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

NYC REMAC

Advisory No.	2024-01		
Title:	Protocol Revisions		
Issue Date:	July 1st, 2024		
Effective Date:	October 1st, 2024		
Supersedes:	n/a	Page:	1 of 11

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 NYC REMAC has issued updates to the NYC REMAC Unified Protocols. The 2024 NYC REMAC Unified Protocols can be accessed and downloaded from the NYC REMSCO website at **https://nycremsco.org/protocols/**

To ensure providers are appropriately informed to the protocol updates, the NYC REMSCO Training & Education Committee has developed training modules detailing each protocol revision. The 2024 Protocol Update must be completed by **October 1, 2024**.

Training for the updates, pertaining to both EMTs and Paramedics, are available on the NYC REMSCO Learning Management System (LMS), accessible at **https://nycremsco.org/lms/** . The course has been assigned to all providers in the LMS. If you have questions regarding accessing the REMSCO LMS or completing the training, contact your agency training coordinator or contact the REMSCO at **learning@nycremsco.org** . EMS agencies are responsible for ensuring all providers complete the update by the specified date. If an agency requires additional time for its members to be trained, it may request an extension by submitting a letter to the REMAC.

Furthermore, the NYC REMAC strongly recommends that all providers complete the NYS DOH MOLST training, also available on the LMS. This training can be accessed at **https://collabornation.net/course/61309 ,** once logged into the LMS. Completing this course will fulfill all training requirements for the NYS DOH update to the related policy statement adopted by the NYC REMAC.

The attached change log summarizes the protocol changes.

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- Presentation of a valid DNR order, MOLST, or eMOLST form after the initiation of CPR

Oxygen Administration

- All patients who are in respiratory arrest must have ventilatory assistance unless a valid NYS prehospital DNR order, MOLST or eMOLST is presented
- Wherever the term “appropriate oxygen therapy” is used throughout these protocols, oxygen therapy shall be administered via a non-rebreather mask (NRB) at 10-15 liters/min, or a nasal cannula (NC) at 2-6 liters/min and is required for any of the following conditions:
  - SpO_2 < 92%~~94%~~
  - SpO_2 is unavailable
  - Other signs/symptoms of respiratory distress
- Wherever the term “administer oxygen” is used throughout these protocols, administer high concentration oxygen via a non-rebreather mask at 10-15 liters/min. The reservoir bag must remain at least one-third full following inspiration
  - If a mask is not tolerated by the patient, a nasal cannula at 6 liters/min should be used and properly documented
  - Patients who are chronically maintained on oxygen and who do not require high concentration oxygen shall be administered oxygen at their prescribed flowrate
  - Assisted ventilations may be required using a bag valve mask and reservoir with oxygen flowrate at 10-15 liters/min for patients with signs of hypoxia, inability to adequately protect their airway, or signs of inadequate respiration
- **Pediatric Patients:**
  - High concentration oxygen should always be used
  - Blow-by oxygen is an inadequate method of oxygenation. Use the closest age or size-appropriate oxygen delivery mechanism (e.g. nasal cannula, facemask, bag valve mask)
  - Do not allow the mask to press against the eyes
  - Chest rise is the best indication of adequate ventilation in pediatric patients
  - Do not overinflate the lungs when assisting ventilations

Airway Management and Airway Monitoring

AIRWAY MANAGEMENT

- All patients require continuous monitoring of their airway to ensure patency
- Wherever the term "airway management" is used throughout these protocols, the following shall be considered:

Airway Management and Airway Monitoring

AIRWAY MANAGEMENT

- All patients require continuous monitoring of their airway to ensure patency
- Utilize a PEEP valve, if available, when performing assisted ventilations
- Wherever the term "airway management" is used throughout these protocols, the following shall be considered:
  - Position of the patient's head
  - Need for airway adjuncts
  - Need for oropharyngeal suctioning
  - Need for ALS advanced airway management
- **Pediatric Patients:**
  - Do not hyperextend the neck

AIRWAY MONITORING

- Use of pulse oximetry (SpO_2) is mandatory for ALS and BLS units
- Continuous waveform capnography ($ETCO_2$) is mandatory for ALS and must be used whenever advanced airway management (endotracheal intubation or use of a supraglottic device) is performed EXCEPT when a supraglottic device is used and there are insufficient resources available to provide continuous waveform capnography to all patients requiring advanced airway management (e.g. MCI event or other similar situations)
- Non-invasive capnography is optional for monitoring a patient's respiratory status due to medication administration (i.e. opioids, benzodiazepines) and/or medical condition (i.e. severe asthma, altered mental status)

ADVANCED AIRWAY MANAGEMENT

- Advanced airway management refers to endotracheal intubation or the use of a supraglottic airway device (i.e. dual-lumen esophageal/tracheal tubes, laryngotracheal tubes, or other non-visualized airways as approved by an EMS agency Medical Director)
- For patients in cardiac arrest, there is no preference for the type of advanced airway intervention performed; however, do not interrupt chest compressions for placement of an advanced airway. If after two unsuccessful attempts at endotracheal intubation, a supraglottic airway device shall

be used

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

OROGASTRIC TUBE

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

- **ST Elevation Myocardial Infarction (STEMI)**
    - If the history or physical exam findings indicate an acute myocardial infarction and the 12-lead EKG reveals at least one (1) mm ST-segment elevation in two (2) or more contiguous leads; transport the patient to the closest STEMI Center after consultation with OLMC unless the patient has ANY of the following conditions:
        - Unmanageable airway
        - Trauma Center transport criteria (i.e. patients with STEMI and major trauma must be taken to the closest NYC 911 Trauma Center)
    - If the patient deteriorates into cardiac arrest during transport, the unit shall continue transport to the STEMI Center as previously directed by OLMC
- **Other Specialty Care**
    - If the mechanism of illness/injury, history or physical exam findings indicates a need for another type of specialty care not previously listed, transport the patient to the nearest NYC 911 ambulance receiving facility with the required specialty care capability (Appendix I: Hospital Specialty Capabilities). These capabilities may include:
        - Hyperbaric
        - Replantation
        - Left ventricular assist device (LVAD)
        - Venomous bites
        - Sexual assault
        - Child abuse and neglect
        - Critical pediatric care

Spinal Motion Restriction~~Precautions~~

- Patients shall be assessed for spinal cord injuries and require spinal motion restriction~~precautions~~ as indicated. Whenever the term spinal motion restriction~~precautions~~ is used in these protocols, it refers to the following:
    - Application of an appropriately-sized rigid cervical collar
    - Maintenance of patient in a supine position; if the patient is unable to tolerate a supine position, the head of the stretcher may be raised to position of comfort (maximum 45°)
    - Appropriate security of the patient's trunk and limbs to a padded stretcher

- Minimal movement and transfers
- Maintenance of inline stabilization during any movement
- Extrication and conveyance of patients may be performed with a rigid longboard. If resources are sufficient, the longboard should be removed via logroll maneuver with manual inline stabilization after the patient is moved to the EMS stretcher. Patients in extremis may remain on the rigid longboard to expedite rapid transport

Cardiopulmonary Resuscitation (CPR)

- Basic cardiac life support in adult and pediatric patients that is not specifically described in these protocols shall follow the current American Heart Association (AHA) guidelines
- CPR shall be initiated on all patients who are not breathing (apneic) and pulseless unless the patient has any of the following conditions:
    - Extreme dependent lividity
    - Rigor mortis
    - Tissue decomposition
    - Obvious mortal injury
    - Submersion~~ged in water~~ for greater than one hour
    - Valid do not resuscitate (DNR) order or medical orders for life-sustaining treatment (MOLST) form or eMOLST (Appendix C: Do Not Resuscitate (DNR) / Medical Orders for Life Sustaining Treatment (MOLST)
        - Terminal illness is not a contraindication to CPR
- Cardiac arrests secondary to drowning, hanging, or electrocution shall be treated as non-traumatic cardiac arrests
- **Pediatric:**
    - CPR is required for pediatric patients with severe bradycardia (heart rate < 60 beats/min AND signs of shock or altered mental status)
    - If available, pediatric AED/monitor pads and cables shall be used for all pediatric patients age < 9 years
    - If pediatric AED/monitor pads and cables are not available, the adult AED/monitor pads and cables shall be used
- CPR shall be continued until any of the following conditions are present
    - Return of spontaneous circulation (ROSC)
    - Resuscitative efforts have been transferred to providers of equal or higher level of training
    - Qualified, licensed physician assumes responsibility for the outcome of the patient
    - Presentation of a valid DNR order, MOLST, or eMOLST form after the initiation of CPR

1.

