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Collaborative New York Protocols

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### Introduction from Regional Medical Directors

The Medical Advisory Committees for the Collaborative Protocol Group and the Adirondack-Appalachian, Hudson Valley, Mountain Lakes, REMO, Susquehanna and Westchester EMS Regions are proud to put forth these interim updates to the collaborative protocols. These have been developed in response to the changes in scope of practice and the addition of the Advanced EMT to New York State EMS.

In 2015, following the American Heart Association Guideline update, extensive work between the Regions, review of protocols from other states and regions, local research, as well as review of relevant medical literature there will be a more extensive update.

The color-coded format of the protocols has been a tremendous success. This has served to allow each EMS professional to easily follow the potential interventions that could be performed by advanced level care.

<table>
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| EMT |
| • EMT, AEMT, EMT-CC, and Paramedic standing orders |
| • EMT STOP |

| ADVANCED |
| • AEMT, EMT-CC, and Paramedic standing orders |
| • ADVANCED STOP |

| CC |
| • EMT-CC and Paramedic standing orders |
| • CC STOP |

| PARAMEDIC |
| • Paramedic standing orders |
| • Many CC physician options |
| • PARAMEDIC STOP |

| PHYSICIAN OPTIONS |
| • The physician may give any order within the scope of practice of the provider |
| • Options listed in this section are common considerations that the physician may choose to order as the scenario warrants |

| Key Points/Considerations |
| • Additional points specific to patients that fall within the protocol |
As taught in every EMT class, BLS should be done before ALS, and advanced providers are responsible for all appropriate basic interventions. At all provider levels, standing orders are highlighted, while the corresponding STOP lines are clearly delineated.

There is a training module available that must be reviewed by every advanced provider prior to utilizing these protocols. Several sections contain very important changes from previous protocols:

- Naloxone has been added for the EMT
- Hypoglycemia has been defined as blood glucose of less than 60 as approved by the SEMAC. Guidance has been provided for care of adult patients with diabetes.
- Nitrous oxide has been added as an option for the ADVANCED provider
- Norepinephrine has been added as the vasopressor to replace dopamine
- Haloperidol has been added as a physician option for patient restraint
- Return of Spontaneous Circulation protocol has been changed to reflect the recent literature
- Oxygen Administration and Airway Management has been modified from current practice to reflect the medical literature
- Ketamine has been added as an induction agent for MFI and as a physician option for patient restraint and pain management for paramedics only. Every utilization of ketamine must have the patient outcome reviewed by the medical director and must have a datasheet completed and reviewed by the respective MAC.

The Regions will continue to perform QI audits of patient care to develop training programs that will improve care, and the Medical Advisory Committees will continue to evaluate literature to update these protocols to optimize the outcomes of our patients.

The Collaborative Protocol formulary exists as a minimum guideline for all agencies operating within these protocols. Local medical advisory committees may entertain substitutions as needed for drug shortages or local variations, but must share these with the group.

We hope that these collaborative protocols make your job easier and assist you in the care of your patients.

Sincerely,

John Broderick, MD
Mountain Lakes
Michael W. Dailey, MD
REMO
William Fisher, MD
AAREMS
Eric Larsen, MD
Westchester
Martin Maserech, MD
Susquehanna
Pam Murphy, MD
Hudson Valley
Acknowledgements
The 2014 AAREMS, Hudson Valley, REMO, Mountain Lakes, Susquehanna and Westchester regional providers, Collaborative Protocol Work Group, Medical Advisory Committees, and program agency staff all contributed to this update.

NYS DOH Bureau of EMS Staff

Special thanks to Robin Snyder-Dailey for the protocol design.
Cardiac Arrest: General Cardiac Arrest Care

**All Providers**

- CPR should be initiated prior to defibrillation unless the cardiac arrest is witnessed by the responding EMS provider
- Push hard and fast (100 compressions/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- Cycle of CPR = 30 compressions then 2 breaths, 5 cycles = 2 minutes
- Avoid hyperventilation
- Rhythm check or AED “check patient” every 5 cycles of CPR
- Defibrillation as appropriate
- Rotate compressors every two minutes with rhythm checks
- Make every effort to not do CPR in moving ambulances, as it is a significant danger to providers, and has limited opportunity for success
- Use mechanical CPR adjuncts when available for provider safety in moving ambulance (e.g. AutoPulse®, LUCAS® device, LifeStat®, Thumper® or other FDA approved device)

**Advanced Providers**

- Initial use of naso and/or oropharyngeal airway and bag-mask device is acceptable, with advanced airway deferred for initial care
- Secure airway and confirm placement with end-tidal capnography
- Check rhythm every 2 - 3 minutes if equipped
- Epinephrine 1:10,000 dose 1 mg IV; repeat every 3 minutes
- SEE RHYTHM SPECIFIC PROTOCOLS
- After an advanced airway is placed, no longer deliver “cycles” of CPR
  o  Give continuous chest compressions without pauses for breaths
  o  Give 8-10 breaths/minute
- Search for and treat possible contributing factors that EMS can manage:
  o  Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma
Cardiac Arrest: Asystole

EMT

- General Cardiac Arrest Care

**EMT STOP**

ADVANCED

- Secure airway. Initial use of naso and/or oropharyngeal airway and bag-mask device is acceptable, with advanced airway deferred for initial care
- Vascular access; Normal Saline 500 ml bolus
- Epinephrine 1:10,000 dose 1 mg IV; repeat every 3 minutes

**ADVANCED STOP**

CC

PARAMEDIC

- Cardiac monitor

**CC AND PARAMEDIC STOP**

PHYSICIAN OPTIONS

- Sodium Bicarbonate 50 mEq IV
- Termination of resuscitation

**Key Points/Considerations**

- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Check asystole in more than 1 lead
- Refer to the Termination of Resuscitation Protocol as needed
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hyperkalemia, Toxins, Tension pneumothorax, Trauma
Cardiac Arrest: Pulseless Electrical Activity (PEA)

**EMT**
- General Cardiac Arrest Care

**EMT STOP**

**ADVANCED**
- Secure airway. Initial use of naso and/or oropharyngeal airway and bag-mask device is acceptable, with advanced airway deferred for initial care
- Vascular access; Normal Saline 500 ml bolus
- Epinephrine 1:10,000 dose 1 mg IV; repeat every 3 minutes

**ADVANCED STOP**

**CC**

**PARAMEDIC**
- Cardiac monitor
- Consider and treat causes of PEA
- Consider: Sodium Bicarbonate 50 mEq for suspected hyperkalemia or acidosis

**CC AND PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Sodium Bicarbonate 50 mEq IV
- Termination of resuscitation

**Key Points/Considerations**
- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Refer to the Termination of Resuscitation Protocol as needed
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hyperkalemia, Toxins, Tension pneumothorax, Trauma
Cardiac Arrest: Termination of Resuscitation

