm analysis only if unable to provide adequate 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) using the following concentrations:
    - Age ≤ 1 month: 10% Dextrose
    - Age between 1 month - 9 years: 25% Dextrose

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16. Administer crystalloid fluids 20 mg/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 (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)
    - 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
- Magnesium Sulfate must be diluted prior to administration. An example method uses Magnesium Sulfate 2 g diluted in 50 ml of Normal Saline (final concentration 40 mg/ml). Agitate the solution prior to withdrawing the desired volume

DRAFT

Severe Bradycardia (Pediatric)

CRITERIA

- This protocol is for pediatric patients who have severe bradycardia that is defined as having ALL of the following:
  - Heart rate < 60 beats/min
  - Signs of shock OR altered mental status

CFR and All Provider Levels

1. Begin chest compressions and ventilations as per AHA guidelines
2. Check for a pulse every two (2) minutes and perform the following:
   - Heart rate is between 60-100 beats/min, ventilate at a rate of 20 breaths/min using a bag valve mask and oxygen. Check for a pulse every one (1) minute
   - Heart rate > 100 beats/min AND patient is adequately breathing (both in rate and volume for age), administer oxygen via non-rebreather mask

CFR STOP

EMT

3. Request ALS assistance
4. Transport

EMT STOP

Paramedic

5. Begin cardiac monitoring
6. Obtain intravascular access
7. Administer Epinephrine 0.01 mg/kg IV (0.1 ml/kg of a 1:10,000 concentration). Repeat as needed every 3-5 minutes
8. If severe bradycardia is caused by an increase in vagal tone or a primary AV block, administer Atropine 0.02 mg/kg IV (minimum 0.1 mg; maximum 0.5 mg)
9. Perform advanced airway management only if unable to provide adequate ventilations

Paramedic STOP

Medical Control Options

10. Administer Atropine 0.02 mg/kg IV (minimum 0.1 mg; maximum 0.5 mg)
11. Begin transcutaneous pacing

Key Points / Considerations

- 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 patients
- Consider procedural sedation prior to any electrical therapy for conscious patients

DRAFT

Obstructed Airway (Adult and Pediatric)

CFR and All Provider Levels

1. If the patient is conscious and can breathe, cough, speak, or cry; encourage the patient to cough
2. If the patient is unconscious or cannot breathe, cough, speak, or cry; perform airway maneuvers or CPR, as per current AHA guidelines
3. ABCs and vital signs
4. Airway management and appropriate oxygen therapy

CFR STOP

EMT

5. Request ALS assistance
6. Transport
7. Perform obstructed airway maneuvers enroute to the hospital as needed

EMT STOP

Paramedic

8. Perform direct laryngoscopy and attempt to remove the foreign body with Magill forceps
9. Perform advanced airway management as needed
10. If intubation is confirmed with direct visualization, but unable to ventilate:
    - 10.1 Note the depth of the endotracheal tube
    - 10.2 Deflate the endotracheal tube cuff, if using a cuffed tube
    - 10.3 Advance the endotracheal tube to its deepest depth
    - 10.4 Return the endotracheal tube to its originally noted depth
    - 10.5 Re-inflate the endotracheal tube cuff, if using a cuffed tube, and attempt ventilations
    - 10.6 If unable to effectively ventilate the patient using the above maneuvers, immediately initiate transport

Paramedic STOP

Medical Control Options

Key Points / Considerations

DRAFT

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

CFR STOP

EMT

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

EMT STOP

Paramedic

6. Perform advanced airway management as needed
7. Begin cardiac monitoring
8. Perform, record and evaluate EKG rhythm
9. Obtain intravascular access
10. 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
11. Monitor vital signs every 2-3 minutes

Paramedic STOP

Medical Control Options

12. Administer Furosemide 20-80 mg IV

DRAFT

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 form is presented to the crew
- 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 Online Medical Control
- Consider procedural sedation as needed for anxiolysis associated with CPAP use

DRAFT

Respiratory Distress / Respiratory Failure (Pediatric)

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 20-30 breaths/min with supplemental oxygen

CFR STOP

EMT

3. Request ALS assistance
4. Transport

EMT STOP

Paramedic

5. Perform advanced airway management if unable to provide adequate ventilations
6. Assess and treat for an overdose as needed
7. Assess and treat for a tension pneumothorax as needed (Appendix O: Needle Decompression of a Tension Pneumothorax)
8. Begin cardiac monitoring
9. Obtain intravascular access as needed

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Respiratory distress is characterized by increased respiratory effort (work of breathing) WITHOUT central cyanosis, including anxiety, nasal flaring, elevated respiratory rate, use of accessory muscles of respiration (e.g. retractions)
- Respiratory failure is characterized by:
    - Ineffective respiratory effort and symptoms of respiratory distress WITH central cyanosis, including agitation, lethargy, severe dyspnea, labored breathing, head bobbing, grunting, or significant suprasternal, substernal, intercostal and/or parasternal retractions, bradypnea leading to ineffective oxygenation or ventilation
    - Presence of hypoxia and/or hypercapnea
- Monitor breathing continuously and assess for signs of hypoxia and/or increasing respiratory distress
- Bradycardia is an ominous sign that indicates hypoxic cardiac arrest may be imminent
- High concentration oxygen should always be used in pediatric patients
- 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
- Do not hyperextend the neck
- 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)
- 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 patients with severe respiratory distress or respiratory failure
- For the tachypneic child with abnormal respirations, consider a glucose check to evaluate for hyperglycemia
- Tension pneumothorax in a pediatric patient in respiratory arrest may develop after resuscitative efforts have begun

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Altered Mental Status (Adult and Pediatric)

CFR and All Provider Levels

1. Assess the scene for potential or actual danger and establish a safe zone, if necessary
2. ABCs and vital signs
3. Airway management
4. Administer oxygen
5. Assess and treat for an opioid overdose as needed

CFR STOP

EMT

6. Request ALS assistance
7. Obtain blood glucose level (BGL)
8. If BGL < 60 mg/dl AND the patient is conscious AND able to drink without assistance, administer a glucose solution or other sugar containing beverage
9. Transport

EMT STOP

Paramedic

10. Obtain intravascular access
11. For patients with a glucometer reading < 60 mg/dl, administer Dextrose as follows:
    - **ADULT**: Dextrose up to 25 g IV. Repeat as needed if there is no change in symptoms or if symptoms fail to improve significantly
    - **PEDIATRIC**: Dextrose 0.5 g/kg IV (maximum 25 g) with the following concentrations. Repeat as needed if there is no change in symptoms or if symptoms fail to improve significantly:
        - Age ≤ 1 month: 10% Dextrose
        - Age between 1 month - 15 years: 25% Dextrose
    - For adult and pediatric patients, administer Glucagon 1 mg IM/IN if intravascular access is unavailable

Paramedic STOP

Medical Control Options

12. Administer additional dosing of any standing order medication

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Key Points / Considerations

- For pediatric patients, no more than 2 (two) attempts at obtaining intravascular access shall be made before administering Glucagon. Intranasal (IN) Glucagon is the preferred administration route
- Consider underlying causes of altered mental status (e.g. trauma, medical, behavioral) and treat appropriately
- Do not administer oral solutions to unconscious patients or to patients with head injuries
- Diabetic patients with a blood glucose level reading between 60-80 mg/dl may still be symptomatic secondary to hypoglycemia. In the presence of such signs and symptoms, treat accordingly

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Anaphylaxis / Severe Allergic Reaction (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen
4. Assess cardiac and respiratory status and if either is abnormal (i.e. severe respiratory distress or shock):
    - 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. Transport
    - Do not delay transport for any reason, including waiting for a potential second dose of Epinephrine
8. Assess cardiac and respiratory status and if either is abnormal (i.e. severe respiratory distress 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
9. For continued symptoms, administer an additional age and/or weight-appropriate dose of Epinephrine IM (maximum 2 doses, including Epinephrine dose that was administered by CFR)
10. For wheezing, administer 0.083% Albuterol Sulfate mixed with 0.02% Ipratropium Bromide nebulized over 5-15 minutes as follows:
    - **ADULT:** 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)

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- **PEDIATRIC:**
  - Age < 6 years: 0.02% Ipratropium Bromide 1.25 ml (0.5 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
  - Age ≥ 6 years: 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)

EMT STOP

Paramedic

11. Perform advanced airway management as needed
12. For patients with signs of shock:
    - 12.1 If not already administered, or for persistent symptoms despite prior administration, administer Epinephrine 0.01 mg/kg IM (maximum 0.3 mg) of a 1:1,000 concentration [maximum 3 doses, including Epinephrine doses administered by BLS and/or CFR]
    - 12.2 Obtain intravascular access
    - 12.3 Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)
13. Administer one of the following:
    - OPTION A: Dexamethasone 0.6 mg/kg IV (maximum 12 mg) slowly over 2 minutes OR Dexamethasone 0.6 mg/kg IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV (maximum 60 mg) slowly over 2 minutes OR Methylprednisolone 1 mg/kg IM (maximum 60 mg)
14. Administer Diphenhydramine 1 mg/kg IV/IM (maximum 50 mg)
15. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
16. Monitor vital signs every 5 minutes
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

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

Paramedic:

20. Administer Epinephrine 0.01 mg/kg IM (maximum 0.3 mg) of a 1:1,000 concentration
21. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
22. Administer crystalloid fluids 20 ml/kg (maximum 2 L)

Key Points / Considerations

- After administering Epinephrine, closely monitor the patient every 3-5 minutes for any change in symptoms and administer additional Epinephrine according to protocol
- Consider treating the patient if they have a history of anaphylaxis AND have an exposure to an allergen resulting in respiratory distress, hypoperfusion, or rash
- IV formulation of Dexamethasone may be administered orally (PO)
- Do not delay transport to the hospital
- 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)
    - Medications/drugs
    - Foods such as peanuts, seafood, etc
- Patients with an allergic reaction and signs of bronchospasm may require treatment for anaphylaxis
- Under standing orders:
    - CFR may administer 1 dose of Epinephrine
    - BLS may administer an additional dose, or may administer a total of 2 doses of Epinephrine if not previously administered by CFR
    - ALS may administer an additional dose, or may administer a total of 3 doses of Epinephrine if it was not previously administered by CFR and/or BLS

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Excited Delirium (Adult and Pediatric)

CFR and All Provider Levels

1. Treat as needed for a patient with suspected excited delirium ONLY IF an underlying medical or traumatic condition causing an altered mental status is not apparent
2. Assess the scene for potential or actual danger and establish a safe zone, if needed
3. If the patient is agitated and presents a risk of physical harm to providers, public or self, request for law enforcement assistance. If safe to do so, attempt to verbally de-escalate the patient's condition
4. Providers may participate in physically restraining a patient when it becomes necessary for self-protection or if a police officer requests assistance. Providers shall only use:
    - Amount of force required to effectively restrain the patient may be used
    - Soft restraints, such as towels, triangular bandages, or commercially available soft medical restraints to restrain the patient to the stretcher, and only if necessary, to protect the patient and others from harm
5. If the patient continues to struggle while being physically restrained, request ALS assistance for sedation
6. ABCs and vital signs, if able to do so safely
7. Airway management and appropriate oxygen therapy

CFR STOP

EMT

8. Obtain blood glucose level and treat as needed, if able to do so safely
9. Transport

EMT STOP

Paramedic

10. For **ADULT** patients who are persistently agitated and who present a risk of physical harm to providers, public, or self, administer Midazolam 0.2 mg/kg IM/IN (maximum 10 mg) OR Midazolam 0.2 mg/kg IV (maximum 5 mg), where IM is the preferred route of administration if intravascular access has not been established
11. After adequate sedation:
    - 11.1 Obtain intravascular access
    - 11.2 Begin cardiac and pulse oximetry monitoring