  - Ketamine
  - Diazepam
- The intranasal route of administration is contraindicated in patients with epistaxis

INTRAVASCULAR ACCESS AND MEDICATION ADMINISTRATION

- The term “intravascular access” refers to either intravenous (IV) or intraosseous (IO) access. For adult and pediatric patients in shock in which IV access is not obtained after two attempts, IO access shall be attempted (maximum 2 attempts) ~~via a REMAC-approved extremity site~~

- Where ever the term “IV” is used in these Prehospital Treatment Protocols, medications may be administered with the same dosages via IV or IO as these are considered equivalent routes
- For a conscious patient, administer preservative-free 2% Lidocaine 0.5 mg/kg IO (maximum 50 mg) slowly over 2-3 minutes, PRIOR to the administration of any medication or fluid IO. If needed, administer additional preservative-free 2% Lidocaine 0.25 mg/kg IO (maximum 25 mg) slowly over 30 seconds

VASOPRESSOR MEDICATION ADMINISTRATION

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

Pediatric Size Estimation

- A length-based dosing device may ONLY be used to estimate the weight, height or size of equipment used when treating pediatric patients
- Medication dosing shall follow the dosing specified in the REMAC Prehospital Treatment Protocols and NOT those listed on the length-based dosing device

Shock

- **Adult:** Patients are considered to be in shock if they are hypotensive (mean arterial blood pressure (MAP) < 65 mmHg or systolic blood pressure (SBP) < 90 mmHg) AND symptomatic with signs of hypoperfusion, including the following:
  - Altered mental status
  - Tachycardia with heart rate > 110 beats/min

Alternative Treatment / Alternative Transport Destination Decisions

- If the mechanism of illness/injury, history or physical exam findings do not indicate major trauma, burns, or a need for other types of specialty care, the patient must be offered either treat-in place with patient release or transport to an alternate destination if that patient meets criteria in Appendix P: Alternate Destination/Treat-in-Place Patient Selection Criteria. If the patient refuses despite appropriate explanations, then the patient may be offered transport~~ed~~ to the nearest NYC 911 System Ambulance Destination Emergency Department (Appendix I), unless the patient has any of the following conditions:
  - The patient is stable and remains stable throughout transport, and the patient requests transport to an alternat~~eive~~ 911 system ambulance destination emergency department or regionally-approved alternate destination if the patient meets criteria established for that destination type or to an equivalent destination~~, and the estimated transport time to the alternative 911 system ambulance destination emergency department is~~ less than or equal to an additional ten minutes
  - The patient requires specialty care as described previously that is available at an alternative 911 system ambulance destination emergency department, but is unavailable at the nearest New York City 911 system ambulance destination emergency department, or OLMC so directs
- ~~Ambulances participating in the 911 system may provide treat-in-place with patient release or may transport patients to the nearest appropriate regionally-approved alternative destination if the patient meets criteria established for that destination type or to an equivalent alternative destination less than or equal to an additional 10 minutes~~

TREAT-IN-PLACE WITH PATIENT RELEASE

1. Medical Issue/Complaint (i.e. physical injury/illness/complaint):

   1.1 All patients considered for treat-in-place with patient release must be offered a choice between treat-in-place, transport to the nearest appropriate alternative destination, or transport to the nearest appropriate 911 receiving emergency department. Prehospital providers must not refuse a patient's request for transport. For patients agreeing to treat-in-place, the provider shall:

   - Contact Telehealth if the patient meets criteria as specified in Appendix P: Alternate Destination/Treat-In-Place Patient Selection Criteria AND whom the provider thinks may be safely considered for this option
   - Contact OLMC for approval of a ~~to contact~~ Telehealth consultation ~~for treat-in-place~~ for patients who do not fulfill the criteria as specified in Appendix P: Alternate

Destination / Treat-In-Place Patient Selection Criteria~~, but:~~

- ~~Are otherwise considered low index of suspicion for illness or injury~~
- ~~Have NOT received medications and/or treatments other than those used for cases of low index of suspicion (e.g. oxygen, bandages)~~
- ~~Have received medications for the treatment of hypoglycemia and who post-treatment have normal vitals and normal mental status~~

1.2 If Telehealth determines that the patient is not appropriate for treat-in-place then Telehealth can direct the prehospital provider to follow their standard protocol, policy and procedures for transport. If the patient refuses transport, then the RMA shall be processed through OLMC

1.3 The prehospital provider is responsible for monitoring patient stability during the Telehealth interaction. If at any time the provider determines that the patient is unstable, the provider is to announce this to Telehealth and immediately suspend Telehealth and follow 911 system protocol(s) to provide patient stabilization and transport to the nearest appropriate 911 system ambulance destination emergency department. OLMC contact is not required unless the provider has questions or requires medical control direction

1.4 Telehealth cannot provide medical control direction and cannot direct the prehospital providers to administer medications

1.5 Either Telehealth or OLMC may refer patients to the other as appropriate

2. Behavioral Health Issue/Complaint:

2.1 If the prehospital provider believes that the patient meets behavioral health criteria as specified in Appendix P: Alternate Destination/Treat-In-Place Patient Selection Criteria AND whom the provider thinks may be safely considered for treat-in-place; (On scene evaluation by a licensed mental health professional when available, details to be provided in a separate directive)

2.2 Behavioral health issues/complaints are not appropriate for Telehealth

ALTERNATIVE TRANSPORT DESTINATIONS

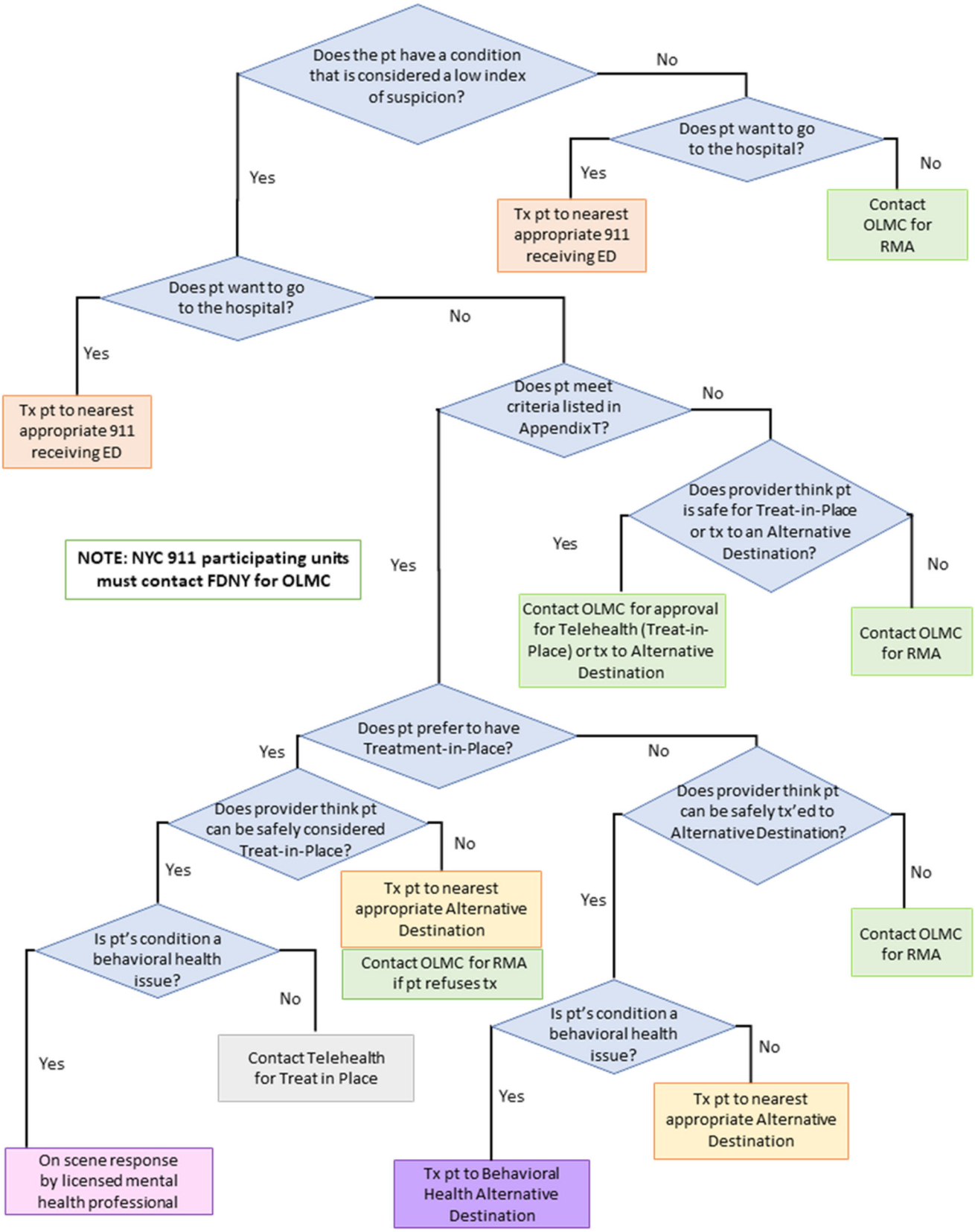
3. For patients that fulfill the criteria listed in Appendix P: Alternate Destination/Treat-In-Place Patient Selection Criteria, AND who the provider feels are not appropriate for treat-in-place with patient release or refuse treat-in-place may be transported to the nearest appropriate alternative destination without contacting OLMC