**EMT ADVANCED CC PARAMEDIC**

Resuscitative efforts for patients in cardiac arrest should not be initiated if:
- The patient presents with significant dependent lividity, rigor mortis, decomposition and/or injuries incompatible with life (such as decapitation)
- There is a signed NYS Out-of-Hospital DNR (Do Not Resuscitate) Order Form DOH #3474 or MOLST form indicating DNR
- The patient is in a health care facility (as defined in NYS Public Health Law Article 28) and has a DNR order appropriate to that facility

For all other patients in respiratory or cardiac arrest, the EMS provider MUST initiate ‘General Cardiac Arrest Care’ and consult physician for termination order

**EMT ADVANCED CC AND PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

Field termination of resuscitation, if cardiac arrest patient meets all of the following:
- Failed response to appropriate treatment
- Scene is appropriate for termination order

**Key Points/Considerations**

- Resuscitative efforts must be initiated while attempting to contact a Physician. If there is an extended time required to contact a Physician, try another facility
- Health Care Facilities (as defined in NYS Public Health Law Article 28) may have DNR forms appropriate to the level of facility. If identified by the facility staff as correct, these forms should be honored
- If a patient presents in respiratory or cardiopulmonary arrest and there is any other form of advanced directive, the EMS Provider must start BLS care (including Defibrillation), and contact Medical Control
- Other forms of advanced directives include: Living Wills, Health Care Proxies, and In-Hospital Do Not Resuscitate orders
- Copies of the MOLST form should be honored
- If a patient with a DNR is a resident of a Nursing Home and expires during transport contact the receiving facility to determine if they are willing to accept the patient. If not, return the patient to the sending facility. A copy of the DNR must be attached to the PCR and retained by the agency
Cardiac Arrest: Ventricular Fib / Pulseless V-Tach

EMT

• General Cardiac Arrest Care

EMT STOP

ADVANCED

• Secure airway. Initial use of naso and/or oropharyngeal airway and bag-mask device is acceptable, with advanced airway deferred for initial care
• Vascular access; Normal Saline 500 ml bolus
• Epinephrine 1:10,000 dose 1 mg IV; repeat every 3 minutes

ADVANCED STOP

CC

• Cardiac monitor
• Defibrillate after each medication administration
• Amiodarone (Cordarone) 300 mg IV. Repeat 150 mg in 3 - 5 minutes
• If pulses return:
  o Amiodarone (Cordarone) 150 mg in 100 ml NS over 10 min (10 ml/min)
  o 12 lead EKG

CC STOP

PARAMEDIC

• Consider: Sodium Bicarbonate 50 mEq IV for suspected hyperkalemia or acidosis
• Consider: Magnesium 2 grams IV if suspected hypomagnesemic or torsades de pointes

PARAMEDIC STOP

PHYSICIAN OPTIONS

• Lidocaine 1.5 mg/kg bolus and/or infusion
• Additional Amiodarone (Cordarone) infusion

Key Points/Considerations

• Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
• Consult physician if patient has return of pulses (even transiently)
• Maximize dose of each antiarrythmic before considering using another
• Refer to the Termination of Resuscitation Protocol as needed
# Cardiac Arrest: ROSC

## EMT
- Airway management and appropriate oxygen therapy

## ADVANCED
- Vascular access at 2 sites (no more than one IO)
- Normal Saline 250 ml bolus; recheck lung sounds and repeat to 1L if unchanged

## CC

## PARAMEDIC
- Treatment for appropriate presenting rhythm
  - Antiarhythmic drip if patient was in a shockable rhythm
- Cardiac Monitor with 12 lead EKG acquired and transmitted as soon as possible
- Complete neurologic exam including specific GCS items and pupillary response
- Maintain MAP > 65 or SBP > 100
- Additional Normal Saline bolus to a total of 2L
- Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP 100

## KEY POINTS/CONSIDERATIONS
- Treatment for presenting rhythm should include antiarrythmic to any patient who has been in a shockable rhythm.
- Care and transport must be performed with on-line medical control from receiving facility as soon as possible after ROSC
- ALL patients with STEMI and ROSC should be transported to a receiving hospital capable of primary angioplasty, if feasible, as long as transport time is projected to be less than 60 minutes
- Patients who are in recurrent cardiac arrest should be transported to the closest hospital
- Documentation must include accurate pupillary exam, and initial GCS recorded by element, not as a total: Eyes _/4, Verbal _/5, Motor _/6
Cardiac: Acute Coronary Syndrome – Suspected

**EMT**

- ABC and vital signs
- Aspirin 324 mg (4 x 81 mg tabs) chewed
- Airway management and appropriate oxygen therapy
- Assist patient with their prescribed Nitroglycerin up to 3 doses, 5 minutes apart, provided the patient’s systolic BP is above 120 mmHg

**ADVANCED STOP**

**CC**

**PARAMEDIC**

- Cardiac Monitor with 12 Lead EKG (transmit to physician if any question)
- Nitroglycerin 0.4 mg per dose, up to 3 doses, 5 minutes apart, provided the patient’s systolic BP is above 120 mmHg or MAP > 80 mmHg
- If systolic BP drops below 100 mmHg: place patient supine if possible and consider Normal Saline 250 ml IV bolus

**CC and PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Repeat Nitroglycerin 0.4 mg every 5 minutes

**Key Points/Considerations**

- Focus on maintaining ABC, pain relief, rapid identification, rapid notification and rapid transport to an appropriate facility
- Vitals, including 12 Lead EKG, should be monitored frequently during transport
- The first dose of Nitroglycerin may be administered while preparing to establish vascular access
- A total of 3 doses of Nitroglycerin may be administered by pre-hospital providers, prior to consulting physician
- If the patient does not have prescribed Nitroglycerin, a 12 lead EKG should be obtained prior to administering any Nitroglycerin
- If the patient becomes hypotensive after Nitroglycerin administration place the patient supine if there is no contraindication to doing so, such as severe pulmonary edema
Cardiac: ST Elevation MI – CONFIRMED

**EMT**
- ABC and vital signs
- Aspirin 324 mg (4 x 81 mg tabs) chewed
- Airway management and appropriate oxygen therapy
- Assist patient with their prescribed Nitroglycerin up to 3 doses, 5 minutes apart, provided the patient’s systolic BP is above 120 mmHg

- **EMT STOP**
  
**ADVANCED**
- Vascular access

- **ADVANCED STOP**

**CC**

**PARAMEDIC**
- Cardiac Monitor with 12 Lead EKG
- Notify receiving hospital ASAP for ST elevation myocardial infarction (STEMI)
- Strongly recommend transport to facility capable of primary angioplasty if transport time is less than one hour
- Notify receiving hospital as soon as possible to discuss transport options if patient requests facility not capable of primary angioplasty
- Nitroglycerin 0.4 mg per dose, up to 3 doses, 5 minutes apart, MAP > 80 mmHg or SBP > 120 mmHg
- If systolic BP drops below 100 mmHg: Place patient supine, if possible, consider Normal Saline 250 ml IV bolus, may repeat up to 2 L provided lung sounds remain clear
- Pain management