Paramedic STOP

DRAFT

Medical Control Options

12. For **ADULT** patients who are persistently agitated and who present a risk of physical harm to providers, public, or self, administer one of the following:
    - OPTION A: Ketamine 2-4 mg/kg IM (maximum 400 mg) OR Ketamine 1-2 mg/kg IN (maximum 200 mg)
    - OPTION B: Midazolam 0.2 mg/kg IM/IN (maximum 10 mg) OR Midazolam 0.2 mg/kg IV (maximum 5 mg)
    - OPTION C: Lorazepam 0.1 mg/kg IM (maximum 4 mg) OR Lorazepam 0.1 mg/kg IV/IN (maximum 2 mg)
    - OPTION D: Diazepam 0.2 mg/kg IV/IN/IM (maximum 5 mg)
13. For **PEDIATRIC** patients who are persistently agitated and who present a risk of physical harm to providers, public, or self, administer one of the following medications:
    - OPTION A: Ketamine 2-4 mg/kg IM (maximum 400 mg) OR Ketamine 1-2 mg/kg IN (maximum 200 mg)
    - OPTION B: Midazolam 0.1 mg/kg IM/IN (maximum 5 mg) OR Midazolam 0.1 mg/kg IV (maximum 2 mg)
    - OPTION C: Lorazepam 0.1 mg/kg IM (maximum 4 mg) OR Lorazepam 0.1 mg/kg IV/IN (maximum 2 mg)

Key Points / Considerations

- Agitated patients should be presumed to have an underlying medical or traumatic condition
- Consider monitoring the patient using non-invasive capnography, if available when using any of the above medications
- Consider the patient's ideal body weight when dosing any of the above medications
- All suicidal or violent threats or gestures must be taken seriously. Utilize law enforcement personnel if the patient poses a danger to themselves, emergency personnel, and/or others
- Diabetic patients with a blood glucose level reading between 60-80 mg/dl may still be symptomatic secondary to hypoglycemia. In the presence of such signs and symptoms, treat accordingly
- Patient must NOT be transported in a prone (face-down) position
- If the patient is in police custody and/or has handcuffs on, a police officer must accompany the patient in the patient compartment of the ambulance to the hospital. The provider must have the ability to immediately remove any mechanical restraints that may hinder patient care at all times

DRAFT

Acute Coronary Syndrome / Suspected Myocardial Infarction / Chest Pain (Adult)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Place patient in a position of comfort
4. Administer 324 mg chewable Aspirin PO, if available and trained to do so

CFR STOP

EMT

5. Request ALS assistance, do NOT delay transport
6. Transport
7. If available, assist the patient with their prescribed Nitroglycerin SL for chest pain every 5 minutes as needed (maximum 3 doses) only if the patient's SBP > 120 mmHg

EMT STOP

Paramedic

8. Begin cardiac monitoring
9. Perform, record and evaluate 12-lead EKG
10. Transport to the closest appropriate STEMI-PCI Center (Appendix H: Specialty Care Facilities) as needed
11. Obtain intravascular access
12. Monitor vital signs every 2-3 minutes
13. Administer Nitroglycerin 0.4 mg SL every 5 minutes as needed for chest pain only if the patient's SBP > 120 mmHg

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Acute coronary syndrome is a term used for any condition brought on by sudden reduced blood flow to the heart
- Transport patients with criteria as determined by the General Operating Procedures to the closest appropriate STEMI-PCI Center
- Treat any unstable dysrhythmia prior to initiation of a 12-lead EKG
- Aspirin should NOT be enteric coated
- Aspirin shall not be administered to patients with known hypersensitivity to aspirin. Gastrointestinal complaints are not considered a contraindication
- Nitroglycerin shall not be administered to patients who have used erectile dysfunction medications within the past 72 hours, unless otherwise directed by Online Medical Control
- If available, Fentanyl is preferred over morphine for pain management

DRAFT

Dysrhythmia (Adult)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy

CFR STOP

EMT

3. Request ALS assistance
4. Transport

EMT STOP

Paramedic

5. Begin cardiac monitoring
6. Assess and treat specific dysrhythmias according to the following sub-protocols:
    - Atrial Fibrillation/Atrial Flutter (Adult)
    - Brady-dysrhythmia (Adult)
    - Supraventricular Tachycardia (Adult)
    - Ventricular Tachycardia with a Pulse / Wide Complex Tachycardia of Uncertain Type (Adult)
7. Perform, record and evaluate 12 lead EKG
8. Obtain intravascular access
9. Monitor vital signs every 2-3 minutes

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Stable Dysrhythmia:
  - **ADULT:** Patients with a dysrhythmia NOT associated with signs of hypoperfusion
- Unstable Dysrhythmia:
  - **ADULT:** Patients with a dysrhythmia associated with ANY of the following:
    - Hypotension (systolic blood pressure < 90 mmHg)
    - Mean Arterial Pressure (MAP) < 65 mmHg
    - Altered mental status
- Consider procedural sedation prior to any electrical therapy for conscious patients
- When using a monitor for which the maximum joule setting is less than 360 joules, utilize biphasic equivalent synchronized energy settings
- Further repeated attempts at synchronized cardioversion should be performed using the monitor's maximum setting if the device cannot deliver more than 200 joules in place of the consecutive joule settings listed in the protocols
- Diltiazem should be used with caution in patients with liver or kidney disease, congestive heart failure, atrioventricular conduction abnormalities, and/or hypotension. Online medical control should be alerted to these conditions, and the dose should be reduced to half the predicted weight-based dose
- 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

DRAFT

Atrial Fibrillation / Atrial Flutter (Adult)

Paramedic

1. Unstable Atrial Fibrillation/Atrial Flutter
    1.1 Perform initial synchronized cardioversion using 100 joules
    1.2 Repeat synchronized cardioversion as needed using 200, 300, and 360 joules
2. Stable Atrial Fibrillation/Atrial Flutter
    2.1 Consider contacting online medical control for medication administration options

Paramedic STOP

Medical Control Options

3. For unstable atrial fibrillation/atrial flutter
    - OPTION A: Administer Amiodarone 150 mg IV over 10 minutes
    - OPTION B: Repeat synchronized cardioversion at maximum joule setting
4. For patients with stable atrial fibrillation/atrial flutter with a persistently elevated heart rate administer one of the following:
    - OPTION A: Crystalloid fluids 10 ml/kg IV
    - OPTION B: Diltiazem 0.25 mg/kg IV slowly over 2 minutes while continuously monitoring blood pressure
    - OPTION C: Amiodarone 150 mg IV over 10 minutes

Key Points / Considerations

DRAFT

Brady-Dysrhythmia (Adult)

Paramedic

1. Unstable Brady-Dysrhythmia (ventricular rate < 50 beats/minute AND signs of decompensated shock)
    1.1 Administer Atropine Sulfate 1 mg IV
    1.2 Consider performing, evaluating and recording 12 lead EKG
    1.3 Begin transcutaneous pacing
2. Stable Brady-Dysrhythmia (ventricular rate < 50 beats/minute without signs of decompensated shock)
    2.1 Consider contacting online medical control for medication administration options

Paramedic STOP

Medical Control Options

3. Administer Atropine Sulfate 1 mg IV every 3-5 minutes as needed (maximum cumulative dose 3 mg)
4. Administer Dopamine 5 mcg/kg/min continuous IV infusion (maximum 20 mcg/kg/min IV). Titrate as needed every 3-5 minutes
5. Administer Epinephrine 2 mcg/min continuous IV infusion (maximum 10 mcg/min). Titrate as needed every 3-5 minutes
6. In cases of suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride 1 g IV slowly, followed with a crystalloid fluid flush
7. For pre-existing acidosis, administer Sodium Bicarbonate 44-88 mEq IV. Repeat Sodium Bicarbonate 44 mEq IV every 10 minutes as needed

Key Points / Considerations

DRAFT

Supraventricular Tachycardia (SVT) (Adult)

Paramedic

1. Unstable SVT
    1.1 Perform initial synchronized cardioversion using 100 joules
    1.2 Repeat synchronized cardioversion as needed using 200, 300, and 360 joules
2. Stable SVT
    2.1 Administer Adenosine 6 mg IV rapidly, followed with a crystalloid fluid flush and observe EKG monitor for 1-2 minutes for evidence of cardioversion
    2.2 For persistent SVT, administer Adenosine 12 mg IV rapidly, followed with a crystalloid fluid flush. Repeat as needed after 1-2 minutes if there is no evidence of cardioversion

Paramedic STOP

Medical Control Options

3. For narrow complex-width tachycardia, administer Diltiazem 0.25 mg/kg IV slowly over 2 minutes while continuously monitoring blood pressure
4. Administer Amiodarone 150 mg IV over 10 minutes

Key Points / Considerations

DRAFT

Ventricular Tachycardia with a Pulse / Wide-Complex Tachycardia of Uncertain Type (Adult)

Paramedic

1. Unstable Ventricular Tachycardia with a Pulse
    1.1 Perform initial synchronized cardioversion using 100 joules
    1.2 Repeat synchronized cardioversion as needed using 200, 300, and 360 joules
    1.3 Administer Amiodarone 150 mg IV over 10 minutes
2. Stable Ventricular Tachycardia with a Pulse administer one of the following:
    - OPTION A: Amiodarone 150 mg IV over 10 minutes
    - OPTION B: Lidocaine 1 mg/kg (maximum 100 mg) IV over 2 minutes
    - For persistent stable Ventricular Tachycardia with a pulse, following the administration of one of the above anti-dysrhythmic medications, administer the other anti-dysrhythmic medication, if available (i.e. if initially administered Amiodarone, then administer Lidocaine, or vice versa)

Paramedic STOP

Medical Control Options

3. Administer Magnesium Sulfate 2 g IV diluted in 10 ml of Normal Saline over 2 minutes
4. In cases of suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride 1 g IV slowly, followed with a crystalloid fluid flush
5. For pre-existing acidosis, administer Sodium Bicarbonate 44-88 mEq IV. Repeat Sodium Bicarbonate 44 mEq IV every 10 minutes as needed

Key Points / Considerations

- Tricyclic antidepressant overdose can cause wide-complex tachycardia which may be worsened by anti-dysrhythmic medications. Consider administering Sodium Bicarbonate or Magnesium Sulfate for these cases. If an anti-dysrhythmic is indicated, Lidocaine is preferred. Amiodarone should be avoided as it may cause additional dysrhythmias

DRAFT

Dysrhythmia (Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy

CFR STOP

EMT

3. Request ALS assistance, do NOT delay transport
4. Transport

EMT STOP

Paramedic

5. Begin cardiac monitoring
6. Assess and treat for severe bradycardia as needed
7. For stable supraventricular tachycardia, perform vagal maneuvers
8. For unstable supraventricular tachycardia or ventricular tachycardia with a pulse:
    - 8.1 Contact online medical control for treatment options
    - 8.2 Obtain intravascular access
    - 8.3 Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)
9. Perform, record and evaluate 12-lead EKG
10. Monitor vital signs every 2-3 minutes

Paramedic STOP

Medical Control Options

11. For unstable supraventricular tachycardia or ventricular tachycardia with a pulse, perform synchronized cardioversion at the following energy settings using appropriately-sized AED/monitor pads:
    - 11.1 Initial cardioversion: 0.5-1 joules/kg
    - 11.2 Subsequent cardioversions as needed: 1-2 joules/kg
12. For stable supraventricular tachycardia
    - 12.1 Administer Adenosine 0.1 mg/kg IV rapidly (maximum 6 mg), followed with a crystalloid fluid flush and observe EKG monitor for 1-2 minutes for evidence of cardioversion
    - 12.2 For persistent SVT, administer Adenosine 0.2 mg/kg IV rapidly (maximum 12 mg), followed with a crystalloid flush. Repeat as needed after 1-2 minutes if there is no evidence of cardioversion