~~4.~~ For patients that do not fulfill the criteria as specified in Appendix P: Alternate Destination/Treat-In-Place Patient Selection Criteria, the provider must contact OLMC for consultation/approval to

transport the following patients whom the provider thinks may still be appropriately transported to an alternative destination~~:~~

- ~~Meet exclusion criteria but are otherwise considered low index of suspicion for illness or injury~~
- ~~Have NOT received medications and/or treatments other than those used for cases of low index of suspicion (e.g. oxygen, bandages)~~
- ~~4. Have received medications for the treatment of hypoglycemia and who post-treatment have normal vitals and normal mental status~~

5. The provider must contact OLMC for RMAs


Does the pt have a condition that is considered a low index of suspicion?
No
Does pt want to go to the hospital?
Yes
No
Yes
Tx pt to nearest appropriate 911 receiving ED
Contact OLMC for RMA
Does pt want to go to the hospital?
No
Yes
Tx pt to nearest appropriate 911 receiving ED
Does pt meet criteria listed in AppendixT?
No
Does provider think pt is safe for Treat-in-Place or tx to an Alternative Destination?
Yes
No
NOTE: NYC 911 participating units must contact FDNY for OLMC
Yes
Contact OLMC for approval for Telehealth (Treat-in-Place) or tx to Alternative Destination
Contact OLMC for RMA
Does pt prefer to have Treatment-in-Place?
Yes
No
Does provider think pt can be safely considered Treat-in-Place?
No
Yes
Tx pt to nearest appropriate Alternative Destination
Contact OLMC for RMA if pt refuses tx
Is pt's condition a behavioral health issue?
No
Yes
Contact Telehealth for Treat in Place
On scene response by licensed mental health professional
Does provider think pt can be safely tx'ed to Alternative Destination?
Yes
No
Contact OLMC for RMA
Is pt's condition a behavioral health issue?
No
Yes
Tx pt to nearest appropriate Alternative Destination
Tx pt to Behavioral Health Alternative Destination

Non-Traumatic Cardiac Arrest (Pediatric)

CFR and All Provider Levels

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

CFR STOP

EMT

6. Request ALS assistance
7. Continue CPR and AED analysis with minimal interruption of chest compressions
8. Transport 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 (maximum 1 mg) (0.1 ml/kg of a 1:10,000 concentration). Repeat every 3-5 minutes until patient achieves return of spontaneous circulation (ROSC)
13. Perform advanced airway management after second rhythm analysis only if unable to provide effective bag valve mask ventilations
14. If the rhythm is ventricular fibrillation/pulseless ventricular tachycardia:
    - 14.1 Defibrillate with the following energy settings using appropriately-sized AED/monitor pads:
      - Initial defibrillation: 2 joules/kg
      - Second defibrillation as needed: 4 joules/kg
      - Subsequent defibrillations as needed: 10 joules/kg
    - 14.2 Administer one of the following medications:
      - OPTION A: Amiodarone 5 mg/kg IV (maximum 300 mg)
      - OPTION B: Lidocaine 1 mg/kg IV (maximum 100 mg)
15. Obtain blood glucose level (BGL). If BGL < 60 mg/dl, administer Dextrose 0.5 g/kg IV (maximum 25 g)
16. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

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

Key Points / Considerations

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

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
3. Assess and treat for an overdose as needed

CFR STOP

EMT

4. Request ALS assistance
5. Transport

EMT STOP

Paramedic

6. Perform advanced airway management if unable to provide effective bag valve mask ventilations
7. Assess and treat for a tension pneumothorax as needed (Appendix M: Needle Decompression of a Tension Pneumothorax)
8. Begin cardiac monitoring
9. Obtain intravascular access as needed

Paramedic STOP

Medical Control Options

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 hypercapnia
- 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
- Utilize a PEEP valve, if available, when performing assisted ventilations
- 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

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. Ventilate for one (1) minute
2. If the heart rate is still < 60 beats/min, begin chest compressions and ventilations as per AHA guidelines
3. Check for a pulse every two (2) minutes and perform the following:
   - ~~If the~~ Hheart rate ~~is between~~ ≥ 60 ~~-100~~ beats/min, AND ~~if the~~ patient is ~~not~~ NOT ~~breathing~~ adequately breathing, 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~~ 60 beats/min AND patient is adequately breathing (both in rate and volume for age), administer oxygen via non-rebreather mask

CFR STOP

EMT

4. Request ALS assistance
5. Transport

EMT STOP

Paramedic

5. Begin cardiac monitoring
6. Obtain intravascular access
7. Administer Epinephrine 0.01 mg/kg IV (maximum 1 mg) (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 effective bag valve mask 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~~

- Uutilize a PEEP valve, if available, when performing assisted ventilations
- For conscious patients, consider contacting OLMC for procedural sedation prior to pacing.
- Evaluate for evidence of ingestions (i.e. beta-blockers, calcium-channel blockers) and treat in accordance to with OLMC respective protocols.

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)~~ the patient for anaphylaxis and if the patient is suspected to have anaphylaxis:
    - 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~~

~~8.~~7. ~~Assess cardiac and respiratory status and if either is abnormal (i.e. severe respiratory distress or shock),~~ If the patient has symptoms of anaphylaxis, administer Epinephrine as follows:

- Age < 9 years and weight < 30 kg:
    - OPTION A: Epinephrine 0.15 mg IM via syringe~~, 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

8. Transport
9. For continued ~~-~~ symptoms after 3-5 minutes, administer ~~an additional age and/or weight-appropriate~~ a repeat dose of Epinephrine IM (maximum 2 doses, including Epinephrine dose that was administered by CFR)
10. For wheezing, administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) mixed with 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) nebulized over 5-15 minutes as follows. Repeat as needed (maximum 3 doses):

~~- **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)~~

EMT STOP

Paramedic

11. Perform advanced airway management as needed
12. For patients with symptoms of anaphylaxis, administer Epinephrine 0.01 mg/kg IM (maximum 0.3 mg) of a 1:1,000 concentration. For continued symptoms after 3-5 minutes, repeat as needed (maximum 3 doses, including Epinephrine doses administered by BLS and/or CFR)

~~12.~~13. 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.~~1~~2 Obtain intravascular access

12.~~2~~3 Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

~~13.~~14. Administer one of the following:

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

~~14.~~15. Administer Diphenhydramine 1 mg/kg IV/IM (maximum 50 mg)

~~15.~~16. 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

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 IV ~~(maximum 2 L)~~

Key Points / Considerations

- Do not delay transport for any reason, including waiting for a potential second dose of Epinephrine
- Anaphylaxis is considered as an allergic reaction with any of the following:
  - Respiratory compromise (dyspnea, wheezing, stridor, hypoxemia)
  - Signs of shock
  - Two or more signs/symptoms from the following systems:
    - Skin (urticaria, itchy skin)
    - Mucosal (swollen tongue or lips)
    - Gastrointestinal (vomiting, abdominal pain)
      - OR
  - History of anaphylaxis AND exposure to a known allergen AND one of the mucosal or gastrointestinal signs/symptoms listed above
- Anaphylaxis can be a potentially life-threatening situation most often associated with a history of exposure to:
  - Inciting agent/allergen (bee sting or other insect venom)
  - Medication/drugs
  - Food (i.e. peanuts, seafood)
- ~~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)
- Administration of steroids via IV shall be performed slowly over 2 minutes
- ~~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~~

- ~~Food (i.e. peanuts, seafood)~~

- ~~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 up to a total of 2 doses of Epinephrine, including any doses that was administered by CFR~~an additional dose, or may administer a total of 2 doses of Epinephrine if not previously administered by CFR~~
  - ALS may administer up to ~~an additional dose, or may administer~~ a total of 3 doses of Epinephrine, including any doses that were administered by ~~if it was not previously administered by~~ CFR ~~and/~~or BLS
  - If first on scene, ALS shall administer the appropriate weight-based dose of Epinephrine as their first dose

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 newborn'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 newborn's nose
   - 4.3 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
   - ~~4.3~~4.4 Support the head and chest as the newborn delivers
   - ~~4.4~~4.5 Repeat suctioning as necessary prior to spontaneous or stimulated respirations
   - ~~4.5~~4.6 Gently guide the head downward until the shoulder appears. Deliver the other shoulder with gentle upward traction
   - ~~4.6~~4.7 Thoroughly but rapidly dry the newborn with a clean, dry towel
5. Delay clamping of the umbilical cord for up to one (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 newborn 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 newborn'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 newborn on mother's chest, if safe to do so

11. Assess and treat newborn appropriately as indicated

CFR STOP

EMT

12. Request ALS assistance if delivery is imminent. Do not delay transport if delivery is not imminent or 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 newborn'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 birth canal
- 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

~~15.31.1 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~~

~~15.4~~15.3 Intact (not ruptured) Amniotic Sac

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

~~15.5~~15.4 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 newborn, reposition the mother on her hands and knees
- Guide the head downward to aid in the delivery of the upper shoulder

~~15.6~~15.5 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
- Newborns 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 newborn if the gestational period is unknown
- The turtle sign is when the newborn'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 newborn when meconium is present
- Do not aggressively suction premature newborns

Asthma / COPD / Wheezing (Adult and Pediatric)

CFR and All Provider Levels

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

CFR STOP

EMT

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

10. For patients who are in severe respiratory distress/respiratory failure and/or shock, administer Epinephrine as follows:
    - Age < 9 years and weight < 30 kg:
        - OPTION A: Epinephrine 0.15 mg IM via syringe, if available
        - OPTION B: Pediatric Epinephrine auto-injector IM
    - Age ≥ 9 years or weight ≥ 30 kg:
        - OPTION A: Epinephrine 0.3 mg IM via syringe, if available
        - OPTION B: Adult Epinephrine auto-injector IM

EMT STOP

Paramedic

11. For **ADULT** and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with a history of Albuterol use), administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
12. For patients with persistent symptoms:
    - 12.1 Obtain intravascular access
    - 12.2 For **ADULT** patients, administer Magnesium Sulfate 2 g IV (diluted in 50-100 ml Normal Saline) over 10 minutes
    - 12.3 For **ADULT and PEDIATRIC** patients ≥ 2 years old, administer one of the following:
        - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
        - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)
13. For patients who are in severe respiratory distress/respiratory failure and/or shock:
    - 13.1 Perform advanced airway management as needed
    - 13.2 If not already administered, or for persistent symptoms despite prior administration, administer Epinephrine 0.01 mg/kg IM (maximum 0.3 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

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 Normal Saline over 10 minutes
21. For **PEDIATRIC** patients age < 2 years, administer one of the following:
    - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)

Key Points / Considerations

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

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
4. Administer oxygen
5. **CFRs only:** If an opioid overdose is suspected AND the patient's respiratory rate is inadequate, AND Paramedics are not on scene, 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)
6. Assess for shock and treat as needed
7. Do not induce vomiting for ingested substances

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. **EMTs only:** If an opioid overdose is suspected AND the patient's respiratory rate is inadequate, AND Paramedics are not on scene, 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)
10. Transport

EMT STOP

Paramedic

11. Perform advanced airway management as needed
12. Obtain intravascular access
13. For symptomatic patients with suspected cardiac medication overdose treat as needed

14. If an opioid overdose is suspected AND the respiratory rate is inadequate, administer Naloxone as follows:
    - **ADULT**: Titrate Naloxone in 0.5 mg increments IV/IM/IN (maximum 4 mg) as needed to response
    - **PEDIATRIC**: Titrate Naloxone in 0.5 mg increments IV/IM/IN as needed to response according to age as follows:
        - Age < 2 years: Maximum 1 mg
        - Age ≥ 2 years: Maximum 2 mg
15. Begin cardiac monitoring
16. Administer Sodium Bicarbonate 1 mEq/kg IV (maximum 44 mEq) for any of the following:
    - Suspected Salicylate overdose
    - ~~15.~~ Any suspected overdose with prolonged QTc > 500 ms or QRS > 100 ms

Paramedic STOP

Medical Control Options

~~16.~~17. Administer Diphenhydramine 1 mg/kg IV/IM (maximum 50 mg) for dystonic reaction from suspected antiemetic, antipsychotic, or antidepressant medications

~~17. Administer Sodium Bicarbonate 1 mEq/kg IV (maximum 44 mEq) for prolonged QTc > 450 ms or QRS > 100 ms from suspected antidepressant medications~~

18. 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

- Paramedics should not administer the CFR or EMT dosage of Naloxone, and should start with the titration listed in the Paramedic section
    - It is safest to use the lowest dose of Naloxone that reverses the respiratory depression of an opioid overdose patient. This lowers the risk of precipitating opioid withdrawal and pulmonary edema. If Paramedics are on scene, the higher doses listed in the CFR and EMT sections should be withheld in favor of the titration of smaller increments as listed in the Paramedic section
- 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

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

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 IO. 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 (cumulative 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 as needed 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 (cumulative fluid bolus 40 ml/kg)
    - OPTION B: Epinephrine 5 mcg IV over 1 minute. Repeat as needed 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

- Other parameters such as pale or cool skin, delayed capillary refill, altered mental status, or lack of a radial pulse are signs of hypoperfusion that should be considered as an indication for treatment within this protocol even if a patient has an age-appropriate minimum SBP
- 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
- Continuous vasopressor infusions must be administered using an IV flow regulating device or IV infusion pump

Shock (Adult)

CRITERIA

- This protocol is for patients who are persistently hypotensive (SBP < 90 mmHg or MAP < 65 mmHg) despite treatment under other existing protocols, or are hypotensive from an unclear etiology.
- ~~Patients with shock due to specific etiology (e.g. trauma, dysrhythmia, sepsis, anaphylaxis) should be treated accordingly prior to utilizing this protocol.~~

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 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. Obtain intravascular access via either large bore IV or IO
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 as needed every 3-5 minutes
    - ~~OPTION D: Dopamine 5 mcg/kg/min continuous IV infusion (maximum 20 mcg/kg/min). Titrate as needed every 3-5 minutes~~
14. Monitor vital signs every 2-3 minutes