- **CC and PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Repeat 0.4 mg doses of Nitroglycerin every 5 minutes
- Additional saline
- Metoprolol (Lopressor) 5 mg slow IV, IF HR > 80 and MAP > 80 mmHg or SBP > 120 mmHg to a total of 3 doses

**Key Points/Considerations**
- Focus on rapid identification, notification and transport to appropriate facility
- 12 Lead EKG should be transmitted to receiving facility, if possible
- Vitals, including 12 Lead EKG, should be monitored frequently during transport
- Caution with Nitroglycerin in inferior wall MI for bradycardia and hypotension
Cardiac: Cardiogenic Shock

**Criteria**

- For patients with STEMI or Acute Coronary Syndrome - Suspected and signs of hypoperfusion

**EMT**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Aspirin 324 mg (4 x 81 mg tabs) chewed if able to chew
- Place patient supine unless dyspnea is present

**ADVANCED**

- Vascular access
- Normal Saline 250 ml bolus; recheck lung sounds and repeat to 1L if unchanged

**CC**

- Cardiac Monitor with 12 Lead EKG
- Notify hospital physician AS SOON AS POSSIBLE for ST elevation myocardial infarction (STEMI)
- Additional Normal Saline bolus, to a total of 2L

**PARAMEDIC**

- If UNSTABLE, Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP > 100

**PHYSICIAN OPTIONS**

- Additional Normal Saline

**Key Points/Considerations**

- UNSTABLE is defined as MAP < 65 or SBP < 100 mmHg and/or decreased level of consciousness
- Refer to Dysrhythmia protocols as needed
Cardiac: Ventricular Assist Device

Criteria

• Any request for service that requires evaluation and transport of a patient with a Left Ventricular Assist Device (VAD)

EMT

• ABC and vital signs
• Airway management and appropriate oxygen therapy
• Treat airway obstruction or respiratory distress per protocol. Treat medical or traumatic condition per protocol.
  • Assess pump function and circulation by listening to motor of pump over heart and observing green light on system control device:
  • Assess perfusion based on mental status, capillary refill, and skin color. The absence of a palpable pulse is normal for patients with a functioning VAD. They may not have a detectable blood pressure
  • DO NOT PERFORM CPR
  • Notify appropriate facility ASAP, regardless of the patient’s complaint
  • Take patient’s power unit and batteries to the Emergency Department
  • Trained support member must remain with patient
  • Do not delay transport to hospital

EMT STOP

ADVANCED

CC

PARAMEDIC

If hypotensive (defined as poor perfusion based on mental status, capillary refill, or skin color):

• Place patient supine if possible
• Establish IV/IO access and administer 500ml NS bolus
• If patient does not have evidence of adequate perfusion and oxygenation with treatments, follow protocol appropriate for the presenting rhythm
• Reassess and repeat up to 1L total. Contact Medical Control for additional fluid boluses

ADVANCED, CC, AND PARAMEDIC STOP
**PHYSICIAN OPTIONS**

- Termination of resuscitation
- Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP > 100

**Key Points/Considerations**

- Community patients are entirely mobile and independent
- Keep device and components dry
- Batteries and the emergency power pack can provide 24-36 hours of power
- Trained support members include family and caregivers who have extensive knowledge of the device, its function, and its battery units and are a resource to the EMS provider when caring for a VAD patient
- Patients are frequently on three different anticoagulants and are prone to bleeding complications
- Patient may have VF/VT and be asymptomatic. Contact Medical Control for treatment instructions
Cardiac: Wide Complex Tachycardia with a Pulse

**EMT**
- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**
- Vascular access
- Normal Saline 250 ml bolus; recheck lung sounds and repeat to 1L if unchanged

**ADVANCED STOP**

**CC**
- Cardiac Monitor
- 12 Lead EKG
- Additional Normal Saline bolus to a total of 2L
- If UNSTABLE, consider sedation (see Procedural Sedation Protocol)
- Synchronized cardioversion. Start cardioversion at 100 Joules or the equivalent biphasic setting. Repeat as needed, maximum 3 times
- If rhythm is converted: Amiodarone (Cordarone) 150 mg in 100 ml NS IV, over 10 minutes

**CC STOP**

**PARAMEDIC**
- If STABLE, Amiodarone (Cordarone) 150 mg in 100 ml NS, over 10 minutes

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Synchronized or unsynchronized cardioversion
- Adenosine (Adenocard) 6 mg or 12 mg IV with rapid NS flush
- Lidocaine 1.5 mg/kg IV
- Repeat Amiodarone (Cordarone) 150 mg in 100 ml Normal Saline, over 10 minutes
- Magnesium 2 gm IV, over 20 minutes for STABLE patient, over 2 minutes for UNSTABLE patient

**Key Points/Considerations**
- If no pulse treat as V-Fib
- UNSTABLE is defined as ventricular rate > 150 bpm with symptoms of chest pain, dyspnea, altered mental status, pulmonary edema, ischemia, infarction or hypotension (MAP < 65 or SBP < 90 mmHg)
- Wide Complex is defined as a QRS complex > 0.12 sec/120 msec / 3 small boxes
Cardiac: Narrow Complex Tachycardia

**EMT**
- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**
- Vascular access
- Normal Saline 250 ml bolus; recheck lung sounds and repeat to 1L if unchanged

**ADVANCED STOP**

**CC**
- Cardiac Monitor
- Vagal Maneuver
- 12 Lead EKG
- If Regular Rhythm: Adenosine (Adenocard) 6 mg IV with rapid NS flush, may repeat Adenosine (Adenocard) 12 mg IV if needed
- If UNSTABLE Irregular Rhythm, consider sedation (see Procedural Sedation Protocol)
  - Synchronized cardioversion starting at 100 Joules or equivalent biphasic

**CC STOP**

**PARAMEDIC**
- If STABLE Irregular Rhythm: Diltiazem 0.25 mg/kg (max 25 mg) slow IV

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Additional Adenosine (Adenocard)
- Additional Diltiazem (Cardizem) slow IV
- Metoprolol (Lopressor) 5 mg slow IV
- Amiodarone (Cordarone) 150 mg in 100 ml Normal Saline, infused over 10 minutes
- Synchronized cardioversion

**Key Points/Considerations**
- Do NOT use carotid sinus massage as vagal maneuver
- UNSTABLE is defined as ventricular rate > 150 bpm with symptoms of chest pain, dyspnea, altered mental status, pulmonary edema, ischemia, infarction or hypotension (MAP < 65 or SBP < 90 mmHg)
- If Diltiazem is not available, contact physician for medication choice
Cardiac: Symptomatic Bradycardia / Heart Blocks

EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

EMT STOP

ADVANCED

- Vascular access
- Normal Saline 250 ml bolus; recheck lung sounds and repeat to 1L if unchanged

ADVANCED STOP

CC

- Cardiac Monitor
- 12 Lead EKG
- Atropine 0.5 mg IV
- Additional Normal Saline bolus to a total of 2L
- Transcutaneous pacing, consider sedation (see Procedural Sedation Protocol)

CC STOP

PARAMEDIC

- Repeat Atropine 0.5 mg IV, every 3 min, up to a max of 3 mg
- Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP > 100

PARAMEDIC STOP

PHYSICIAN OPTIONS

- Epinephrine infusion (1 mg in 100 ml Normal Saline), at 5 micrograms/min

Key Points/Considerations

- Only treat bradycardia if patient is symptomatic
- Symptomatic presentation includes chest pain, dyspnea, altered mental status, pulmonary edema, ischemia, infarction or hypotension (MAP < 65 or SBP < 90 mmHg)
# General Care: Agitated Patient Restraint/Excited Delirium

## Criteria
- For agitated patients at risk of causing physical harm to emergency responders, the public and/or themselves

## EMT

### ADVANCED
- Call for Law Enforcement
- ABC and vital signs as tolerated
- Airway management and appropriate oxygen therapy, if tolerated
- Check blood glucose level. If level is abnormal refer to Diabetic Protocol

## EMT and ADVANCED STOP

### CC

### PARAMEDIC
- Patient AGE < 70: Midazolam (Versed) 2.5mg IV or 5 mg IM or IN may repeat once in 5 minutes

## CC and PARAMEDIC STOP

### PHYSICIAN OPTIONS
- Additional Midazolam (Versed) IV, IM or IN
- Haloperidol (Haldol) 2.5 to 5 mg IV or IM
- Ketamine 3-5 mg/kg IM (Paramedic order ONLY – not a required medication)

### Key Points/Considerations
- **Patient must NOT be transported in a face-down position**
- If agitated patient goes into cardiac arrest, consider possibility of acidosis, and administer Sodium Bicarbonate as part of initial resuscitation
- Verbal de-escalation of situation should be attempted prior to chemical restraint
- A team approach should be attempted at all times for the safety of the patient and the providers
- If the patient is in police custody and/or has handcuffs on, a police officer should accompany the patient in the ambulance to the hospital
- EMS personnel may only apply “soft restraints” such as towels, cravats or commercially available soft medical restraints
- All uses of this protocol must have review by the Regional QI Coordinator and the Agency Medical Director
General Care: Nausea and/or Vomiting

EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy

ADVANCED

- Vascular access
- Normal Saline 500 ml bolus; may repeat x 1 if lung sounds remain clear

CC

PARAMEDIC

- Cardiac Monitor
- Consider 12 Lead EKG
- Ondansetron (Zofran) 4 mg PO, IV or IM, may repeat x 1 in 10 minutes

PHYSICIAN OPTIONS

- Midazolam (Versed) IV, IM or IN
- Diphenhydramine (Benadryl) 12.5 IV or 25 mg IM for motion sickness
General Care: Pain Management

**EMT**

- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**

- Vascular access
- Nitrous Oxide by self-administered inhalation if equipped

**ADVANCED STOP**

**CC**

**PARAMEDIC**

SEE KEY POINTS BELOW – CHOOSE ONE PAIN MEDICATION

- Morphine 2.5 or 5 mg IV OR 5 or 10 mg IM  
  - Morphine may be repeated in 5 min with total not to exceed 10 mg
- Fentanyl 25 or 50 mcg slow IV, IM or IN  
  - Fentanyl may be repeated in 5 min with total not to exceed 100mcg
- Ondansetron (Zofran) 4 mg IV or IM as needed for nausea

**CC AND PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Additional Morphine IV or IM
- Additional Fentanyl IV, IM, or IN
- Additional Ondansetron (Zofran) IV or IM
- Ketamine 0.25 mg/kg diluted with saline over 5 minutes
- Midazolam (Versed) IV, IM or IN
- Ketorolac 30 mg IV or IM
- Diphenhydramine (Benadryl) 25 or 50 mg IM or IV for histamine reaction
**Pain Management Key Points/Considerations**

- Contraindications to standing order pain management: altered mental status, hypoventilation, pregnancy, MAP <65 or SBP < 100
- **ONE** pain medication may be given under standing orders. For additional dosing, or switching to another agent, you must consult a physician.
- **Nitrous Oxide is not a required formulary item**
- Contraindications to nitrous oxide include: suspected bowel obstruction, pneumothorax, pregnancy, hypoxia or the inability to self-administer
- **Ketamine is not required formulary item and may not be administered without a direct physician order**
- Lower dosing should be used patients less than 50 kg or the elderly
- Fentanyl should be considered if there is allergy to morphine, undifferentiated abdominal pain or potential hemodynamic instability
- Morphine should be considered if there is an isolated extremity injury or a long-acting medication would be more efficacious for the patient
- **Opioids and Benzodiazepines may not be used together without consultation with a physician**
General: Procedural Sedation

Criteria

For patients with the following anxiety producing or painful procedures including:
• Cardioversion
• Transcutaneous pacing
• Post-intubation sedation, following confirmed endotracheal intubation

EMT
• ABC and vital signs
• Airway management and appropriate oxygen therapy

ADVANCED
• Vascular access

CC
• Cardiac Monitor with continuous pulse oximetry

PARAMEDIC
• Etomidate 0.1 mg/kg IV for cardioversion or other brief intervention
  ○ May not be administered more than once
• Midazolam (Versed) 2.5 mg IV or 5 mg IM or IN for transcutaneous pacing or post-intubation
  ○ May be repeated every 5 minutes as needed if MAP > 65 or SBP > 100

PHYSICIAN OPTIONS
• Etomidate 0.3 mg/kg for intubation ONLY
• Morphine IV or IM
• Fentanyl IV, IM or IN
• Midazolam (Versed) IV, IM, or IN
• Ketamine 0.5 – 2 mg/kg IV, 1 – 5 mg/kg IM
### Procedural Sedation Key Points/Considerations

- This protocol may only be used for intubation upon physician order
- One medication may be given under standing orders. For additional dosing, or switching to another agent, you must consult a physician.
- Not for disentanglement or management of suspected fractures without physician consultation
- **Ketamine is not required formulary item and may not be administered without a direct physician order**
- **Opioids and Benzodiazepines may not be used together without consultation with a physician**
Medical: Allergic Reaction and Anaphylaxis

**EMT**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine if patient has utilized their own EpiPen
- **Patient prescribed** EpiPen and severe respiratory distress, edema, hypotension:
  - Administer appropriate EpiPen
- **Patient NOT prescribed** EpiPen and severe respiratory distress, edema, hypotension:
  - Contact Medical Control for orders to administer appropriate EpiPen
  - IF UNABLE to contact Medical Control:
    - Administer appropriate EpiPen