DRAFT

Key Points / Considerations

- Stable Dysrhythmia:
  - **PEDIATRIC:** Patients with a dysrhythmia NOT associated with depressed mental status and/or absent peripheral pulses and/or hypotension (i.e. decompensated shock)
- Unstable Dysrhythmia:
  - **PEDIATRIC:** Patient with a dysrhythmia associated with ANY of the following:
    - Depressed mental status and absent peripheral pulses
    - Hypotension (systolic blood pressure < 70 mmHg + [2 x age in years]) (i.e. decompensated shock)
- Consider procedural sedation prior to electrical therapy for conscious patients
- High concentration oxygen should be used in pediatric patients
- If the cardiac monitor is unable to deliver the desired weight-based joule setting, use the closest setting without exceeding the desired setting

DRAFT

Obstetric Emergencies

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Check for crowning if the mother is having contractions, the urge to push, or has the sensation of having a bowel movement. If crowning is present, prepare for imminent delivery
4. If delivery has begun, treat appropriately
5. If delivery is not imminent, place the patient in a LEFT lateral recumbent position
6. Assess for shock and treat as needed

CFR STOP

EMT

7. Request ALS assistance if delivery is imminent or for any special emergency childbirth considerations
8. For vaginal bleeding in pregnancy:
    - Place dressings over the vagina to help estimate the quantity of blood loss
    - If the patient is immediately post-partum, massage the mother's abdomen over the uterus
9. Transport

EMT STOP

Paramedic

10. Obtain intravascular access for patients with severe pre-eclampsia, eclampsia or post-partum hemorrhage
11. For patients with eclampsia (i.e. seizures secondary to elevated blood pressures during pregnancy), administer Magnesium Sulfate 4 g IV (diluted in 50-100 ml of Normal Saline) over 10 minutes

Paramedic STOP

Medical Control Options

12. For severe pre-eclampsia, administer Magnesium Sulfate 2 g IV (diluted in 50–100 ml of Normal Saline) over 10 minutes

Key Points / Considerations

- Consider supine hypotension syndrome as a cause of shock
- Severe pre-eclampsia is when pregnant patients have BOTH of the following conditions:
    - Systolic blood pressure ≥ 160 mm Hg OR a diastolic blood pressure ≥ 110 mm Hg
    - Symptoms of a headache, visual disturbances, pulmonary edema or lower extremity edema
- Eclampsia and pre-eclampsia do not occur prior to 20 weeks of gestation

DRAFT

Emergency Childbirth

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. If the patient is in active labor, visually inspect the vagina for bulging or crowning
4. If delivery is imminent, proceed as follows:
   - 4.1 Apply gentle pressure against the delivering neonate's head to prevent tearing of the perineum
     - DO NOT apply pressure to the soft spots (fontanels)
     - Support the bony parts of the head as it presents
   - 4.2 As the head presents, gently clear the airway of secretions using the bulb syringe as follows:
     - Depress the bulb syringe prior to insertion
     - Suction the mouth first by inserting the syringe no more than 1.5 inches into the newborn's mouth
     - Suction the nose by inserting the syringe no more than 0.5 inches into the neonate's nose
   - 4.3 Support the head and thorax as the neonate delivers
   - 4.4 Repeat suctioning as necessary prior to spontaneous or stimulated respirations
   - 4.5 Gently guide the head downward until the shoulder appears. Deliver the other shoulder with gentle upward traction
   - 4.6 Thoroughly but rapidly dry the neonate with a clean, dry towel
5. Delay clamping of the umbilical cord for up to 1 minute after uncomplicated delivery, if safe to do so. Cut the umbilical cord by performing the following:
   - 5.1 Place the first clamp 8-10 inches from the newborn
   - 5.2 Place the second clamp 3 inches from the first clamp toward the mother
   - 5.3 Cut between the clamps and check both ends for bleeding. If continuous bleeding is seen from either end of the cord, add a second clamp to the bleeding end
   - 5.4 If umbilical clamps are not available, tie the umbilical cord with gauze at the same landmarks, but DO NOT cut the cord
6. Wrap the neonate in a dry, warm blanket/towel with a layer of foil or plastic wrap over the blanket/towel, or use a commercial infant swaddler, if available. Do not use foil alone
7. Cover the neonate's scalp with a warm covering
8. Assess the mother for shock and treat as needed
9. Assess for postpartum hemorrhage and treat as needed
10. Place neonate on mother's chest, if safe to do so

DRAFT

11. Assess and treat neonate appropriately as indicated

CFR STOP

EMT

12. Request ALS assistance if delivery is imminent. Do not delay transport if delivery is not imminent or after delivery to wait for the placenta to deliver
13. Transport
14. If miscarriage or stillbirth occurs, bring all fetal material to the hospital with the mother. If the viability of the fetus is uncertain, begin neonatal resuscitation
15. Special Considerations:
    - 15.1 Breech Presentation
      - Place the mother in a face-up position with hips elevated
      - Support the newborn's thorax during delivery
      - Be prepared as a full delivery may occur
      - If the head does not deliver immediately:
        - Place sterile, gloved fingers between the neonate's face and the wall of the birth canal to establish an air passageway. This position must be maintained until the head delivers
        - Fetal body should be supported at or below the angle of the birth canal. Presenting parts should not be raised upward
        - Do not apply traction while the newborn is in the birth canal
    - 15.2 Prolapsed Cord
      - Place the mother in a knee to chest position
      - Encourage the mother not to push
      - If the cord is not pulsating, place sterile, gloved fingers into the birth canal and push the head back 1-2 inches towards the cervix until the cord begins to pulsate
      - Wrap saline-moistened, sterile dressings around the cord
      - Do not attempt to insert the cord back into the uterus
      - The cord should be continuously monitored for the presence of a pulse
      - This position will most likely need to be maintained during transport to allow for umbilical blood circulation
    - 15.3 Nuchal Cord
      - If the umbilical cord is loose enough, gently slip it over the newborn's head immediately
      - If the umbilical cord is wrapped tightly around the neck such that it prevents manipulation, place two clamps on the cord and cut between the clamps

DRAFT

15.4 Intact Amniotic Sac (not ruptured)

- Immediately remove the sac from around the face using sterile, gloved fingers only

15.5 Shoulder Dystocia (wedged shoulders)

- Encourage the mother not to push
- Place the mother in a knee to chest position. This may require having providers assist the mother to maintain a hyperflexed position of the legs (McRoberts maneuver)
- Place the mother in Trendelenburg position or place the head of the bed lower than the legs
- Apply firm, steady suprapubic pressure. Avoid fundal pressure as this will worsen the condition
- If these maneuvers fail to deliver the neonate, reposition the mother on her hands and knees
- Guide the head downward to aid in the delivery of the upper shoulder

15.6 Multiple Births

- Deliver each birth accordingly, making sure to tie each umbilical cord between births
- Clamp and cut the cord of the first newborn prior to the next birth
- If the second birth does not occur within 10 minutes, begin transport

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Consider supine hypotension syndrome as a cause of shock
- Neonates are subject to rapid heat loss and must be kept warm and dry
- Miscarriage usually occurs at less than 20 weeks of gestation. Begin resuscitative efforts of the neonate if the gestational period is unknown
- The turtle sign is when the neonate's head retracts back into the vagina, and is an indication of shoulder dystocia
- It is no longer suggested to perform aggressive suctioning of the neonate when meconium is present
- Do not aggressively suction premature neonates

DRAFT

Neonatal Care / Resuscitation

CRITERIA

- This protocol applies to neonates within one (1) hour after birth

CFR and All Provider Levels

1. Warm, dry and stimulate the neonate

One (1) Minute After Birth

2. Assess neonate
3. If there is poor respiratory effort or poor tone, stimulate breathing by rubbing the lower back and gently flicking the soles of the feet
4. Ventilate at a rate of 40-60 breaths/min with room air, if the neonate has ANY of the following:
    - Persistent central cyanosis
    - Respiratory rate < 30 breaths/min
    - Heart rate < 100 beats/min

Two (2) Minutes After Birth

5. Assess the neonate's heart rate and perform the following:
    - Heart rate > 100 beats/min and the newborn has good respiratory effort, continue with supportive care
    - Heart rate is between 60-100 beats/min OR there is poor respiratory effort, continue ventilations
    - Heart rate < 60 beats/min after 30 seconds of providing ventilations, start compressions while continuing ventilations in a 3:1 compression to ventilation ratio
6. Reassess neonate every one minute and perform the following:
    - If the heart rate > 60 beats/min, do not perform chest compressions and continue ventilating at a rate of 40–60 breaths/min until the heart rate > 60 beats/min
    - Provide supplemental oxygen, but do not perform ventilations or compressions, when ALL of the following are present:
        - Respiratory rate > 30 breaths/min
        - Heart rate > 60 beats/min
        - Absence of central cyanosis

CFR STOP

EMT

7. Request ALS assistance
8. Determine APGAR scores at one (1) minute and five (5) minutes after birth (Appendix K: APGAR Scoring System)
9. Transport while keeping the neonate warm

DRAFT

10. If possible, obtain oxygen saturation on neonate's right hand, and administer oxygen via non-rebreather mask if SpO_2 is below its predicted value as follows:

Time After Birth (min)	SpO_2 %
1	60-65%
2	65-70%
3	70-75%
4	75-80%
5	80-85%
10	85-95%

If neonatal pulse oximetry is not available, administer oxygen via non-rebreather mask if the neonate has central cyanosis or is in respiratory distress

EMT STOP

Paramedic

11. Begin cardiac monitoring
12. Perform advanced airway management if unable to provide adequate ventilations
13. Do not delay transport for advanced airway management
14. If transport is delayed and the neonate is in cardiac arrest with a heart rate < 60 beats/min OR if assisted ventilations are required:
    - 14.1 Obtain intravascular or intraosseous access
    - 14.2 Administer Epinephrine 0.01 mg/kg IV (0.1 ml/kg of a 1:10,000 solution) every 3-5 minutes as needed
    - 14.3 Obtain blood glucose level via heel stick. If BGL < 40 mg/dl, administer Dextrose 10% 0.5 g/kg IV via syringe
    - 14.4 Administer crystalloid fluids 10 ml/kg IV

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Cardiopulmonary resuscitation in a neonate is performed with chest compressions and ventilations in a 3:1 ratio at a rate of 120 per minute (90 compressions, 30 ventilations)
- Spontaneous respirations should begin within 30 seconds after birth
- Reposition the airway if unable to ventilate the neonate
- Each ventilation should be administered gently over one second per respiratory cycle, ensuring that the chest rises with each ventilation
- Neonates are subject to rapid heat loss and must be kept warm and dry
- Do not delay transport or resuscitation in order to obtain an APGAR Score
- The proximal tibia is the only site acceptable for intraosseous access in the neonate
- Heart rate in neonates is best assessed at the abdomen or the umbilical stump
- Acrocyanosis (cyanosis of the hands and feet) is a common finding in neonate. If this is present, ensure that the neonate is warm and dry

DRAFT

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** patients and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with a history of Albuterol use), administer 0.02% Ipratropium Bromide mixed with 0.083% Albuterol Sulfate nebulized over 5-15 minutes as follows:
   - **ADULT:** 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
   - **PEDIATRIC:**
     - Age < 6 years: 0.02% Ipratropium Bromide 1.25 ml (0.5 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
     - Age ≥ 6 years: 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
8. Transport
   - Initiate transport after starting Albuterol administration
   - Do not delay transport to complete medication administration
9. For **ADULT** patients with persistent respiratory distress, begin continuous positive airway pressure (CPAP) therapy (Appendix P: Continuous Positive Airway Pressure Therapy), if available