Paramedic STOP

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

- Patients with shock due to a specific etiology addressed in other protocols that do not include ~~a~~ vasopressors (e.g. trauma, dysrhythmia) should be treated accordingly prior to utilizing this protocol~~.~~ Providers who are managing patients who remain hypotensive despite treatment in these protocols should utilize medical control options listed in the respective protocols~~,~~ rather than utilizing this protocol
- 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
- Continuous vasopressor infusions must be administered using an IV flow regulating device or IV infusion pump

General Pain Management (Adult and Pediatric)

CRITERIA

- This protocol is for patients who require analgesic medications for pain of any etiology
- OLMC 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, as indicated
3. Monitor vital signs every 5 minutes
4. Administer one of the following, as available:
   - OPTION A: Acetaminophen 15 mg/kg PO/IV (maximum 1000 mg). Administration of an additional opioid analgesic (OPTION C or OPTION D) may be considered for persistent severe pain
   - OPTION B: **ADULT:** Ketorolac 15 mg IV/IM. Administration of an additional opioid analgesic (OPTION C or OPTION D) may be considered for persistent severe pain
   - OPTION C: Morphine in incremental doses titrated to effect. Initial dose up to 0.1 mg/kg IV/IM (maximum 5 mg). Repeat as needed ~~in incremental doses titrated to effect~~ up to an additional 0.1 mg/kg (maximum cumulative dose 10 mg) for patients with SBP > 110 mmHg
   - OPTION D: Fentanyl in incremental doses titrated to effect. Initial dose up to 1 mcg/kg IV/IM/IN (maximum 100 mcg). Repeat as needed ~~in incremental doses titrated to effect~~ up to an additional 1 mcg/kg (maximum cumulative dose 200 mcg)
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)

Key Points / Considerations

- The maximum doses for all medications in the REMAC protocols refer to the maximum weight-based dose for the patient
- Administer Acetaminophen IV over 15 minutes
- Contraindications for Ketorolac:
  - Renal failure and/or hemodialysis
  - Age ≥ 65 years
  - Pregnancy
  - Abdominal pain
  - Injuries with a risk for bleeding or suspected fracture
- Assess for hypoventilation after opioid medication administration and treat as needed

Procedural Sedation / Sedation for Advanced Airway Management (Adult and Pediatric)

CRITERIA

- This protocol is for patients who are conscious and require medications for:
  - Procedural sedation: Short-term analgesic, sedation, and/or anxiolysis for procedures such as synchronized cardioversion or transcutaneous pacing
  - Sedation for advanced airway management: Analgesic and/or sedation to perform or maintain an advanced airway (endotracheal intubation or use of a supraglottic airway device)
- In order to sedate the patient under standing orders to perform advanced airway management, the patient must meet **ALL** of the following criteria:
  - Adult
  - Altered mental status
  - Respiratory rate < 10 breaths/min
  - 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 or sedation for advanced airway management **MUST** have prior approval of medications through OLMC
- Continuous waveform capnography **MUST** be used whenever advanced airway management is performed EXCEPT when a supraglottic airway device is used and there are insufficient resources available (e.g. MCI event or other similar situations)
- 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

Procedural Sedation

6. For an **ADULT** patient requiring procedural sedation (e.g. synchronized cardioversion, transcutaneous pacing), administer one of the following:
    - OPTION A: Etomidate 0.15 mg/kg IV (maximum 20 mg)
    - OPTION B: Ketamine 1 mg/kg IV (maximum 100 mg)
    - OPTION C: Midazolam 0.1 mg/kg IV (maximum 5 mg)
    - OPTION D: Diazepam 0.1 mg/kg IV (maximum 10 mg)
    - OPTION E: Lorazepam 0.02 mg/kg IV (maximum 4 mg)

Sedation for Placement of an Advanced Airway ~~Management~~

7. For induction to perform advanced airway management of an **ADULT** patient with ALL OF THE FOLLOWING CRITERIA:
    - Altered mental status
    - Respiratory rate < 10 breaths/min
    - SpO_2 < 90% without supplemental oxygen
    - No immediate reversible cause of symptoms (e.g. opiate overdose responding to Naloxone)

    Administer one of the following:
        - OPTION A: Etomidate 0.3 mg/kg IV (maximum 40 mg)
        - OPTION B: Ketamine 2 mg/kg IV (maximum 200 mg)

Sedation for ADULT Patients with an Advanced Airway in Place

8. For sedation of an **ADULT** patient with an advanced airway in place, administer one of the following:
    - OPTION A: Fentanyl 1 mcg/kg IV (maximum 100 mcg). Administration of a sedative (OPTION B-OPTION E) may be considered for additional sedation
    - OPTION B: Ketamine 1 mg/kg IV (maximum 100 mg)
    - OPTION C: Midazolam 0.2 mg/kg IV (maximum 5 mg)
    - OPTION D: Diazepam 0.2 mg/kg IV (maximum 10 mg)
    - OPTION E: Lorazepam 0.1 mg/kg IV (maximum 4 mg)

Paramedic STOP

Medical Control Options

9. For an **ADULT** patient who does not meet the criteria for standing order sedation for advanced airway management, administer medication options for induction and/or ~~post-procedural~~ sedation with an advanced airway in place according to the dosing options as listed above
10. For a **PEDIATRIC** patient requiring procedural sedation, sedation for advanced airway

management, including induction and/or sedation with an advanced airway in place, ~~or post-procedural 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
- Consider contacting OLMC for analgesia when performing potentially painful procedures such as transcutaneous pacing or synchronized cardioversion
- Medications may be administered to a patient to maintain an advanced airway, even if an induction agent was not used to place the airway
- If a difficult intubation is anticipated, and the patient can be effectively ventilated, consider managing the patient's airway without performing advanced airway management
- 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 applies to the administration of regionally approved vaccines and is to be used at the discretion of an 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 Q: 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 Q: Vaccinations for the appropriate vaccine preparation instructions
   - Intranasal vaccines shall be administered according to directions in Appendix Q: 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

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

CFR and All Provider Levels

1. Control external bleeding
2. ABCs and vital signs
3. ~~Stabilize cervical spine with a rigid cervical collar and observe spinal injury precautions as needed~~
4. ~~3.~~ Airway management and appropriate oxygen therapy
5. ~~4.~~ Cover open neck wounds with an occlusive dressing while ensuring not to bandage completely around the neck
5. Assess for shock and treat as needed
6. Perform spinal motion restriction for patients who have a mechanism for spinal injury, AND any of the following criteria:
    - Altered mental status, including intoxication
    - Distracting injury, or unreliable physical exam or history
    - Neck/spine pain, tenderness, or deformity
    - Weakness, paralysis, numbness or tingling
    - High risk mechanism of injury

    ~~6.~~

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 injury:~~
    - ~~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. ~~7.~~ Transport

EMT STOP

Paramedic

9. ~~8.~~ Perform advanced airway management as needed

~~10.~~9. Begin cardiac monitoring

~~11.~~10. Obtain intravascular access

Paramedic STOP

Medical Control Options

Key Points / Considerations

- Do not use a nasopharyngeal airway in patients with suspected facial or skull fractures~~burns or other facial injury~~
- Do not hyperventilate patients when assisting ventilations this can worsen outcomes, especially in patients with closed head injuries.
- Patients with isolated, penetrating trauma to the back, chest, abdomen, or pelvis should not have a cervical collar applied
- Examples of high-risk mechanisms for spinal injury include: ejection from a vehicle or motorcycle, diving injuries, falls from greater than 10 feet, or being struck by a vehicle at a high speed

Appendix B: Universal Approach to the EMS Call

- The following is intended to provide a standardized framework to the EMS call
- Follow common sense, apply good clinical judgment, and follow regional policies and protocols
- Consider dispatch information when responding, including:
    - Type of response (emergency vs. non-emergency)
    - Weather
    - Road conditions
    - Time of day
    - Location of call
    - EMD determinant/mechanism of illness or injury
    - Number of anticipated patients
    - Potential need for additional resources
- Survey the scene
    - Do not approach the scene unless acceptably safe to do so
    - Stage proximate to the scene until the scene is rendered acceptably safe from any of the following:
        - Environmental hazards
        - Chemical, biological, radiological, nuclear, and high yield explosives hazards (CBRNE)
        - Evidence of unknown powders, unknown substances or sharps
        - Indicators of a chemical suicide
        - Mechanical hazards
        - Violence or threat of violence
        - Traffic hazards
        - Number of actual patients
        - Activation of local multiple casualty incident (MCI) plan as needed
    - Consider shelter-in-place or evacuation based on hazards
- Consider additional support resources:
    - Additional prehospital providers (CFRs, EMTs, Paramedics)
    - Additional ambulance(s)
    - EMS physician
    - FDNY Special Operations
    - Law enforcement
    - Utilities
- Ensure universal precautions/personal protective equipment appropriate to the task