**EMT STOP**

**ADVANCED**

- Vascular access
- Normal Saline 500 ml bolus if MAP < 65 or SBP < 120; may repeat to total of 2 L if patient remains hypotensive

**ADVANCED STOP**

**CC**

**PARAMEDIC**

- Cardiac Monitor
- Epinephrine 1:1,000 dose 0.5 mg IM if patient has hypotension and/or developing respiratory distress w/airway swelling, hoarseness, stridor or wheezing
- Albuterol 2.5 mg in 3 ml (unit dose) & Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer or ET tube; may repeat to a total of three doses for wheezing
- Diphenhydramine (Benadryl) 50 mg IV or IM
- Methylprednisolone (Solu-Medrol) 125 mg IV
- Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP >100

**CC and PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Additional Albuterol unit dose, via nebulizer
- Epinephrine infusion (1 mg in 100 ml Normal Saline), at 5 micrograms/min

**Key Points/Considerations**

- **NO IV Epinephrine without online medical control!**
- If an EMT has administered an EpiPen, or the patient utilized their own epinephrine autoinjector, consult physician prior to allowing a patient to RMA
Medical: Diabetic Emergencies

EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped
- If blood glucose is known or suspected to be low and patient can self administer and swallow on command, give oral glucose one unit dose (15-24 grams) or available carbohydrate source
- Call for ALS Intercept if unable to swallow on command, or mental status remains altered following administration of oral glucose
- If blood glucose is CONFIRMED to be high do not administer oral glucose

EMT STOP

ADVANCED

- Vascular access
- If glucose level is below 60 mg/dl, and patient cannot swallow on command, administer Dextrose, up to 25 gm; may redose if hypoglycemia recurs
- If glucose level is above 400, administer Normal Saline 250 ml IV bolus

ADVANCED STOP

CC

PARAMEDIC

- If unable to obtain vascular access, Glucagon 1 mg IM

CC AND PARAMEDIC STOP

PHYSICIAN OPTIONS

- Additional Normal Saline IV bolus, if patient remains hyperglycemic
- Additional Dextrose if patient remains hypoglycemic

Key Points/Considerations

- If the patient wishes to refuse transportation to a hospital and you have administered any medications including oral glucose you should contact a Physician prior to completing the RMA and leaving the patient
- If the patient’s blood glucose level is below 60 mg/dl and the patient is able to self administer and swallow on command, administer oral glucose or equivalent rather than establishing vascular access, if possible
- If patient regains normal responsiveness prior to infusion of the complete dose, please stop infusion and record amount infused
- Diabetics may exhibit signs of hypoglycemia with a blood sugar between 60-80 mg/dl. If suspected, titrate dextrose 5 gm (D10 50 ml) for treatment and diagnosis
Medical: Seizure

EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

EMT STOP

ADVANCED

- Vascular access

ADVANCED STOP

CC

PARAMEDIC

- Cardiac Monitor
- Midazolam (Versed) 2.5 mg IV or 5 mg IM or IN may repeat x 1 in 5 minutes

CC and PARAMEDIC STOP

PHYSICIAN OPTIONS

- Magnesium 4 grams IV over 20 minutes, if patient is pregnant
- Additional Midazolam (Versed) 2.5 – 5 mg IV, IM or IN

Key Points/Considerations

- Protect the patient and EMS crew from injury during the seizure
- Standing orders are for tonic/clonic seizures (grand mal seizures) only
- Refer to the Eclampsia protocol if patient is pregnant
Medical: Shock / Hypoperfusion

Criteria

Potential causes of hypoperfusion excluding cardiogenic and septic shock – please refer to specific protocols

EMT

• ABC and vital signs
• Airway management and appropriate oxygen therapy
• Obtain blood glucose if available

EMT STOP

ADVANCED

• Vascular access.
• Normal saline 500 mL bolus if MAP < 65 or SBP < 100, may repeat if lung sounds remain clear
  o Goal MAP >65 or SBP >100

ADVANCED STOP

CC

PARAMEDIC

• Cardiac Monitor
• Consider 12 Lead EKG
• Normal saline to a total of 2 L
• Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP >100

CC and PARAMEDIC STOP

PHYSICIAN OPTIONS

• Additional Normal Saline

Key Points/Considerations

• Hypoperfusion is defined as MAP < 65 or SBP < 100, with decreased level of consciousness
• Vitals should be monitored frequently during transport to avoid unnecessary prehospital overhydration
• Consider potential causes of hypoperfusion: anaphylaxis, toxic ingestions, cardiac rhythm disturbances, myocardial infarction, sepsis, ectopic pregnancy, ruptured abdominal aortic aneurysm, or others
# Medical: Stroke

## EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol
- Perform neurological exam including Cincinnati Stroke Scale
- Determine the **exact time** patient was last in usual state of health and/or seen without symptoms by interviewing patient, family, and bystanders
- If time from symptom onset to estimated arrival in the ED will be less than 2 hours, transport patient to NYS DOH Designated Stroke Center, or consult physician to discuss appropriate destination facility
- Notify destination hospital ASAP

## ADVANCED

- Vascular access

## CC

### PARAMEDIC

- Cardiac Monitor
- 12 lead EKG
- Maintain MAP > 80
  - If systolic BP > 220 or diastolic BP > 120 contact Medical Control

## PHYSICIAN OPTIONS

- Metoprolol (Lopressor) 5 mg slow IV push

## Reference

Cincinnati Pre-Hospital Stroke Scale:

- Have the patient repeat “You can’t teach an old dog new tricks”
  - Assess for correct use of words, without slurring
- Have the patient smile
  - Assess for facial droop
- Have the patient close eyes and hold arms straight out for 10 seconds.
  - Assess for arm drift or unequal movement of one side
Medical: Suspected Sepsis

Criteria

Protocol activated if concern for any new or worsening infection and any TWO of the following on TWO sets of vital signs: Pulse > 100, RR > 20, Systolic BP < 100, MAP < 65, RA O2 Sat < 92

EMT

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Obtain blood glucose if equipped

**EMT STOP**

ADVANCED

- Large bore vascular access.
- Normal saline 500 ml, if needed may repeat x 4 if no pulmonary edema
  - Goal is MAP > 65 or SBP >100
- Notify destination hospital of potential sepsis patient with report

**ADVANCED STOP**

CC

PARAMEDIC

- Cardiac Monitor and continuous pulse oximetry
- Consider 12 Lead EKG if RA oxygen saturation < 92% or complaint of chest pain, short of breath
- Normal saline to a total of 2 L

**CC and PARAMEDIC STOP**

PHYSICIAN OPTIONS

- Additional normal saline
- Consider Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP >100