DRAFT

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** patients and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with 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 of 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 (maximum 12 mg) slowly over 2 minutes
          OR Dexamethasone 0.6 mg/kg IM/PO (maximum 12 mg)
        - OPTION B: Methylprednisolone 1 mg/kg IV (maximum 60 mg) slowly over 2 minutes
          OR Methylprednisolone 1 mg/kg 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 0.3 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

DRAFT

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 0.3 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 of 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 (maximum 12 mg) slowly over 2 minutes OR Dexamethasone 0.6 mg/kg IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV (maximum 60 mg) slowly over 2 minutes OR Methylprednisolone 1 mg/kg IM (maximum 60 mg)

DRAFT

Key Points / Considerations

- 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
- 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)
- When administering steroids to pediatric patients, Dexamethasone is preferred over Methylprednisolone

DRAFT

Stridor / Croup / Epiglottitis (Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer high concentration blow-by oxygen (humidified, if available) delivered by nasal cannula or face mask held 3-5 inches from face, as tolerated
4. Assess and treat for an obstructed airway as needed
5. Assess and treat for anaphylaxis as needed
6. Assess and treat for respiratory distress/respiratory failure, or shock as needed

CFR STOP

EMT

7. Request ALS assistance if the patient is unconscious
8. Transport

EMT STOP

Paramedic

9. For a child with stridor at rest, administer Epinephrine as follows:
    - OPTION A: L-Epinephrine 3 mg (3 ml of a 1:1,000 concentration) nebulized
    - OPTION B: 2.25% Racemic Epinephrine 0.5 ml mixed with 3 ml Normal Saline nebulized
10. Obtain intravascular access
11. For pediatric patients age ≥ 2 years, administer one of the following medications for ANY of the following conditions: stridor at rest, respiratory distress, or persistent barky cough:
    - OPTION A: Dexamethasone 0.6 mg/kg IV (maximum 12 mg) slowly over 2 minutes OR Dexamethasone 0.6 mg/kg IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV (maximum 60 mg) slowly over 2 minutes OR Methylprednisolone 1 mg/kg IM (maximum 60 mg)
12. If there is clinical concern for Epiglottitis, do NOT attempt advanced airway management and ventilate using a bag valve mask

Paramedic STOP

Medical Control Options

13. For pediatric patients age < 2 years, administer one of the following medications for ANY of the following conditions: stridor at rest, respiratory distress, or persistent barky cough:
    - OPTION A: Dexamethasone 0.6 mg/kg IV (maximum 12 mg) slowly over 2 minutes OR Dexamethasone 0.6 mg/kg IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV (maximum 60 mg) slowly over 2 minutes OR Methylprednisolone 1 mg/kg IM (maximum 60 mg)

DRAFT

Key Points / Considerations

- Croup should be suspected in a child with stridor, retractions, barking cough, normal or slightly elevated temperature, sternal retractions, or a history of upper respiratory infection
- Epiglottitis should be suspected in a child with stridor, retractions, muffled voice, high fever, tripod position, or drooling, and toxic appearance
- Avoid agitating the child, particularly if there is concern for epiglottitis or upper airway edema
- If the patient has inspiratory stridor, it is often an upper airway problem (physiologic or mechanical obstruction)
- Unvaccinated children are at higher risk of epiglottitis and a vaccination history should be obtained
- IV formulation of Dexamethasone may be administered orally (PO)
- When administering steroids to pediatric patients, Dexamethasone is preferred over Methylprednisolone

DRAFT

Heat Emergencies (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Move the patient to a cooler environment, if possible
4. Remove outer clothing
5. Place in recovery position
6. Assess for shock and treat as needed
7. If the patient is conscious and able to drink without assistance, provide water if available

CFR STOP

EMT

8. If the patient has altered mental status:
    - 8.1 Obtain blood glucose level and treat appropriately as needed
    - 8.2 Request ALS assistance
9. Cool the patient rapidly if they have hot, flushed and dry skin
10. Transport

EMT STOP

Paramedic

11. Obtain intravascular access
12. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Do not aggressively lower body temperature since this may induce shivering
- Cooling of the patient should NOT delay transport
- Patients who are experiencing a heat emergency with signs of shock should be treated and transported rapidly
- Special populations who are at high risk for adverse outcomes:
    - Elderly patients
    - Patients with comorbidities, on diuretics, or psychiatric medications
    - Athletes

DRAFT

Cold Emergencies (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Move the patient to a warmer environment, if possible
4. If the patient is conscious and able to drink without assistance, provide warm beverages if available
5. Special Considerations:
   - 5.1 Localized Cold Injury:
     - Remove clothing and jewelry from affected area(s)
     - Protect affected area(s) from pressure, trauma, and friction; wrap area in dry, bulky dressings. If affected, wrap digits individually
   - 5.2 Generalized Hypothermia:
     - When evaluating a patient with generalized hypothermia, assess central pulses for one minute if not immediately palpable and perform resuscitation if indicated
     - Dry the patient and gently remove any wet clothing and jewelry
     - If available, place heat packs in the patient's groin area, lateral chest and neck
     - Wrap the patient in dry blankets

CFR STOP

EMT

6. If the patient has altered mental status:
   - 6.1 Obtain blood glucose level and treat as needed
   - 6.2 Request ALS assistance
7. Transport

EMT STOP

Paramedic

8. Perform advanced airway management as needed
9. Begin cardiac monitoring
10. Perform, record and evaluate EKG rhythm
11. Obtain intravascular access
12. Administer crystalloid fluids (warmed, if available) 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Generalized Hypothermia
  - Vital signs may be extremely depressed and difficult to obtain
  - Patients with hypothermic immersion may remain viable with prolonged exposures
  - Head coverings effectively reduce heat loss
  - Rough handling may precipitate cardiac dysrhythmias and/or cardiac arrest
  - Use caution with heat packs to prevent burns, particularly with unconscious patients
- Localized Hypothermia
  - Do NOT rub affected area(s) or break blisters

DRAFT

Poisoning (Adult and Pediatric)

CFR and All Provider Levels

1. Assess the scene for potential or actual danger and establish a safe zone, if necessary
2. ABCs and vital signs
3. Airway management and appropriate oxygen therapy
4. If an opioid overdose is suspected, treat as needed
5. Assess for shock and treat as needed
6. Special Considerations:
   - 6.1 Ingestion: Do not induce vomiting or attempt to neutralize the substance
   - 6.2 Inhalation: Ensure that the scene is safe prior to entering and treating the patient; remove the patient from the contaminated environment
   - 6.3 Absorption:
     - Take precautions to avoid contamination
     - Remove contaminated clothing
     - Brush off any dry agents or blot any excess liquid agents from the skin
     - Irrigate the area with clean fluid as tolerated until transport
     - Treat any wounds similar to burns with sterile, saline-moistened dressings
   - 6.4 Envenomation:
     - Do NOT attempt to capture the envenomating animal or attempt to remove the venom
     - Assess for signs of anaphylaxis and treat as needed

     6.4.1 Insect Stings:
     - If insect debris is obviously seen, attempt to remove insect by scraping with a firm-edged card, if available
     - Cover with sterile dressing
     - Apply cold compress

     6.4.2 Marine:
     - Remove bristles by patting area with adhesive tape and then wipe with alcohol
     - Remove stinging spine
     - Cover with sterile dressing

     6.4.3 Snakebite:
     - Keep affected site(s) lower than heart as tolerated
     - Cover site(s) with sterile dressing
     - Stabilize the area and restrict patient activity

CFR STOP

DRAFT

EMT

7. If the patient has altered mental status:
    - 7.1 Obtain blood glucose level and treat appropriately as needed
    - 7.2 Request ALS assistance
8. Special Considerations:
    - 8.1 Inhalation: Measure carbon monoxide level (spCO), if available
    - 8.2 Envenomation: Request ALS assistance but do NOT delay transport
9. Transport to closest Venomous Bite Center (Appendix H: Specialty Care Facilities) as needed

EMT STOP

Paramedic

10. Perform advanced airway management as needed
11. Obtain intravascular access
12. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Transport patients with envenomation as determined by the General Operating Procedures to the closest appropriate Venomous Bite Center
- Maintain scene safety including concerns for ambient hazardous materials
- Utilize appropriate personal protective equipment (PPE)
- Document the name of the substance(s) involved, the amount taken, and the time and duration of exposure
- Attempt to obtain information about the product from the container label. If possible, bring the product and its container with the patient to the hospital

DRAFT

Overdose (Adult and Pediatric)

CFR and All Provider Levels

1. Assess the scene for potential or actual danger and establish a safe zone, if necessary
2. ABCs and vital signs
3. Airway management and appropriate oxygen therapy
4. If an opioid overdose is suspected AND the patient's respiratory rate is inadequate, administer Naloxone IN via mucosal atomizer device (MAD), if available as follows:
   - **ADULT**: Naloxone 1 mg IN in each nostril (cumulative dose 2 mg). Repeat as needed after 5 minutes if there is no improvement in symptoms (final cumulative dose 4 mg)
   - **PEDIATRIC**: Naloxone 0.5 mg IN in each nostril (cumulative dose 1 mg). Repeat as needed after 5 minutes if there is no improvement in symptoms (final cumulative dose 2 mg)
5. Assess for shock and treat as needed
6. Do not induce vomiting for ingested substances

CFR STOP

EMT

7. If the patient has altered mental status:
   - 7.1 Obtain blood glucose level and treat appropriately as needed
   - 7.2 Request ALS assistance
8. If an opioid overdose is suspected AND the patient's respiratory rate is inadequate, administer Naloxone IN via MAD as follows:
   - **ADULT**: Naloxone 1 mg IN in each nostril (cumulative dose 2 mg). Repeat as needed after 5 minutes if there is no improvement in symptoms (final cumulative dose 4 mg)
   - **PEDIATRIC**: Naloxone 0.5 mg IN in each nostril (cumulative dose 1 mg). Repeat as needed after 5 minutes if there is no improvement in symptoms (final cumulative dose 2 mg)
9. Transport

EMT STOP

Paramedic

10. Perform advanced airway management as needed
11. Obtain intravascular access

DRAFT

12. If an opioid overdose is suspected AND the respiratory rate is inadequate, administer Naloxone as follows:
    - **ADULT**: Titrate Naloxone up to 4 mg IV/IM/IN (0.5 mg increments) as needed to response
    - **PEDIATRIC**: Titrate Naloxone in 0.5 mg increments as needed to response according to age as follows:
        - Age < 2 years: Naloxone up to 1 mg IV/IM/IN
        - Age ≥ 2 years: Naloxone up to 2 mg IV/IM/IN
13. Begin cardiac monitoring
14. For symptomatic patients with suspected cardiac medication overdose treat as needed

Paramedic STOP

Medical Control Options

15. Administer Diphenhydramine 1 mg/kg IV/IM (maximum 50 mg) for dystonic reaction from suspected antiemetic, antipsychotic, or antidepressant medications
16. Administer Sodium Bicarbonate 44-88 mEq IV for prolonged QTc > 450 ms or QRS > 100 ms from suspected antidepressant medications
17. For suspected sympathomimetic overdose (e.g. cocaine, amphetamines), administer one of the following:
    - OPTION A: Midazolam 0.2 mg/kg IV/IN/IM (maximum 5 mg)
    - OPTION B: Lorazepam 0.1 mg/kg IV/IN/IM (maximum 2 mg)
    - OPTION C: Diazepam 0.2 mg/kg IV/IN/IM (maximum 5 mg)

Key Points / Considerations

- Document the name of the substance(s) involved, the amount taken, and the time and duration of exposure
- Attempt to obtain information about the product from the container label. If possible, bring the product and its container with the patient to the hospital
- CFRs and EMTs may administer a maximum of two (2) Naloxone doses as described in their respective protocol sections
- If approved by an agency Medical Director, Naloxone Nasal Spray 4 mg (0.1 ml) IN in one nostril may be substituted for the above Naloxone IN doses for both adult and pediatric patients
- Naloxone relative contraindications:
    - Cardiopulmonary arrest
    - Active seizure
    - Evidence of nasal trauma, nasal obstruction, or epistaxis