PRIMARY PATIENT ASSESSMENT

	Assessment	Management
Scene Size-Up	• Body substance isolation • Scene safety • Mechanism of injury/nature of illness • Spinal motion restriction ~~precautions~~ as needed	• Goggles, gloves, gown, mask as needed • Ensure safety of self, partner, patient and bystanders
General	• General patient impression • Level of consciousness • Chief complaint	• A: alert • V: responds to verbal stimuli • P: responds to painful stimuli • U: unresponsive (no gag or cough)
Airway and Breathing	• Airway management • Oxygen therapy as needed • Ensure adequate ventilation • Treat any life threatening airway or breathing problems	• Modified jaw thrust • Suction as needed • Airway adjuncts (OPA/NPA) as needed • CPR as needed
Circulation	• Skin color • Assess pulses • Estimation of systolic blood pressure • Major bleeding	• Control any external bleeding ~~• Elevate legs as needed~~ • Support circulation
Transport Decision	• Identify urgency of transport	• Immediate or continued assessment

SAFETY RESTRAINING DEVICES

- All passengers including patients and EMS personnel should be restrained
- It is not acceptable or safe to have a parent or caregiver hold a child in their arms or lap. The child and parent/caregiver should each be restrained appropriately
- All patients on the stretcher must be secured using harness straps when the vehicle is in motion or when the stretcher is being carried or moved
- For the transportation of pediatric patients:
    - Pediatric patients shall ideally be transported using a size-appropriate child restraint system secured appropriately onto the stretcher
    - If a size-appropriate child restraint system is not available, secure the patient using one of the following methods:
        - If available and intact, use the pediatric patient's own safety seat to restrain the patient during transport
            - If the child is the patient, the device should be secured onto the stretcher with the child belted in the safety seat
            - If the child is not the patient, they should be placed in the safety seat with the device belted to an ambulance seat
        - Transport the child in the rear-facing EMS provider's seat/captain's chair in a size-appropriate child restraint system. This system can be a convertible or combination seat using a forward-facing belt path. Do not use a rear-facing-only seat in the rear-facing EMS provider's seat
        - Secure the pediatric patient to the stretcher with three horizontal restraints across the chest, waist, and knees, and one vertical restraint across each shoulder
- Agencies shall routinely train prehospital personnel in the use of various child safety seats/restraints and have a policy for how pediatric patients will be transported
- As an agency considers the purchase of new vehicles, or retro-fitting of current vehicles; design considerations, such as integrated child restraints, should be considered
- All safety seats/restraints should be used according to manufacturer's recommendations
- If a patient chooses to refuse safety restraints, refer to agency and regional policy

Appendix C: Do Not Resuscitate (DNR) / Medical Orders for Life Sustaining Treatment (MOLST) / Health Care Agents

- The wishes for conscious and alert patients are to be followed in accordance with standard consent procedures
- For patients unable to provide consent, including unconscious patients, determine the availability ~~presence~~ of a valid DNR, ~~or~~ MOLST, or identified health care agent and follow the guidance according to New York State Policy Statement 23-12 or its updated replacement:~~:~~

  https://www.health.ny.gov/professionals/ems/pdf/23-12.pdf

- ~~Signed MOLST form~~
- ~~Signed electronic MOLST (eMOLST)~~
- ~~Signed New York State approved document, bracelet, or necklace~~
- ~~Properly documented nursing home or nonhospital DNR form~~
- ~~If any form of DNR or MOLST/eMOLST is not present, begin standard treatment per protocol~~
- ~~If any form of DNR or MOLST/eMOLST is present and valid for the patient's clinical state (e.g. cardiac arrest), follow the orders as written, including not beginning or terminating resuscitation~~
- ~~If other forms of advanced directives are present (i.e. living will, presence of a health care proxy, hospital DNR order), contact online medical control for further direction~~
- ~~Any appropriate directive indicated on the MOLST/eMOLST shall be honored, including the directive for the patient not to be transported to the hospital~~
- ~~A MOLST/eMOLST is valid even if the physician signature has expired~~
- ~~A copy of the original MOLST is considered a valid document~~
- ~~The eMOLST may be printed and affixed with electronic signatures and is considered valid~~
- ~~A copy of the DNR or MOLST/eMOLST form should be attached to the patient care record and retained by the agency whenever possible~~
- ~~Reference DOH Policy Statement 08-07 or its updated replacement~~
- ~~If a patient with a DNR or MOLST/eMOLST is a resident of a nursing home (or a patient of an interfacility transport) and expires during transport, contact the receiving staff to determine if they are willing to accept the patient to that facility. If not, return the patient to the sending facility. A copy of the DNR or MOLST/eMOLST must be transported with the patient~~

Appendix E: Trauma Center Transport Criteria (Adult and Pediatric)

- An **ADULT** pPatients areis considered to have major trauma that requires transport to a Trauma Center if theythe patient haves ANY of the following criteria:
  - Physical findings:
    - Glasgow Coma Scale ≤ 13
    - Respiratory rate < 10 breaths/min OR respiratory rate > 29 breaths/min
    - Heart rate < 50 beats/min OR Heart rate > 120 beats/min
    - Systolic blood pressure < 90 mmHg
    - Cardiopulmonary arrest secondary to trauma
    - Penetrating injuries to head, neck, torso or proximal extremities
    - Suspected fracture of tTwo or more suspected proximal long bone fractures
    - Chest wall instability or deformity Suspected flail chest
    - Suspected spinal cord injury with new (motor or sensory deficit)or limb paralysis
    - Amputation (except digits)
    - Suspected pelvic fracture
    - Skull deformity or suspected Open or depressed skull fracture
    - Crushed, degloved, mangled, or pulseless extremities
    - Severe bleeding, requiring tourniquet placement or wound packing
    -
  - Vital Signs
    - Unable to follow commands (Motor GCS < 6)
    - Room-air pulse oximetry < 90%
    - Respiratory distress or need for assisted ventilation
    - **ADULT:** Respiratory rate < 10 breaths/min OR respiratory rate > 29 breaths/min

VITAL SIGNS	AGE (years)		
	0 - 9	10 - 64	≥ 65
Heart rate (beats/min)		HR > SBP	HR > SBP
SBP (mmHg)	< 70 + (2*age (years))	< 90	< 110

- Mechanism of injury
  - Ejection or partial ejection from an automobile
  - Death in the same passenger compartment
  - Need for extrication for entrapped patient
  - ~~Extrication time > 20 minutes~~
  - Vehicle collision with > 12 inches of intrusion to the passenger compartment OR > 18 inches to any site
  - Rider separated from vehicle with significant impact
  - ~~Motorcycle crash > 20 MPH OR separation of rider from motorcycle~~
  - Falls > 10~~20~~ feet
  - ~~Vehicle rollover (≥ 90° vehicle rotation) with unrestrained passenger~~
  - ~~Vehicle vs. pedestrian or bicycle collision > 5 MPH~~
  - Pedestrian or bicycle rider thrown, run over or with significant impact

- Patients with ANY of the the following conditions are considered high risk for severe injury and shall be considered considered for transport to a trauma center:
  - Bleeding disorders or patients who are on anticoagulant medications
  - Cardiac disease ~~and/~~or respiratory disease
  - Special, high-resource healthcare needs (ventilator dependent, renal failure, cirrhosis, or morbid obesity
  - Immunosuppressed patients (HIV disease, transplant patients, and patients on chemotherapy treatment)
  - Pregnant > 20 weeks gestation
  - Suspicion of child abuse
  - Child (Age 0 – 9) unrestrained or in unsecured child safety seat
  - Low-level falls with significant head impact in young children (age ≤ 5 years) or older adults (age ≥ 65 years)

- Contact medical control for further guidance on appropriate destination as needed
- Pediatric patients shall be transported to a pediatric trauma center if they have major trauma. If the transport time to the pediatric trauma center is more than 30 minutes, they shall be transported to the closest adult trauma center.