Key Points/Considerations

- Focus on rapid identification, IV hydration, and early notification of concern for potential sepsis patient to destination facility
- Concern for any new or worsening infection: Including reported fever, shaking chills, sweatiness, new cough, difficulty or less than usual urination, unexplained or new altered mental status, flush skin, pallor, new rash or mottling
- Vitals should be monitored frequently during transport to avoid unnecessary prehospital overhydration
Respiratory: Acute Asthma

EMT

- ABC and vital signs
- Airway management, and appropriate oxygen therapy
- Implement BLS Albuterol Protocol
- Assist patient with their own medications as appropriate

**EMT STOP**

ADVANCED

- Vascular access, if not improving with nebulizer treatment
- CPAP if trained and equipped

**ADVANCED STOP**

EMT AND ADVANCED PHYSICIAN OPTION

- If patient is not improving contact Medical Control for use of EpiPen
  - Administer appropriate EpiPen

CC

PARAMEDIC

- Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer; may repeat to a total of three doses
- Epinephrine 1:1,000 dose 0.5 mg IM for severe distress
  *if severe distress persists may repeat in 5 minutes
- Consider Cardiac Monitor and 12 Lead EKG
- Methylprednisolone (Solu-Medrol) 125 mg IV
- Magnesium 2 gm in 100 ml NS IV over 10 minutes

**CC and PARAMEDIC STOP**

PHYSICIAN OPTIONS

- Additional Albuterol unit dose, via nebulizer
- Epinephrine 1:1,000 dose 0.5 mg mixed with 3 ml Normal Saline, via nebulizer
- Epinephrine infusion (1 mg in 100 ml Normal Saline), at 5 micrograms/min, if imminent respiratory arrest
- Repeat magnesium
Acute Asthma Key Points/Considerations

• Remember, “All that wheezes is not asthma!” Consider allergic reaction, airway obstruction, pulmonary edema, COPD exacerbation
• A total of 3 doses of Albuterol may be administered by pre-hospital providers, prior to consulting Medical Control Physician
• Epinephrine should be used if patient is in severe distress and tidal volume is so small that nebulized medications can’t work
• If an ALS provider has administered any medications they must consult a physician prior to allowing a patient to RMA or before sending the patient BLS
Respiratory: Acute Pulmonary Edema

**EMT**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Sit patient upright, if possible

**EMT STOP**

**ADVANCED**

- Vascular access
- CPAP, if trained and equipped

**ADVANCED STOP**

**CC and PARAMEDIC**

- Cardiac Monitor
- Nitroglycerin 0.4 mg SL or equivalent, every 2-5 min, if the SBP >120 or MAP >80
- Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer, only if wheezes are present
- 12 Lead EKG

**CC and PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Additional Nitroglycerin or Nitroglycerin TD if no vascular access
- Furosemide (Lasix) 40 mg IV over 2 – 3 minutes, if peripheral edema is present

**Key Points/Considerations**

- All patients with rales do not have pulmonary edema — consider the possibility of pneumonia or chronic obstructive pulmonary disease (COPD) exacerbation
- May administer Nitroglycerin while preparing to establish vascular access. Contact Medical Control Physician for continued Nitroglycerin administration if no vascular access
- Nitroglycerin paste TD only if unable to administer orally
# Respiratory: COPD Exacerbation / Bronchospasm

## EMT
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Assist patient with their own medications as appropriate

**EMT STOP**

## ADVANCED
- Vascular access if not improving
- CPAP, if trained and equipped

**ADVANCED STOP**

## CC

### PARAMEDIC
- Cardiac Monitor
- Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer or ET tube; may repeat to a total of three doses
- 12 Lead EKG
- Methylprednisolone (Solu-Medrol) 125 mg IV or IM

**CC and PARAMEDIC STOP**

## PHYSICIAN OPTIONS
- Additional Albuterol unit dose, via nebulizer
- Magnesium 2 grams IV over 10 minutes in 100 ml Normal Saline
## Respiratory: Upper Airway Obstruction / Stridor

<table>
<thead>
<tr>
<th>Role</th>
<th>Instructions</th>
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</table>
| **EMT** | • ABC and vital signs  
• Airway management and appropriate oxygen therapy  
• Consider mechanical obstruction and treat accordingly  

**EMT STOP** |
| **ADVANCED** | • If unconscious and suspected mechanical obstruction, attempt removal of object with Magill forceps  
• Vascular access if appropriate  

**ADVANCED STOP** |
| **CC** | • Cardiac Monitor  
• Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer  
• Epinephrine 1:1,000 dose 1 mg mixed with 3 ml Normal Saline, via nebulizer  

**CC STOP** |
| **PARAMEDIC** | • Methylprednisolone (Solu-Medrol) 125 mg IV  

**PARAMEDIC STOP** |
| **PHYSICIAN OPTIONS** | • Additional Albuterol unit dose, via nebulizer |

### Key Points/Considerations
- Consider using smaller than usual ET tube
### Toxicology: Opioid Overdose

**EMT**
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol
- Naloxone (Narcan) 2 mg IN if hypoventilation or respiratory arrest, may repeat once in 5 minutes

**EMT STOP**

**ADVANCED**
- Vascular access only if necessary

**ADVANCED STOP**

**CC**

**PARAMEDIC**
- Cardiac Monitor
- 12 Lead EKG if bradycardic or tachycardic (for QRS widening or QT prolongation)
- Titrated Naloxone (Narcan) to max 2 mg IV, IM or IN ONLY if hypoventilation or respiratory arrest

**CC AND PARAMEDIC STOP**

#### Key Points/Considerations
- Only administer Naloxone to suspected opiate overdoses with hypoventilation. For provider and patient safety, do not administer if there are adequate ventilations without physician order
- ALS providers should titrate Naloxone dose to respiratory rate
- If suspected narcotic overdose, providers may administer Naloxone prior to checking blood glucose level
- Do NOT give Naloxone (Narcan) to any patient who is intubated without physician order unless they are in cardiac arrest
- If suspected isolated opiate overdose, please consider giving Naloxone intranasally for provider safety
Toxicology: Overdose or Toxic Exposure

EMT

- Decontamination as needed
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

EMT STOP

ADVANCED

- Vascular access

ADVANCED STOP

CC

- Cardiac Monitor
- 12 Lead EKG if brady or tachycardic (evaluate for QRS widening or long QT)
- Sympathomimetic OD (cocaine/amphetamines):
  - Midazolam (Versed) 2.5mg IV or 5mg IM or atomized IN may repeat x 1 in 5 minutes

CC STOP

PARAMEDIC

For symptomatic patients with:
- Organophosphate poisoning: See separate protocol
- Dystonic reaction:
  - Diphenhydramine (Benadryl) 50 mg IV or IM
- Calcium channel blocker OD:
  - Glucagon 2 mg IV
  - Calcium Chloride 1 gram IV
- Beta blocker OD:
  - Glucagon 2 mg IV
  - Calcium Chloride 1 gram IV
- Tricyclic antidepressant OD (if tachycardiac and wide complex QRS)
  - Sodium Bicarbonate 1 mEq/kg IV every 5 minutes until QRS complex normalizes (< 0.12 sec / 120 mSec / 3 small boxes)