DRAFT

Seizures (Adult and Pediatric)

CFR and All Provider Levels

1. Protect the patient from injury
2. ABCs and vital signs
3. Perform airway management with the following special considerations:
    - Position the patient to maintain airway patency
    - Do not attempt placement of OPA during convulsions
    - Consider use of NPA during active seizures, if available
4. Administer oxygen
5. Avoid unnecessary or excessive restraint
6. Treat injuries as needed

CFR STOP

EMT

7. Obtain blood glucose level and treat appropriately as needed
8. Request ALS assistance for ongoing seizures at time of patient contact
9. Transport

EMT STOP

Paramedic

10. For patients experiencing generalized seizures that are ongoing or recurring AND if the patient is actively seizing, administer one of the following:
    - OPTION A: Midazolam 0.2 mg/kg IV/IN/IM (maximum 5 mg). Repeat as needed after 5 minutes (maximum cumulative dose 10 mg)
    - OPTION B: Lorazepam 0.1 mg/kg IV/IN/IM (maximum 2 mg). Repeat as needed after 5 minutes (maximum cumulative dose 4 mg)
    - OPTION C: Diazepam 0.2 mg/kg mg IV (maximum 5 mg) slowly over 1 minute. Repeat as needed after 5 minutes (maximum cumulative dose 10 mg)
11. Perform advanced airway management as needed
12. Obtain intravascular access
13. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

14. If the patient continues to actively seize, administer an additional dose of any standing order medication

DRAFT

Key Points / Considerations

- Status epilepticus (continuing seizure) is a critical medical emergency. Anticonvulsant medication should be administered as soon as possible, preferably starting no later than 5 minutes after the onset of the seizure
- Intravascular access is the preferred route for benzodiazepine administration if it has already been established. If intravascular access has not been established, utilize the most appropriate and quickest route of administration available, with the intranasal (IN) route preferred over the intramuscular (IM) route
- The order of preference of medications when treating seizures is determined by a quick onset of action. Because of its fastest onset of action, Midazolam is the preferred medication; followed by Lorazepam and then Diazepam
- For patients who continue to seize despite benzodiazepine administration, it is preferential to continue additional dosing of the same benzodiazepine, rather than switching to a different medication
- Diabetic patients with a blood glucose level reading between 60-80 mg/dl may still be symptomatic secondary to hypoglycemia. In the presence of such signs and symptoms, treat accordingly
- Consider eclampsia as a cause of seizures for pregnant patients in their third trimester or who have delivered within one month and treat as needed
- Consider ideal body weight when dosing any of the above medications
- When using any of the above medications, monitor the patient using non-invasive capnography, if available
- Do not administer medications for seizures that have stopped

DRAFT

Severe Sepsis and Septic Shock (Adult and Pediatric)

CRITERIA

- This protocol is for patients with systemic inflammatory response syndrome (SIRS) due to a presumed infection (i.e. sepsis). Patients with shock due to specific reasons (e.g. trauma, cardiac, dysrhythmia, anaphylaxis) should be treated accordingly
- Adult and pediatric patients are considered to be severely septic and/or in septic shock if they have the following criteria:
  - Presumed infection AND
  - ANY TWO of the following clinical abnormalities:

	ADULT	PEDIATRIC
Abnormal Vital Signs	Heart rate > 110 beats/min	High heart rate (age dependent)
	Respiratory rate > 20 breaths/min OR $ETCO_2$ < 30 mmHg	High respiratory rate (age dependent)
	SBP < 90 mmHg OR MAP < 65 mmHg	
Abnormal Temperature	Skin: Tactile fever OR hypothermia; OR temperature > 100.4°F (38°C), if thermometer is available	
Signs/Symptoms/ Abnormal Laboratory Values	Altered mental status	Altered mental status (lethargy, irritability)
	White blood count > 12,000 cells/mm^3 or < 4,000 cells/mm^3 or > 10% bands, if available	Poor perfusion
		Need for high concentration oxygen
	Point of care lactate > 4 mmol/l	

CFR and All Provider Levels

1. ABCs and vital signs
2. Administer oxygen

CFR STOP

EMT

3. Obtain blood glucose level and treat as needed
4. Request ALS assistance
5. Transport

EMT STOP

DRAFT

Paramedic

6. Perform advanced airway management as needed
7. Begin cardiac monitoring
8. Perform, record and evaluate EKG rhythm
9. For adult patients, obtain intravascular access via either large bore IV or intraosseus site. Consider intraosseous access for pediatric patients if needed
10. Administer crystalloid fluids 20 ml/kg IV
11. For **ADULT** patients who remain in shock after the initial 20 ml/kg IV bolus, administer one of the following to maintain SBP > 90 mmHg or MAP > 65 mmHg:
    - OPTION A: Additional crystalloid fluids 20 ml/kg IV (total fluid bolus 40 ml/kg)
    - OPTION B: Norepinephrine 2 mcg/min continuous IV infusion (maximum 20 mcg/min). Titrate as needed every 3-5 minutes
    - OPTION C: Epinephrine 10 mcg IV over 1 minute. Repeat Epinephrine 10 mcg IV every 3-5 minutes
11. Monitor vital signs every 2-3 minutes

Paramedic STOP

Medical Control Options

12. Administer additional dosing of any standing order medication
13. For **ADULT** patients administer Vasopressin 0.02 units/min continuous IV infusion (maximum 0.04 units/min) to maintain SBP > 90 mmHg or MAP > 65 mmHg. Titrate as needed every 3-5 minutes
14. For **PEDIATRIC** patients administer one of the following to maintain minimum age-appropriate blood pressure:
    - OPTION A: Additional crystalloid fluids 20 m/kg IV (total fluid bolus 60 ml/kg)
    - OPTION B: Epinephrine 5 mcg IV over 1 minute. Repeat Epinephrine 5 mcg IV every 3-5 minutes
    - OPTION C: Norepinephrine 0.05 mcg/kg/min continuous IV infusion (maximum 20 mcg/min). Titrate as needed every 3-5 minutes

Key Points / Considerations

- Refer to Appendix XX: Vasopressor Infusion Rates Via Flow Regulating Devices
- Peri-intubation hypotension may lead to patient decompensation and/or cardiac arrest. Attempt to improve blood pressure via crystalloid fluid infusion and/or vasopressors prior to intubation
- Refer to General Operating Procedures for vasopressor administration recommendations

DRAFT

Undifferentiated Shock (Adult)

CRITERIA

- This protocol is for patients who are persistently hypotensive (SBP < 90 mmHg or Mean Arterial Pressure (MAP) less than 65 mmHg) and symptomatic from an unclear etiology or who are persistently hypotensive despite treatment under other existing protocols
- Patients with shock (e.g. trauma, cardiac, dysrhythmia, sepsis, anaphylaxis) due to specific reasons should be treated accordingly

CFR and All Provider Levels

1. ABCs and vital signs
2. Administer oxygen
3. Control external bleeding
4. Maintain body temperature

CFR STOP

EMT

5. Obtain blood glucose level and treat appropriately as needed
6. Request ALS assistance
7. Transport

EMT STOP

Paramedic

8. Perform advanced airway management as needed
9. Begin cardiac monitoring
10. Perform, record and evaluate EKG rhythm
11. For adult patients, obtain intravascular access via either large bore IV or intraosseus site. Consider intraosseous access for pediatric patients if needed
12. Administer crystalloid fluids 20 ml/kg IV
13. For patients who remain in shock after the initial 20 ml/kg IV bolus, administer one of the following to maintain SBP > 90 mmHg or MAP > 65 mmHg:
    - OPTION A: Additional crystalloid fluids 20 ml/kg IV (total fluid bolus 40 ml/kg)
    - OPTION B: Norepinephrine 2 mcg/min continuous IV infusion (maximum 20 mcg/min). Titrate as needed every 3-5 minutes
    - OPTION C: Epinephrine 10 mcg IV over 1 minute. Repeat Epinephrine 10 mcg IV every 3-5 minutes
    - OPTION D: Dopamine 5 mcg/kg/min continuous IV infusion (maximum 20 mcg/kg/min IV). Titrate as needed every 3-5 minutes
14. Monitor vital signs every 2-3 minutes

Paramedic STOP

DRAFT

Medical Control Options

15. Administer additional dosing of any standing order medication
16. Administer Vasopressin 0.02 units/min continuous IV infusion (maximum 0.04 units/min) to maintain SBP > 90 mmHg or MAP 65 mmHg. Titrate as needed every 3-5 minutes

Key Points / Considerations

- Refer to Appendix XX: Vasopressor Infusion Rates Via Flow Regulating Devices
- Peri-intubation hypotension may lead to patient decompensation and/or cardiac arrest. Attempt to improve blood pressure via crystalloid fluid infusion and/or vasopressors prior to intubation
- Refer to General Operating Procedures for vasopressor administration recommendations

DRAFT

Stroke [Cerebrovascular Accident (CVA)] (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy

CFR STOP

EMT

3. Obtain blood glucose level (BGL) and treat as follows:
    - For BGL ≥ 60 mg/dl evaluate for possible stroke using NYC S-LAMS scale
        - Determine each component and total score of the NYC S-LAMS scale by interviewing the patient, family and/or bystanders
        - Determine the "Last known well (LKW)" and the exact time the patient was in their usual state of health and/or last seen without symptoms. Note that this may be different than "time of symptom onset"
    - For BGL < 60 mg/dl, treat accordingly and perform the following:
        - For neurological symptoms that have resolved after appropriate hypoglycemia treatment, transport patient to the closest appropriate 911-receiving hospital
        - For neurological symptoms that persist after appropriate hypoglycemia treatment and BGL ≥ 60 mg/dl evaluate for possible stroke using NYC S-LAMS scale
4. Transport to the closest appropriate Stroke Center (Appendix H: Specialty Care Facilities; Appendix R: Thrombectomy Stroke Center Destinations) as needed

EMT STOP

Paramedic

5. Do NOT delay transport
6. Begin cardiac monitoring
7. Obtain intravascular access

Paramedic STOP

Medical Control Options

8. Administer Metoprolol 5 mg IV slow push for blood pressure ≥ 210/120 mmHg, if available

DRAFT

Key Points / Considerations

- If the historical/physical findings indicate an acute stroke, transport patients to the closest appropriate Stroke Center as determined by the General Operating Procedures and Appendix Q: Stroke Patient Assessment, Triage and Transportation
- For pediatric patients with symptoms of acute stroke, contact OLMC for transport decision to a hospital with pediatric critical care capabilities
- If the patient has a NYC S-LAMS score ≤ 3, transport the patient to the closest appropriate Primary Stroke Center (Appendix H: Specialty Care Facilities)
- If the patient has a NYC S-LAMS score ≥ 4, contact OLMC for a transport decision to the closest appropriate Thrombectomy Stroke Center (Appendix R: Thrombectomy Stroke Center), unless the patient has at least one of the following exclusion criteria:
    - Total time from onset of patient's symptoms to EMS patient contact is > 24 hours
    - Patient is wheelchair or bed-bound
    - Seizure is cause of patient's neurologic symptoms
    - Loss of Consciousness (LOC)
    - Trauma is cause of patient's neurologic symptoms
    - Transport time to Thrombectomy Stroke Center is > 30 minutes

DRAFT

Abdominal Pain / Severe Nausea / Severe Vomiting (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Assess and treat any specific cause of the patient's symptoms (e.g. trauma, poisoning, acute coronary syndrome) and treat as needed
4. Do not allow the patient to eat or drink
5. Place patient in position of comfort
6. Assess for shock and treat as needed