-
- ~~Patients are considered high risk if they have ANY of the following conditions:~~
  - ~~Bleeding disorders or patients who are on anticoagulant medications~~
  - ~~Cardiac disease and/or respiratory disease~~
  - ~~Insulin-dependent diabetes, cirrhosis, or morbid obesity~~

Appendix K: Appearance, Pulse, Grimace, Activity, Respiration (APGAR) Scoring System

- The newborn's APGAR score is based on assigning up to two points for each clinical sign with a maximum score of 10
- The APGAR score is to be obtained at one (1) and five (5) minutes after birth

SIGN	APGAR SCORE		
	0	1	2
Appearance (skin color)	Blue or pale	Acrocyanotic (peripheral cyanosis)	Completely pink or typical color for newborn
Pulse (heart rate)	Absent	< 100	> 100
Activity~~Grimace (muscle tone)~~	Limp	Some flexion	Active motion
Grimace (muscle tone)~~Activity~~	No response	Grimace (minimal response to stimuli)	Prompt response to stimuli
Respirations	Absent	Slow and irregular	Vigorous crying

- APGAR score interpretation:
  - 8-10: Normal
  - 5-7: Need for supplemental oxygen
  - 3-4: Need for assisted ventilation with BVM
  - 0-2: Need for CPR
- An APGAR score ≤ 7 requires immediate intervention
- The management of respiratory distress and/or cardiovascular instability take priority over obtaining an APGAR score

Appendix L: Modified START Triage

- Modified START triage allows prehospital providers to quickly sort adult and pediatric patients at an MCI based on treatment and transport priority
- This triage system assigns treatment priorities to patients based on respiratory rate, perfusion status and mental status
- Patients shall be assigned a tag color based on the following:

Tag Color	Patient Presentation
BLACK (Deceased)	**ADULT:** No spontaneous or effective respirations present after one (1) attempt to reposition the airway **PEDIATRIC:** No signs of life or spontaneous or effective respirations Perform 5 breaths via BVM. If no response, then patient is a Black Tag
RED (Immediate)	**ADULT:** Respirations present only after repositioning the airway **PEDIATRIC:** Respirations after BVM breaths Includes patients with the following conditions: • Respiratory rate > 30 breaths/min OR respiratory rate < 10 breaths/min • Absent radial pulse • Failure to follow simple commands
ORANGE (Urgent)	Includes patients with the following conditions: • Respiratory distress • Chest pain • Bleeding controlled with tourniquet or hemostatic dressing • Infants (age < 1 year) who do not meet Red or Black Tag criteria • Other clinical conditions the prehospital provider considers to be more urgent
YELLOW (Delayed)	• Patients who do not meet Red Tag or Green Tag criteria • Non-ambulatory patients who do not meet Red Tag or Orange Tag criteria
GREEN (Minor)	Ambulatory patients (walking wounded) that are able to follow commands and be directed to walk from the scene to a designated safe area

TRIAGE PROCEDURE

1. Assess patients and assign triage tags as follows:
    - **Green Tag:** Ambulatory patients who are able to follow commands and are able to be directed to a designated safe area

Respiratory

- Assess the patient's breathing and triage patients as follows:
    - If the patient is not breathing:
        - Remove foreign objects or other obstructions, including any loose dentures
        - Reposition the head using spinal motion restriction~~precautions~~ as needed
        - Reassess breathing and triage patients as follows:
            - **ADULT:**
                - **Red Tag**: Spontaneous respirations
                - **Black Tag**: No spontaneous respirations
            - **PEDIATRIC:** Administer five (5) breaths via BVM
                - **Red Tag**: Spontaneous respirations
                - **Black Tag**: No spontaneous respirations
    - **Red Tag:** If the patient is spontaneously breathing with a respiratory rate > 30 breaths/min OR respiratory rate < 10 breaths/min

Perfusion

- Control external hemorrhage as needed
- Assess the patient's radial pulse and triage patients as follows:
    - **Red Tag:** No palpable radial pulse
    - **Orange Tag:** Life-threatening external hemorrhage was controlled using a tourniquet or hemostatic dressing AND the patient does not meet other Red Tag criteria

Mental Status

- Assess the patient's mental status by testing their ability to follow simple commands
- Triage patients as follows:
    - **Red Tag:** Cannot follow simple commands
    - **Yellow Tag:** Able to follow simple commands

Special Considerations

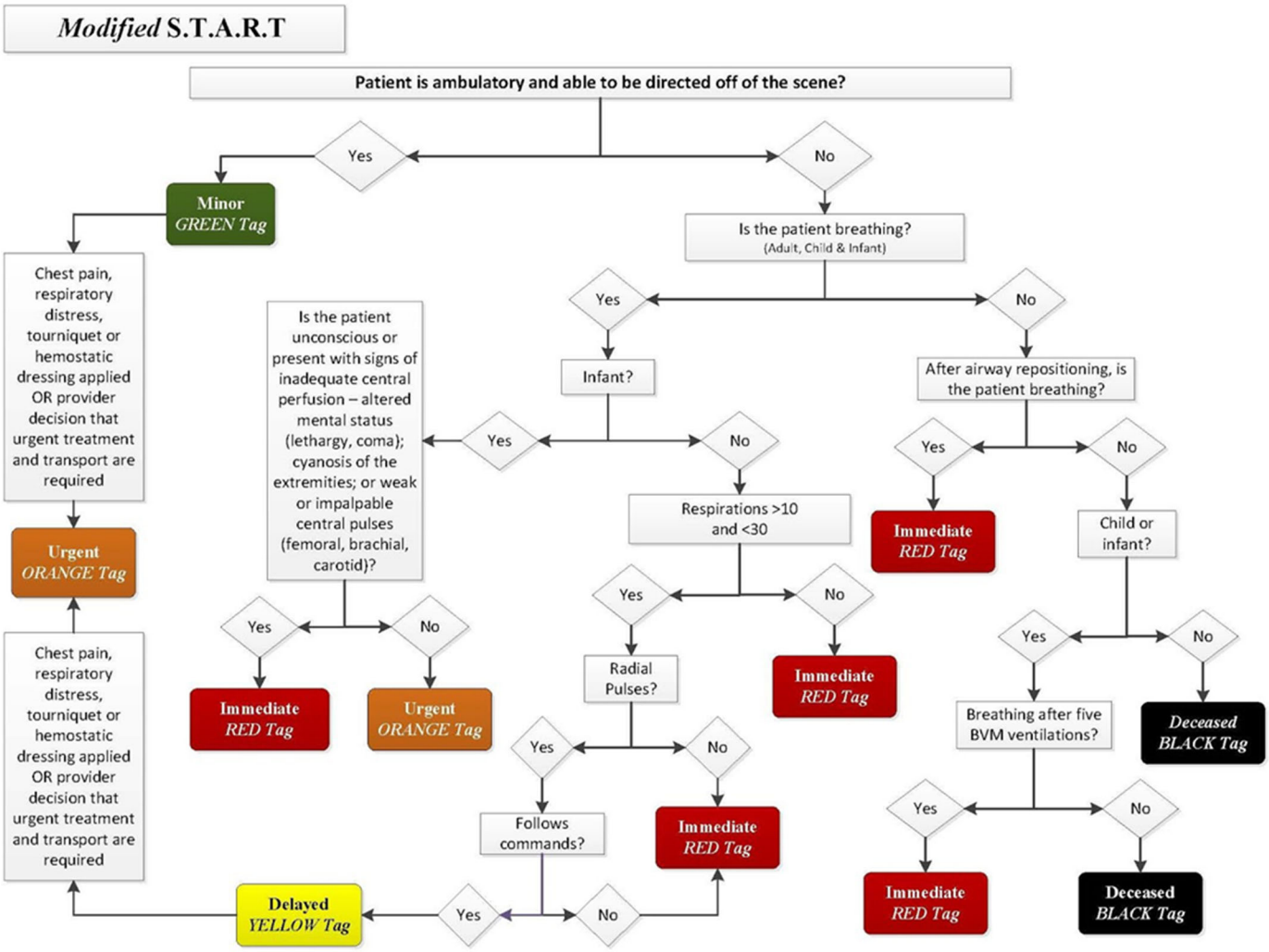
- Infants (age < 1 year):
    - Shall be triaged according to respiratory criteria for Red and Black Tag patients