PARAMEDIC STOP

Key Points/Considerations

- Dystonic reaction is uncontrolled muscle contractions of face, neck or tongue
- See also: Opiate Overdose, Organophosphate Exposure, Suspected Nerve Agent
**Toxicology: Organophosphate Exposure**

**EMT**
- Decontamination as needed
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose level, if equipped. If abnormal refer to Diabetic Protocol

**ADVANCED**
- Vascular access

**CC**
- Cardiac Monitor
- 12 Lead EKG if bradycardic or tachycardic (for QRS widening or QT prolongation)

**PARAMEDIC**
- For symptomatic patients with Organophosphate poisoning:
  - Atropine 2 mg IV per dose every 5 minutes until secretions dry
  - Midazolam 2.5 mg IV or 5 mg IM or IN for seizures

**Key Points/Considerations**
- If suspected WMD refer to Medical: Suspected Nerve Agent or NYS Advisory on Mark 1 Kits, #03-05
Toxicology: Suspected Nerve Agent
THIS протокол IS SPECIFIC TO A DISASTER SETTING

**Criteria**

- This protocol is for those adult patients who are suspected of being exposed to an organophosphate or a chemical nerve agent and are experiencing some or all of the following signs/symptoms:
  - **MODERATE:** SLUDGEM = Salivation-Lacrimation-Urination-Diarrhea-GI Distress-Emesis-Muscle Twitching-Miosis
  - **SEVERE:** SLUDGEM + Agitation/Confusion/Seizures/Coma + Respiratory Distress

**EMT**

**ADVANCED**

**CC**

**PARAMEDIC**

- Don personal protective equipment.
- DO NOT APPROACH WITHOUT ADEQUATE PROTECTION!
- Contact dispatch to declare incident; Request appropriate response
- Request ALS if not already present or en route
- Contact Medical Control to request EMS CHEMPACK
- Decontaminate as needed
- ABC and vital signs
- Airway management with high concentration oxygen
- If SEVERE signs and symptoms are present, administer three (3) Atropine 2 mg auto-injectors and three (3) 2-PAM CL auto-injectors in rapid succession (stacked). Atropine MUST be administered first!
- If MODERATE signs and symptoms are present, administer two (2) Atropine 2 mg auto-injectors and one (1) 2-PAM CL auto-injectors in rapid succession (stacked). Atropine MUST be administered first!

**ALL STOP**

**Key Points/Considerations**

- EMS providers should be trained at the WMD Awareness level to use this protocol
- The auto-injectors or other medications found in the EMS CHEMPACK are NOT to be used for self-administration or prophylaxis
- Children should be decontaminated and have expedited transport off scene especially if they are demonstrating ANY signs and symptoms of exposure
- Consult physician before administering medication to children less than 8 years old
- CHEMPACK medications may be used regardless of expiration date
Key Points/Considerations

- ChemPack Assets: Valium, Atropine & Pralidoxime [2PAM CL] may be administered by qualified emergency personnel and designated emergency responders who have had adequate training in on-site recognition and treatment of nerve and/or organophosphate agent intoxication
- Valium auto-injectors should be administered as directed on packaging only to patients who are having active tonic-clonic seizures
- CHEM PACK medications may be used regardless of expiration date
Trauma: CDC Trauma Triage Flowchart

FIELD TRIAGE DECISION SCHEME: THE NATIONAL TRAUMA TRIAGE PROTOCOL

Measure vital signs and level of consciousness

- Glasgow Coma Scale: < 8 or
- Systolic blood pressure: < 90 or
- Respiration rate: < 10 or > 20 (infants < 1 year)

Take to a trauma center: Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

YES

Assess anatomy of injury

- All penetrating injuries to head, neck, torso, and extremities present to emergency and limb
- Fractured
- Two or more proximal long-bone fractures
- Crushed, dislocated, or mooshed extremity
- Amputation present to wrist and ankle
- Pelvic fractures
- Open or depressed skull fracture
- Penetrates

NO

Take to a trauma center: Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

YES

Assess mechanism of injury and evidence of high-energy impact

- Falls
  - Adults: > 30 ft. (type injury is equal to 50 ft.)
  - Children: > 30 ft. or 2-3 times the height of the child
- High-Risk Auto Crash
  -0-30 mph: > 11 in. occupant site > 18 in. any site
  - > 30 mph: > 18 in. any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Volcano lava flow data consistent with high risk of injury
  - Auto x Architectural/Building Throw, Run Over, or with
  - Significant > 24 MPH Impact
  - Motorcycle Crash > 20 MPH

NO

Transport to closest appropriate trauma center, which depending on the trauma system, must not be the highest level trauma center.

YES

Assess special patient or system considerations

- Age
  - Older adults: Risk of injury death increases after age 55.
  - Children: Should be triaged preferentially to pediatric-capable trauma centers
- Anticoagulation and Bleeding Disorders
  - IV or
  - Oral warfarin
- Time Sensitive External Injury
  - End Stage Renal Disease Requiring Dialysis
  - Pregnancy > 28 weeks
- EMS Provider Judgment

NO

Contact medical control and consider transport to a trauma center or a specific resources hospital.

YES

Transport according to protocol

NO

When in doubt, transport to a trauma center.

For more information, visit: www.cdc.gov/FieldTriage

Collaborative New York Protocols
Interim Update: 2015 - 42
Trauma: Adult Trauma Triage and Transport

**Trauma Criteria**

Major trauma is present if on examination the patient is unstable as defined below or their physical findings are as defined below.

**Unstable Patient**

Major trauma is present if the patient is unstable by any of the following criteria:

- Glasgow Coma Scale is < 14
- Systolic blood pressure is < 90 mmHg or MAP < 60 mmHg
- Respiratory rate < 10 or > 29 breaths per minute

**Physical Findings**

Major trauma is present if the physical findings meet any of the following criteria:

- Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Suspected flail chest
- Two or more suspected proximal long bone fractures
- Crushed, degloved or mangled extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Suspected open or depressed skull fracture
- Paralysis

**Mechanism of Injury**

Major trauma may be present if mechanism of injury meets any of the following:

- Falls > 20 feet
- Vehicle collision resulting in 12 inches of intrusion into the passenger compartment
- Ejection or partial ejection from an automobile
- Death in the same passenger compartment secondary to trauma
- Motorcycle crash > 20 MPH
- Vehicle vs. pedestrian or bicycle thrown, run-over, or collision above 20 MPH

**High Risk Patients**

If a patient does not meet the criteria for Major Trauma, but has sustained an injury and has one or more of the following criteria, they are considered a “High Risk Patient”. Consider transportation to a Trauma Center and/or consulting Medical Control Physician:

- Patients with bleeding disorders or patients on anticoagulant medications
- Patients with renal, cardiac disease and/or respiratory disease
- Patients with insulin dependent diabetes, cirrhosis, or morbid obesity
- Immunosuppressed patients (HIV disease, transplant patients and patients on chemotherapy treatment)
- Age > 55
Trauma: Pediatric Trauma Triage and Transport

**Pediatric Major Trauma Criteria**

Major trauma is present if on examination the patient is unstable as defined below or their physical findings are as defined below.