CFR STOP

EMT

7. Transport

EMT STOP

Paramedic

8. Obtain intravascular access
9. Monitor vital signs every 5 minutes
10. For patients ≥ 6 months with severe nausea and/or vomiting, administer Ondansetron 0.1 mg/kg PO/IV/IM (maximum 8 mg)

Paramedic STOP

Medical Control Options

Key Points / Considerations

- IV formulation of Ondansetron may be administered orally (PO)
- Ondansetron has been associated with prolongation of the QT interval, possibly resulting in Torsades de Pointes. Considerations for Ondansetron administration:
  - Do not administer to patients with a personal or family history of QT prolongation
  - Cautious use in patients with either a cardiac history or in those patients who take medications known to cause QT prolongation
  - Begin cardiac monitoring and obtain a 12-lead EKG for possible detection of prolonged QT or possible cardiac etiology of symptoms

DRAFT

Hyperglycemia (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management and appropriate oxygen therapy
3. Evaluate and treat for shock as needed

CFR STOP

EMT

4. Obtain blood glucose level (BGL) and request ALS assistance for patients with a BGL > 300 mg/dl AND any of the following conditions: altered mental status, tachypnea, or signs of dehydration
5. Transport

EMT STOP

Paramedic

6. Perform advanced airway management as needed
7. Obtain intravascular access for patients with any of the following:
   - BGL > 300 mg/dl AND any of the following conditions: altered mental status, tachypnea, or signs of dehydration
   - BGL > 500 mg/dl
   - Glucometer reading of “high”, “HI”, or “check ketones”
8. If intravascular access was obtained, administer crystalloid fluid 20 ml/kg IV (maximum 1 L)
9. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

10. Administer crystalloid fluids 20 ml/kg (maximum 1 L)

Key Points / Considerations

- Document the amount of crystalloid fluids administered

DRAFT

Decompression Sickness (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen
4. Assess for shock and treat as needed

CFR STOP

EMT

5. Transport patients with any of the following signs and symptoms of decompression sickness after diving AND their companion divers to the closest Hyperbaric Center (Appendix H: Specialty Care Facilities):
    - Neurologic: abnormal gait, dizziness, extremity weakness/numbness
    - Cardiac/Respiratory: chest pain, difficulty breathing, hypoxia
    - Gastrointestinal: abdominal pain, nausea, vomiting
    - Musculoskeletal: joint/muscle pain, painful range of motion
    - Skin: rashes or itching

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Transport patients as determined by the General Operating Procedures to the closest appropriate Hyperbaric Center
- Bring the patient's dive computer/dive watch, if available
- If possible, obtain the following information regarding the dive:
    - Specific information for the dive(s) including:
        - Maximum depth
        - Total time spent underwater
        - Bottom time
        - Time of ascension to the surface
    - Mixture of compressed gases used during the dive(s)
    - Any improvement of symptoms since ascension to the surface
    - Time since last dive was completed and any air travel history since the last dive

DRAFT

General Pain Management (Adult and Pediatric)

CRITERIA

- This protocol is for patients who require analgesic medications for pain of any etiology
- Online medical control shall be contacted **PRIOR** to the administration of analgesic medications for **ANY** of the following conditions:
  - Altered mental status
  - Hypoventilation
  - Hemodynamically unstable
  - Pregnant or suspected of being pregnant
- Patients should be monitored using non-invasive capnography, if available

CFR and All Provider Levels

CFR STOP

EMT

EMT STOP

Paramedic

1. Begin cardiac and pulse oximetry monitoring
2. Obtain intravascular access
3. Monitor vital signs every 5 minutes
4. Administer one of the following, as available:
   - OPTION A: Morphine 0.1 mg/kg IV/IM (maximum 10 mg), for patients with SBP > 110 mmHg
   - OPTION B: Fentanyl 1 mcg/kg IV/IM/IN (maximum 100 mcg). Repeat Fentanyl 1 mcg/kg IV/IM/IN (maximum cumulative dose 200 mcg) as needed after 10 minutes
   - OPTION C: **ADULT:** Ketorolac 10 mg IV/IM. Administration of an additional opioid analgesic (OPTION A or OPTION B) may be considered for persistent severe pain
   - OPTION D: **PEDIATRIC:** Acetaminophen 15 mg/kg PO (maximum 650 mg)
5. Transport

Paramedic STOP

Medical Control Options

6. Administer one of the following:

   OPTION A: Morphine 0.1 mg/kg IV/IM

   OPTION B: Fentanyl 1 mcg/kg IV/IM/IN
7. Administer Ketamine 0.2 mg/kg IV (maximum 25 mg) slowly or Ketamine 0.4 mg/kg IM/IN (maximum 50 mg)

DRAFT

Key Points / Considerations

- Contraindications for Ketorolac:
  - Renal failure and/or hemodialysis
  - Age ≥ 65 years
  - Pregnancy
  - Abdominal pain
  - Injuries with a risk for bleeding or suspected fracture
- Consider ideal body weight when dosing any of the above medications

DRAFT

Procedural Sedation (Adult and Pediatric)

CRITERIA

- This protocol is for patients who are conscious and require medications for:
  - Short-term analgesic and/or anxiolytic therapy for procedures such as synchronized cardioversion, transcutaneous pacing, and CPAP
  - Sedation for endotracheal intubation
- In order to sedate the patient under standing orders to perform endotracheal intubation, the patient must meet **ALL** of the following criteria:
  - Adult
  - Altered mental status
  - Respiratory rate < 10 breaths per minute
  - SpO_2 < 90% without supplemental oxygen
  - No immediate reversible cause of symptoms (e.g. opiate overdose responding to Naloxone)
- Adult patients who do not meet the above criteria **MUST** have prior approval of medications through OLMC
- Pediatric patients requiring procedural sedation, sedation for endotracheal intubation or post-intubation sedation **MUST** have prior approval of medications through OLMC
- Intubated patients must be monitored using waveform capnography
- Other procedures should be monitored using non-invasive capnography, if available

CFR and All Provider Levels

CFR STOP

EMT

EMT STOP

Paramedic

1. ABCs and vital signs
2. Administer oxygen
3. Obtain intravascular access
4. Begin cardiac monitoring
5. Monitor vital signs every 2-3 minutes
6. For an **ADULT** patient requiring procedural sedation, administer one of the following:
   - OPTION A: Etomidate 0.15 mg/kg IV (maximum 20 mg)
   - OPTION B: Diazepam 0.1 mg/kg IV (maximum 10 mg)
   - OPTION C: Midazolam 0.1 mg/kg IV (maximum 5 mg)
   - OPTION D: Lorazepam 0.02 mg/kg IV (maximum 4 mg)
   - OPTION E: Ketamine 1 mg/kg IV (maximum 100 mg)

DRAFT

7. For endotracheal intubation of an **ADULT** patient with ALL OF THE FOLLOWING CRITERIA:
    - Altered mental status
    - Respiratory rate < 10 breaths per minute
    - SpO_2 < 90%
    - No immediate reversible cause of symptoms (e.g. opiate overdose responding to Naloxone)
        - Endotracheal intubation, administer one of the following:
            - OPTION A: Etomidate 0.3 mg/kg IV (maximum 40 mg)
            - OPTION B: Diazepam 0.2 mg/kg IV (maximum 10 mg)
            - OPTION C: Midazolam 0.2 mg/kg IV (maximum 5 mg)
            - OPTION D: Lorazepam 0.1 mg/kg IV (maximum 4 mg)
            - OPTION E: Ketamine 2 mg/kg IV (maximum 200 mg)
        - Post-Intubation sedation, administer one of the following:
            - OPTION A: Diazepam 0.2 mg/kg IV (maximum 10 mg)
            - OPTION B: Midazolam 0.2 mg/kg IV (maximum 5 mg)
            - OPTION C: Lorazepam 0.1 mg/kg IV (maximum 4 mg)
            - OPTION D: Ketamine 1 mg/kg IV (maximum 100 mg)

Paramedic STOP

Medical Control Options

8. For an **ADULT** patient who does not meet the criteria for standing order sedation for intubation, administer medication options for endotracheal intubation and post-intubation sedation according to the dosing options as listed above
9. For a **PEDIATRIC** patient requiring procedural sedation, sedation for endotracheal intubation or post-intubation sedation, administer medication options according to the weight-based dosing for adult patients

Key Points / Considerations

- Due to its short duration of action, consider using Etomidate as a single sedative agent only for short-term procedures such as synchronized cardioversion
- When managing an intubated patient, it is preferrable to continue additional dosing of the same benzodiazepine used for induction, rather than switch to a different medication
- Consider ideal body weight when dosing any of the above medications
- Consider less invasive means of managing the patient's airway if a difficult intubation is anticipated
- Peri-intubation hypotension may lead to patient decompensation and/or cardiac arrest. Attempt to improve blood pressure via crystalloid fluid infusion and/or vasopressors prior to intubation

Vaccine Administration (Adult and Pediatric)

INTRODUCTION

- This protocol is to be used at the discretion of agency Medical Director under the auspices of an Executive Order

CFR and All Provider Levels

CFR STOP

EMT

1. Assess patient for need of vaccination
2. Screen for contraindications and precautions (Appendix V: Vaccinations)
3. Provide all patients (parent/legal representative) with a copy of the most current Federal Vaccine Information Statement (VIS). Document the publication date of the VIS and the date it was given to the patient (parent/legal representative). If available and preferred, a copy of the VIS should be given in the patient's (parent/legal representative) native language (www.immunize.org/vis)
4. Administer vaccine
   - Refer to Appendix V: Vaccinations for the appropriate vaccine preparation instructions
   - Intranasal vaccines shall be administered according to directions in Appendix V: Vaccinations
   - Intramuscular vaccines shall be administered using the needle gauge, needle length, and injection site according to the following:

ADULT FEMALE			
Patient Weight	**Needle Gauge**	**Needle Length (inches)**	**Injection Site**
< 130 lbs. (59 kg)	22 - 25	5/8 - 1	Deltoid muscle
130 – 152 lbs. (59-69 kg)		1	
153 – 200 lbs. (69-91 kg)		1 - 1.5	
> 200 lbs. (91 kg)		1.5	

ADULT MALE			
Patient Weight	**Needle Gauge**	**Needle Length (inches)**	**Injection Site**
< 130 lbs. (59 kg)	22 - 25	5/8 - 1	Deltoid muscle
130 –152 lbs. (59-69 kg)		1	
153 – 260 lbs. (69-118 kg)		1- 1.5	
> 260 lbs. (118 kg)		1.5	

PEDIATRIC			
Patient Age (years)	**Needle Gauge**	**Needle Length (inches)**	**Injection Site**
< 5	22 - 25	5/8 - 1	Anterior thigh
≥ 5			Deltoid muscle

- When using a 5/8 inch needle for injections into the deltoid muscle, ensure that the needle is perpendicular (90° angle) to the skin and that the skin is stretched taught

5. Documentation shall include the date of immunization, immunizations administered, dose, injection site, lot number, manufacturer, VIS date, and the identification of the provider administering the vaccine. If the vaccine was not administered, record the reason for the non-receipt
6. Patients shall be monitored for any adverse reactions for fifteen (15) minutes after vaccine administration. If the patient has a history of allergies that is not severe enough to be a contraindication for the vaccine, observe the patient for thirty (30) minutes

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Patient records shall be reported to the New York State Immunization Information System (NYSIIS) database within 24 hours
- Adverse events occurring after administration of any vaccine should be reported to the Vaccine Adverse Event Reporting System (VAERS) online at https://vaers.hhs.gov. Additional information about VAERS is available by telephone at 800-822-7967

DRAFT

General Trauma Care (Adult and Pediatric)