    - Infants shall be triaged as follows:
        - **Red Tag:** Infants who have ANY of the following conditions: altered mental status (e.g. unconscious, lethargic), peripheral cyanosis, weak or non-palpable central pulses (femoral, brachial, carotid)
        - **Orange Tag:** Infants who do not have any of the above Red Tag criteria
- Orange Tag:
    - For patients who have chest pain, respiratory distress, altered mental status or other symptoms that the prehospital provider feels who require urgent treatment and/or transport
    - Patients may be upgraded to an Orange Tag from Green or Yellow categories at any time of assessment
    - Patients CANNOT be downgraded to an Orange Tag or any other lower priority level

DOCUMENTING TRIAGE TAGS

- Complete triage tags in the staging area or during transport, if possible
- Document on the triage tag as follows:
    - Triage time
    - Date
    - Patient's name, if possible
    - Patient's home address including city and state, if possible
    - Any medications or treatments administered to the patient
    - Patient's medical history, if possible
    - Prehospital provider's shield number or EMT number on the bottom line and on the yellow corners (marked with an ambulance and cross)
    - Any injuries on the diagram on the reverse side
    - Vital signs and time obtained
    - Tear off all **ALL COLORED AREAS BELOW THE ASSIGNED TRIAGE PRIORITY LEVEL AND RETAIN**
- Attach triage tag securely to the patient so that it is clearly visible
- Yellow triage tag corners (marked with an ambulance and cross)
    - Shield number or EMT number must be marked on BOTH corners
    - Remove both corners PRIOR to the patient being transported from the scene
    - Corner marked with cross: Hand off this corner to the treatment area supervisor
    - Corner marked with ambulance: Retain this corner and hand off to the treatment area supervisor at the conclusion of the MCI
- Retain top portions of the triage tags and hand off to the treatment area supervisor at the conclusion of the MCI

MODIFIED START TRIAGE ALGORITHM



Appendix P: Alternate Destination / Treat-In-Place Patient Selection Criteria

~~MEDICAL~~ INCLUSION CRITERIA:

Patients eligible for transport to an alternate destination or treat-in-place **MUST** meet criteria that are similar for low suspicion RMAs – those that do not require OLMC approval. Patients **MUST** have all of the following:

- Decisional capacity that is defined as not being impaired and being able to demonstrate that they understand the following:
  - Nature of presenting medical condition
  - Possible risks and benefits of choosing alternate destination/treat-in-place versus emergency medical transport for their acute or presenting medical condition, including where applicable, the risk of serious adverse health consequences or death
  - Treatment and transportation alternatives
- Low index of suspicion that medical treatment and/or transport to an emergency department is required
- No administration of medications and/or treatments ~~other than those used for cases of low index of suspicion (e.g. oxygen, bandages)~~ **EXCEPT** for the following:
  - Bandages, gauze, icepacks, and oxygen
  - Medications for the treatment of hypoglycemia and who post-treatment have normal vital signs and mental status are normal
  - Nebulized medications for the treatment of reactive airway disease (e.g. Albuterol, Ipratroprium Bromide) ~~and who~~if post-treatment have normal vital signs and respiratory status are normal
- Safe environment that is defined as a setting which is not believed to be an immediate danger to the health or safety of a patient such that there would be adequate supportive care resources for the immediate future, or in its absence, a location with adequate assistance to reasonably ensure the safe return of the patient to such a setting

- ~~Asymptomatic hypertension~~
- ~~Skin rash without respiratory distress or fever~~
- ~~Joint pain without fever~~
- ~~Injuries to the elbow and below (e.g. sprains, contusions)~~
- ~~Injuries to the knee and below (e.g. sprains, contusions)~~
- ~~Superficial/First degree thermal burns < 5%~~
- ~~Minor wounds/lacerations (including needing sutures)~~
- ~~Suture or staple removal~~

- ~~Needlestick injury~~
- ~~Upper respiratory symptoms without dyspnea and no known cardiac history~~
- ~~Dysuria without fever and age < 65 years~~
- ~~Resolved epistaxis without anticoagulants~~
- ~~Toothache/dental pain~~
- ~~Ear pain, difficulty hearing, tinnitus~~
- ~~Eye complaints without acute visual changes~~
- ~~STD exposure or genital lesions (excluding testicular pain)~~
- ~~Medication refills~~

BEHAVIORAL HEALTH INCLUSION CRITERIA FOR ALTERNATE~~IVE~~ DESTINATION OR FOR TREAT-IN-PLACE (ON-SCENE MENTAL HEALTH PROVIDER – NOT TELEHEALTH):

- ~~Depression~~
- ~~Anxiety or panic symptoms~~
- Behavioral complaints without violent or self-destructive thoughts or symptoms
- Substance use without intoxication or withdrawal

~~MEDICAL~~ EXCLUSION CRITERIA:

Patient Characteristics:

- Age < 5 years
- Patients unable to ambulate without assistance
- Patients without decision-making capacity
- Patients requesting transport to an ED
- Paramedic or EMT considers the patient critical or unstable
- Patients who have a high index of suspicion for an acute medical, traumatic, psychiatric, social or other condition that could result in a life–threatening or life-altering outcome. These include, but are not limited to the following:
    - Mechanism of injury
    - Severe injury/illness severity
    - Abnormal vital signs as seen below
    - Reports by patient or person to 911 or the on-scene EMS crew that the patient has expressed or attempted to injure self or other
    - Significant change in the patient's health as communicated to 911 or on-scene EMS crew by patient or a person or healthcare provider who has frequent contact with the patient or otherwise has knowledge of their baseline condition
    - Administration of medications and/or treatments except for those specified in the treatment of hypoglycemia and reactive airway disease as seen above
- ~~Pregnancy with related complaints~~
- ~~History of malignancy or immunosuppression (e.g. HIV, chemotherapy)~~
- ~~Surgery within the last 3 months~~

ADULT VITAL SIGN EXCLUSION	
SBP	< 90 mmHg or > 200 mmHg
DBP	> 120 mmHg
HR	< 50 or > 100 beats/min
RR	< 10 or > 24 breaths/min
SpO_2	< 92% on room air
BGL	< 60 or > 300 mg/dl

PEDIATRIC VITAL SIGN EXCLUSION
Any vital signs that are not within the expected age-appropriate values (Appendix J: Normal Pediatric Vital Signs)

~~**Complaints:**~~

- ~~Abdominal or pelvic pain~~
- ~~Nausea or vomiting~~
- ~~Chest pain or shortness of breath~~
- ~~Suspected intoxication with alcohol or other drugs~~
- ~~Altered mental status or lethargy~~
- ~~New onset of neurological symptoms~~
- ~~Suspected spinal injury~~
- ~~Dizziness or lightheadedness~~
- ~~Loss of consciousness within 24 hours~~
- ~~Seizures within 24 hours~~
- ~~Head injury/trauma~~
- ~~GI bleeding~~
- ~~Sickle cell crisis~~

BEHAVIORAL HEALTH EXCLUSION CRITERIA

- Agitation
- Violence or homicidal ideation
- Suicidal ideation or self-destructive behaviors
- Hallucinations or other symptoms of psychosis
- Withdrawal from substances (i.e. alcohol, opiates, or other drugs)
- Intoxication ~~and/or withdrawal~~ from substances (i.e. alcohol, opiates, or other drugs) ARE EXCLUDED FROM TREAT-IN-PLACE BUT CAN BE CONSIDERED FOR TRANSPORT TO AN ALTERNAT~~EIVE~~ DESTINATION (i.e. ~~IF THAT DESTINATION IS A~~ SUBSTANCE ABUSE TREATMENT CENTER)