CFR and All Provider Levels

1. Control bleeding
2. Perform spinal injury precautions as needed
3. ABCs and vital signs
4. Airway management and appropriate oxygen therapy
5. For evisceration injuries:
    - Do NOT reinsert or reduce the protruding organ
    - Do NOT pour liquid directly onto the wound
    - Place saline-moistened, sterile dressings over the organ
    - Secure dry, bulky dressings over the moistened dressings
    - Place an occlusive dressing over the moistened dressings to maintain body heat
    - Position the patient appropriately with knees slightly bent
6. For open chest injuries, cover with occlusive dressing; if dyspnea increases, release the dressing momentarily during exhalation
7. For impaled objects:
    - Unless it compromises the airway, DO NOT remove the object
    - Support and secure the object with bulky dressings
8. Treat extremity injuries

CFR STOP

EMT

9. Stabilize potentially unstable pelvic fractures
10. Transport patient to the closest appropriate Trauma Center (Appendix H: Specialty Care Facilities) as needed

EMT STOP

Paramedic

11. Perform needle decompression for a suspected tension pneumothorax (Appendix O: Needle Decompression of Tension Pneumothorax) as needed
12. Begin cardiac monitoring
13. Obtain intravascular access
14. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L) as needed to maintain SBP > 90 mmHg or MAP > 65 mmHg
15. Treat for pain as needed

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Transport patients with criteria as determined by General Operating Procedures and Appendix: F Trauma Patient Criteria to the closest appropriate Trauma Center
- Decreased breath sounds or muffled heart sounds indicate life-threatening chest injuries. The patient should be transported immediately
- The first priority for trauma patients is to stop further external bleeding
- Crystalloid fluid is a temporizing measure for patients in shock from blood loss and require definitive care at a hospital. Do not delay transport to obtain intravascular access or administer crystalloid fluids
- Stabilize any unstable pelvic fractures by using conventional methods or a commercial pelvic binder if available

DRAFT

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 the AED pads to the patient's bare chest with minimal interruption of chest compressions
5. Plug in 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
8. Continue CPR and AED analysis with minimal interruption of chest compressions
9. Transport

EMT STOP

Paramedic

10. Continue CPR and defibrillation cycles, with minimal interruption of chest compressions. Use the maximum joule setting possible when defibrillating
11. If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring
12. 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. Perform needle decompression for a suspected tension pneumothorax (Appendix O: Needle Decompression of Tension Pneumothorax) as needed
14. Perform advanced airway management after second rhythm analysis
15. Obtain intravascular access via either large bore IV or intraosseous site. Consider intraosseous access for pediatric patients if needed
16. Administer crystalloid fluid 20 ml/kg IV (maximum 2 L)
17. 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

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

DRAFT

Key Points / Considerations

- 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 the 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

DRAFT

Amputation (Adult and Pediatric)

CFR and All Provider Levels

1. Control bleeding
2. ABCs and vital signs
3. Elevate and wrap the amputated extremity with moist sterile dressings and cover with dry bandage
4. Care for amputated part:
    - Moisten sterile dressing with sterile saline solution and wrap amputated part
    - Place the amputated part in a water-tight container, such as a sealed plastic bag
    - Label the bag with the patient's name and time of the injury
    - Place the container on ice or cold packs, using caution to avoid freezing the amputated part

CFR STOP

EMT

5. Transport

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

Key Points / Considerations

- If possible, transport the amputated part with the patient, but do not delay transport to search for the amputated part

DRAFT

Avulsed Tooth (Adult and Pediatric)

CRITERIA

- This protocol applies only for permanent teeth

CFR and All Provider Levels

1. ABCs and vital signs
2. Hold the tooth by the crown (not the root)
3. Rinse the tooth with saline before reimplantation, but do not brush off or clean the tooth of tissue
4. Remove the clot from the socket; and suction the clot, if needed
5. Reimplant the tooth firmly into its socket with digital pressure
6. Have the patient hold the tooth in place using gauze and bite pressure

CFR STOP

EMT

8. Transport

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Report to hospital staff that a tooth has been reimplanted
- As appropriate, the best transport medium for an avulsed tooth is in the socket
- Reimplantation is most successful when it occurs within five minutes of the injury
- Do not reimplant the tooth if the patient has any of the following conditions:
    - Altered mental status
    - Requires transportation in a supine position
    - Alveolar bone/gingiva are not present or if the root is fractured
    - Immunosuppression or if the patient has a cardiac condition requiring antibiotics prior to procedures
- If the patient is not a candidate for reimplantation and has avulsed a permanent tooth, place the avulsed tooth in interim storage media (commercial tooth preservation media, low fat milk, patient's saliva, or saline) and keep cool. Do not allow the permanent tooth to dry, but avoid tap water as a storage medium if possible

DRAFT

Bleeding / Hemorrhage Control (Adult and Pediatric)

CFR and All Provider Levels

1. Assess site of injury and control bleeding accordingly:
    - Uncontrolled life-threatening bleeding from an extremity
        - Place tourniquet 2-3 inches proximal to the wound
        - If bleeding continues, place a second tourniquet proximal to the first. If the wound is distal to the knee or elbow, place the second tourniquet proximal to these joints. If the bleeding site cannot be rapidly identified, place a tourniquet "high and tight"
    - Uncontrolled life-threatening bleeding from an anatomical junction
        - Pack the wound with gauze or hemostatic dressing, if available. Place pressure over the dressing and secure in place
    - Severe bleeding
        - Apply direct pressure on the wound with gauze or hemostatic dressing, if available
        - Pack wound and hold pressure, using additional dressings as needed
        - If severe bleeding persists when using conventional dressings and hemostatic dressing becomes available, remove initial dressings and replace with hemostatic dressing at site of bleeding
        - Cover with a pressure bandage and secure in place
    - Severe bleeding from a dialysis shunt or fistula
        - Apply digital pressure to the bleeding site
        - Cover with a pressure dressing and secure in place
2. ABCs and vital signs
3. Airway management and appropriate oxygen therapy
4. Assess for shock and treat as needed

CFR STOP

EMT

5. Transport

EMT STOP

Paramedic

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

- Use of tourniquets for severe bleeding from a dialysis shunt or fistula should only be used when other means of hemorrhage control have been unsuccessful
- Infection control precautions must be followed with all patients, especially with the patient's blood
- Hemostatic dressings shall be used according to manufacturer's instructions and/or respective agency training
- Rolled gauze may be used in place of hemostatic dressing if hemostatic dressings are not available
- DO NOT remove a tourniquet that was used to control life-threatening hemorrhage
- Note the time of tourniquet application and location of tourniquet(s)
- If clinical judgment of the provider indicates that the tourniquet was placed inappropriately (e.g. minor wound) or there is a significant delay in transport, consider releasing tourniquet. Caution shall be made to ensure the ability to immediately re-apply the tourniquet and control any possible recurrent hemorrhage

DRAFT

Burns (Adult and Pediatric)

CFR and All Provider Levels

1. Stop the burning process
2. ABCs and vital signs
3. Airway management and appropriate oxygen therapy
4. Remove smoldering clothing that is not adherent to the patient's skin
5. If possible, remove rings, bracelets, and constricting objects on the burned extremity
6. Cover the burn with dry sterile dressings or sterile non-adherent dressings, if available
7. Immediately irrigate burns to the eye with Normal Saline or water
8. Assess and treat for smoke inhalation appropriately as needed
9. Maintain patient's body temperature

CFR STOP

EMT

10. Cover burns with moist sterile dressings only if the burn is ≤ 10% of total body surface area (TBSA)
11. Transport patient to the closest appropriate Burn Center (Appendix H: Specialty Care Facilities) as needed

EMT STOP

Paramedic

13. Perform advanced airway management for any evidence of burns to the upper airway or if upper airway compromise is anticipated
14. Begin cardiac monitoring
15. Obtain intravascular access
16. For partial and full thickness burns (2nd degree burns or higher) > 20% TBSA, administer crystalloid fluids 20 ml/kg IV (maximum 1 L)
17. Assess and treat for chemical eye injuries/burns as needed

Paramedic STOP

Medical Control Options

18. For a delay in transport, administer crystalloid fluids 20 ml/kg IV (maximum 1 L)

DRAFT

Key Points / Considerations

- Transport patients with criteria as determined in the General Operating Procedures and Appendix G: Burn Patient Criteria to the closest appropriate Burn Center
- Assure scene safety and patient decontamination for chemical burns/HAZMAT exposure
    - For liquid chemical burns: flush with copious amounts of water or saline, ideally for a minimum of 20 minutes
    - For dry powder burns: brush powder off before flushing
    - Use caution to avoid the spread of the contaminant to unaffected areas (especially from one eye to the other)
    - If hazardous material involvement is suspected, notify the destination hospital to allow for appropriate decontamination
- Consider other injuries, including cardiac dysrhythmias
- Oxygen saturation readings may be falsely elevated in suspected smoke inhalation
- When considering the total area of a burn, DO NOT include superficial (1st degree) burns
- For burns > 10%, use only dry sterile dressings or sterile non-adherent dressings, if available, once the burning process has stopped
- Most burn patients do not need aggressive pre-hospital fluid resuscitation
- Hypothermia is a significant concern in burn patients

DRAFT

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. Loosely bandage both eyes
5. 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
6. For impaled objects to the eye, stabilize the object with bulky dressings and cover both eyes to prevent 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
    - Stabilize dressings with a paper cup or similar object

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

DRAFT

Bone and Joint Injuries (Adult and Pediatric)

CFR and All Provider Levels

1. Control bleeding
2. ABCs and vital signs
3. Airway management and appropriate oxygen therapy
4. Assess for shock and treat appropriately as needed
5. Manually stabilize the injury
6. Cover protruding bones and wounds with dry sterile dressings
7. Assess for peripheral pulses, motor function, and sensation to the injured extremity
8. Apply cold pack(s) to closed injury sites

CFR STOP

EMT

9. Immobilize the extremity injury:
    - 9.1 Assess for peripheral pulses, motor function, and sensation to the injured extremity before and after immobilization
    - 9.2 Align the extremity by applying gentle manual traction prior to splinting if the distal extremity has ANY of the following conditions: cyanotic, pulseless or if the long bone is severely deformed. If there is increased pain or resistance, stop and splint extremity in its original position
    - 9.3 Immobilize an injured joint in its position of function. If unable to move the joint due to increased pain or resistance, splint the joint in its original position
    - 9.4 Elevate the extremity
10. For isolated, closed mid-thigh fractures, apply a traction splint as indicated
11. Stabilize potentially unstable pelvic fractures
12. Transport

EMT STOP

Paramedic

Paramedic STOP

DRAFT

Medical Control Options

EMT and Paramedic

13. For reduction of a clinically obvious, isolated medial or lateral patellar dislocation:
    - Gradually extend the knee while a second provider simultaneously applies pressure on the patella towards the midline of the knee
    - Immobilize the lower extremity when the leg is fully extended
    - If there is increased pain or resistance, splint the joint in its original position
    - If a patella dislocation is uncertain or if the patient's body habitus prevents accurate assessment, immobilize the joint in its original position

Key Points / Considerations

- Splinting should not delay transport of the critical or unstable patient
- Depending on the traction splint device used, evaluate for any suspected injuries to the pelvis, knee, lower leg, or ankle on the same side of the injury prior to use
- Do not attempt to reduce intra-articular or superior patellar dislocations

DRAFT

Head, Neck, and Spine Injuries (Adult and Pediatric)

CFR and All Provider Levels

1. Control bleeding
2. ABCs and vital signs
3. Stabilize cervical spine with a rigid cervical collar and observe spinal injury precautions appropriately as needed
4. Airway management and appropriate oxygen therapy
5. Cover open neck wounds with an occlusive dressing while ensuring not to bandage completely around the neck
6. Assess for shock and treat as needed

CFR STOP

EMT

7. Observe spinal precautions and apply a rigid cervical collar for patients who have any of the following criteria at time of EMS evaluation or at any time following injry:
    - Altered mental status for any reason, including possible intoxication
    - Glasgow Coma Scale (GCS) < 15
    - Neck/spine pain or tenderness
    - Provider unable to adequately assess for neck/spine pain or tenderness
    - Trunk or extremity weakness, paralysis, numbness or tingling
    - New deformity of spine that was not present prior to the injury
    - Distracting injury or other circumstances that may produce an unreliable physical exam or history
    - High risk mechanism of injury
    - Any other provider concern for potential spinal injury
8. Transport

EMT STOP

Paramedic

9. Perform advanced airway management as needed
10. Begin cardiac monitoring
11. Obtain intravascular access

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Do not use a nasopharyngeal airway in patients with facial burns or other facial injury
- Do not hyperventilate patients when assisting ventilations

DRAFT

Carbon Monoxide Poisoning (Adult and Pediatric)

CFR and All Provider Levels

1. Ensure that the scene is safe to enter
2. Remove the patient from the contaminated environment
3. ABCs and vital signs
4. Airway management
5. Administer oxygen via non-rebreather
6. Assess for shock and treat as needed

CFR STOP

EMT

7. Obtain patient's carbon monoxide level (SpCO) if available
8. Transport patients with continuous high concentration oxygen to the closest Hyperbaric Center (Appendix H: Specialty Care Facilities) for ANY of the following conditions:
    - Asymptomatic patient with SpCO > 25%
    - Patients with a high index of suspicion for carbon monoxide poisoning AND any of the following symptoms: altered mental status, headache, or syncope
    - Pregnant patients with SpCO > 15%

EMT STOP

Paramedic

12. Perform advanced airway management as needed
13. Begin cardiac monitoring
14. Obtain intravascular access

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Transport patients with criteria as determined by the General Operating Procedures to the closest appropriate Hyperbaric Center
- Cyanide poisoning should be considered for patients who have been exposed to smoke from a burning substance in an enclosed space
- Patients shall be transported with continuous high concentration oxygen even if signs and symptoms of carbon monoxide poisoning resolve
- Oxygen saturation (SpO_2) obtained from pulse oximetry monitoring is not accurate and may be falsely elevated in a patient with carbon monoxide poisoning

DRAFT

Smoke Inhalation (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen via non-rebreather
4. Assess for shock and treat as needed
5. Treat any burns as needed

CFR STOP

EMT

9. Obtain patient's carbon monoxide level (SpCO) if available
10. Request ALS assistance
11. Transport

EMT STOP

Paramedic

12. Perform advanced airway management as needed
13. Begin cardiac monitoring
14. Obtain intravascular access
15. Treat for cyanide poisoning as needed for patients with ANY of the following conditions:
    - Cardiac arrest
    - Respiratory arrest
    - Altered mental status
    - Seizures
    - Hypotension not attributable to obvious causes

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Cyanide poisoning should be considered for patients who have been exposed to smoke from a burning substance in an enclosed space
- Patients shall be transported with continuous high concentration oxygen even if signs and symptoms of carbon monoxide poisoning resolve

DRAFT

Cyanide Poisoning (Adult and Pediatric)

CRITERIA

- This protocol is for critical patients with exposure to cyanide
- A class order is required when operating at a scene with suspected cyanide exposure secondary to weapons of mass destruction (WMD)
- 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 via online medical control or FDNY Emergency Medical Dispatch
- The issuance of any class order shall be conveyed to all regional online medical control facilities for relay to units in the field
- Treatment within the “hot” and “warm” zones is to be performed only by appropriately trained personnel wearing appropriate chemical protective clothing (CPC) as determined by the FDNY Incident Commander
- If providers encounter a patient who has not been appropriately decontaminated from liquid cyanide, the providers should leave the area immediately until appropriate decontamination has been performed

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen via non-rebreather
4. Assess for shock and treat as needed
5. Assess and treat for burns as needed

CFR STOP

EMT

6. Request ALS assistance
7. Transport

EMT STOP

Paramedic

8. Perform advanced airway management appropriately as needed
9. Begin cardiac monitoring
10. Obtain at least two sites of intravascular access

DRAFT

11. Administer Hydroxocobalamin and Sodium Thiosulfate for patients with ANY of the following conditions:
    - Cardiac arrest
    - Respiratory arrest
    - Altered mental status
    - Seizures
    - Hypotension not attributable to obvious causes

    Obtain three blood samples using the tubes provided in the Cyanide Toxicity Kit PRIOR to the administration of Hydroxocobalamin as soon as possible

    11.1 Administer Hydroxocobalamin as follows:
    - **ADULT:** Hydroxocobalamin 5 g IV over 15 minutes. If patient has persistent symptoms, repeat administration of Hydroxocobalamin 5 g IV over 15 minutes
    - **PEDIATRIC:** Hydroxocobalamin 75 mg/kg (3 ml/kg of prepared solution) IV (maximum 5 g) over 15 minutes. If patient has persistent symptoms, repeat administration of Hydroxocobalamin 75 mg/kg (3 ml/kg) IV (maximum 5 g) over 15 minutes

    11.2 Administer Sodium Thiosulfate as follows:
    - **ADULT:** Sodium Thiosulfate 12.5 g (150 ml of prepared solution) IV over 10 minutes
    - **PEDIATRIC:** Sodium Thiosulfate 250 mg/kg (3 ml/kg of prepared solution) IV (maximum 12.5 g) over 10 minutes

Paramedic STOP

Medical Control Options

DRAFT

Key Points / Considerations

Cyanide Toxicity Kit

Item	Quantity
Hydroxocobalamin 5 g bottle (crystalline powder)	1
Sodium Thiosulfate 12.5 g bottle (25% solution)	1
Normal Saline or D_5W (100 ml bag)	3
20 ml syringe	1
Three-way stopcock connector	1
2 ml fluoride oxalate whole blood tube	1
2 ml K2 EDTA tube	1
2 ml lithium heparin tube	1

- Hydroxocobalamin solution is prepared by adding 200 ml of Normal Saline or D_5W to Hydroxocobalamin 5 g powder in the bottle provided. The vented macro-drip tubing that accompanies the Cyanide Toxicity Kit should be used to administer the Hydroxocobalamin solution. For an adult dose, use in wide-open position to ensure the correct administration time of approximately 15 minutes
- Sodium Thiosulfate solution is prepared by adding Sodium Thiosulfate 12.5 g (50 ml) to a 100 ml bag of Normal Saline or D_5W
- In the event that only one intravascular access line is established, administer Hydroxocobalamin BEFORE Sodium Thiosulfate since Sodium Thiosulfate will inactivate Hydroxocobalamin
- Whenever Hydroxocobalamin is administered, follow with a 20 ml flush of crystalloid fluid prior to administering other medications
- A Class Order is 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

DRAFT

Weapons of Mass Destruction: Nerve Agent Exposure (Adult and Pediatric)

CRITERIA

- A class order issued by the FDNY Office of Medical Affairs is required for the use of this protocol
- 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 via online medical control or FDNY Emergency Medical Dispatch
- The issuance of any class order shall be conveyed to all regional online medical control facilities for relay to units in the field
- Only providers who are trained and who are wearing appropriate chemical protective clothing (CPC) may operate in the treatment zones as directed by the FDNY Incident Commander:
  - Hot Zone (Exclusion Zone): FDNY CFR, FDNY HazTac EMTs and Paramedics, FDNY Rescue Paramedics
  - Warm Zone (Contamination Reduction Zone): FDNY providers
  - Cold Zone (Support Zone): All EMS providers

CFR and All Provider Levels

1. Assign triage tags according to the patient's signs and symptoms and administer the nerve agent antidote kit (NAAK) auto-injector IM and/or Atropine 0.5 mg auto-injector IM according as follows:

Tag Color	Signs and Symptoms	Weight (kg)	NAAK (unit)	Atropine 0.5 mg auto-injector
RED	SLUDGEM AND one of the following: AMS or Respiratory Distress	< 18	1	
		18-40	2	
		> 40	3	
YELLOW	SLUDGEM OR Respiratory Distress	< 18	0	1
		18-40	1	
		> 40	2	
GREEN	Asymptomatic		0	

   - If multiple doses of NAAK are required, administer each unit in rapid succession
   - NAAK refers to either the dual-injector set [Mark-1 (one atropine auto-injector and one pralidoxime auto-injector)] or a single injector containing both medications [DuoDote® (Atropine and Pralidoxime)]
   - NAAK auto-injectors contain Atropine 2 mg and Pralidoxime 600 mg
2. Treat patients according to tag color as follows:
   - Red and Yellow tag patients: do not delay treatment for decontamination
   - Green tag patients: decontaminate and observe closely

3. Monitor the patient every 5 minutes
4. For patients with persistent symptoms of excessive secretions or respiratory distress after initial management, administer Atropine auto-injector IM as follows. Repeat Atropine auto-injector IM every 5 minutes as needed

Signs and Symptoms	Weight (kg)	Atropine auto-injector (mg)
Excessive Secretions or Respiratory Distress	< 18	0.5
	18-40	1
	> 40	2

CFR STOP

EMT

5. Transport

EMT STOP

DRAFT

Paramedic

6. For patients who are actively seizing, administer one of the following:

Weight (kg)	OPTION A: Diazepam	OPTION B: Midazolam
< 18	• 0.5 mg/kg IM (0.1 ml/kg of a 5 mg/ml concentration) [maximum 5 mg] • Repeat Diazepam 0.5 mg/kg IM (maximum 5 mg) every 10 minutes as needed (maximum cumulative dose 10 mg)	• 0.2 mg/kg IM (0.04 ml/kg of a 5 mg/ml concentration) [maximum 3 mg] • Repeat Midazolam 0.15 mg/kg IM (maximum 5 mg) every 10 minutes as needed (maximum cumulative dose 10 mg)
18-40	• 0.5 mg/kg IM (0.1 ml/kg of a 5 mg/ml concentration) [maximum 10 mg] • Repeat Diazepam 0.5 mg/kg IM (maximum 10 mg) every 10 minutes as needed (maximum cumulative dose 30 mg)	• 0.2 mg/kg IM (0.04 ml/kg of a 5 mg/ml concentration) [maximum 5 mg] • Repeat Midazolam 0.15 mg/kg IM (maximum 5 mg) every 10 minutes as needed (maximum cumulative dose 20 mg)
> 40	• 10 mg auto-injector IM • Repeat Diazepam 10 mg auto-injector IM every 10 minutes as needed (maximum cumulative dose 30 mg)	• 5 mg IM (1ml of a 5 mg/ml concentration) • Repeat Midazolam 5 mg IM every 10 minutes as needed (maximum cumulative dose 20 mg)

Paramedic STOP

Medical Control Options

FDNY OMA Response Physician Medical Control Options

7. Administer additional dosing of any standing order medication

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Key Points / Considerations

- Symptoms for nerve agent exposure are described using the acronym SLUDGEM:
  - Salivation
  - Lacrimation
  - Urination
  - Defecation/diarrhea
  - Gastrointestinal upset
  - Emesis
  - Miosis
- Any discretionary orders or medical control options shall be approved by the FDNY OMA Response Physician
- The goal of treatment for patients is the drying of secretions and resolution of other symptoms
- Diazepam is the medication of choice when treating a patient with seizures secondary to nerve agent exposure
- Do not administer more than 3 NAAK units to any patient
- Asymptomatic patients do not require treatment
- Record the number and/or amount of Atropine, NAAK, and benzodiazepines administered on the patient's triage tag
- Victims whose skin or clothing is contaminated with liquid nerve agent can contaminate rescuers by direct contact through off-gassing vapor
- Victims who have ingested nerve agents may off-gas dangerous levels of vapor, including from vomit if ingested, even after skin decontamination

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