**Unstable Patient**

Major trauma is present if the patient is unstable by any of the following criteria:
- Glasgow Coma Scale is < 14
- Respiratory status: cyanosis or respiratory rate either low or high for patient’s age

**Physical Findings**

Major trauma is present if the physical findings meet any of the following criteria:
- Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Suspected flail chest
- Two or more suspected proximal long bone fractures
- Crushed, degloved or mangled extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Suspected open or depressed skull fracture
- Paralysis

**Mechanism of Injury**

Major trauma may be present if mechanism of injury meets any of the following:
- Falls > 10 feet or 2 times the height of the child
- Vehicle collision resulting in 12 inches of intrusion into the passenger compartment
- Ejection or partial ejection from an automobile
- Death in the same passenger compartment secondary to trauma
- Motorcycle crash > 20 MPH
- Vehicle vs. pedestrian or bicycle thrown, run-over or collision above 20 MPH

**High Risk Patients**

- If a patient does not meet the criteria for Major Trauma, but has sustained an injury and has one or more of the following criteria, they are considered a “High Risk Patient”. Consider transportation to a Trauma Center and/or consulting Medical Control Physician:
  - Patients with bleeding disorders or on anticoagulant medications
  - Patients with renal, cardiac disease and/or respiratory disease
  - Patients with insulin dependent diabetes, cirrhosis, or morbid obesity
  - Immunosuppressed patients (HIV disease, transplant or chemotherapy)
Trauma: General

**Key Points/Considerations**

- Trauma Arrest patients go to the closest appropriate hospital
- All other major trauma patients go to closest appropriate Trauma Center
- Patients with unmanageable airway go to the closest hospital or call for air medical or advanced airway assistance while enroute to closest hospital
- **UNSTABLE patients should be enroute to the hospital/landing zone within 10 minutes of disentanglement/extrication**
- If more than 30 minutes from a Trauma Center consider air medical assistance. Refer to the Aeromedical Utilization Policy
- If more than 45 minutes from Trauma Center and air medical assistance is not available, transport patient to the closest hospital
- All times start at the time the EMS provider determined the patient to meet major trauma criteria
- Notify the receiving facility as early as possible giving brief description of mechanism of injury, status of patient(s), and estimated time of arrival
- Tourniquets are approved for use in extremity trauma in New York State at the BLS level
- Hemostatic dressings are approved for use in New York State at the BLS level
**Trauma: Burn Care Considerations**

<table>
<thead>
<tr>
<th><strong>Key Points/Considerations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Be alert for other injuries, including cardiac dysrhythmias</td>
</tr>
<tr>
<td>• Be alert for smoke inhalation and airway burns</td>
</tr>
<tr>
<td>• Assure 100% oxygen. Oxygen saturation readings may be falsely elevated.</td>
</tr>
<tr>
<td>• If hazardous materials, notify the destination hospital immediately to allow for decontamination</td>
</tr>
<tr>
<td>• When considering total area of a burn, DO NOT count first degree burns</td>
</tr>
<tr>
<td>• Burns &gt; 10% are only to be dressed with simple sterile dressings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transportation Considerations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Burns associated with trauma should go to the closest appropriate trauma center</td>
</tr>
<tr>
<td>• If there is any question about the appropriate destination of a patient consult a Medical Control Physician</td>
</tr>
</tbody>
</table>

**Consider direct transport to a burn center if:**
- >10% BSA partial thickness burns (do not count first degree burns)
- Involvement of face, hands, feet, genitalia, or major joints
- Circumferential extremity burns
- Third degree burns
- Severe electrical burns, including lightning injuries
- Severe chemical burns
- Inhalation injury (ONLY if endotracheally intubated)
**Trauma: Burns**

**EMT**
- Stop the burning. Remove any clothing, jewelry, etc.
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Consider air medical intercept for direct transport to a Burn Center (See Trauma: Burn Center Transport Criteria)
- If the burn is less than 10% BSA use moist sterile dressings
- If the burn is more than 10% BSA use dry sterile dressings
  
  **EMT STOP**

**ADVANCED**
- Vascular access at 2 sites
- Normal saline 500 ml bolus
- Nitrous Oxide self-administered if equipped
  
  **ADVANCED STOP**

**CC**

**PARAMEDIC**
- If patient has signs of airway involvement be prepared to intubate
- Refer to PAIN MANAGEMENT protocol
  
  **CC AND PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Additional fluid
Trauma: Chest Trauma

**EMT**
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- If sucking chest wound, cover with occlusive dressing; if dyspnea increases release the dressing momentarily during exhalation
- Contact receiving hospital as soon as possible

**ADVANCED**
- Vascular access; use the side opposite the injury if possible
- Normal saline per the Traumatic Hypoperfusion Protocol

**CC**
- If patient is in cardiac arrest, proceed with needle chest decompression
- If patient is not in cardiac arrest, contact Medical Control for consideration of needle chest decompression

**PARAMEDIC**
- Paramedics may proceed with needle decompression if there are signs and symptoms of tension pneumothorax including hemodynamic compromise

**PHYSICIAN OPTIONS**
- If patient has signs and symptoms consistent with Tension Pneumothorax AND hemodynamic compromise, consider needle chest decompression for CC

**Key Points/Considerations**
- Signs and symptoms of a Tension Pneumothorax: absent lung sounds on one side, extreme dyspnea AND hemodynamic compromise, and may include jugular vein distention, cyanosis, tracheal deviation
- Advanced EMTs in tactical EMS may be trained and equipped for decompression but the agency must be approved by the REMAC
- Hemodynamic compromise: hypotension, narrowed pulse pressure and tachycardia
- Thoracic decompression is a serious medical intervention that requires a chest tube in the hospital
- **Every thoracic decompression performed must be reviewed with the medical director and flagged for Regional QI review**
- Thoracic decompression should only be performed with a > 3.25” 14G IV catheter
Trauma: Crush Injuries

**EMT**
- ABC and vital signs every 5 minutes if possible
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**
- Vascular access at 2 sites
- Normal saline 1 liter bolus

**ADVANCED STOP**

**CC**
- Cardiac Monitor if possible
- 12 Lead EKG repeated at 30 minute intervals
- Pain management

**CC STOP**

**PARAMEDIC**
- If 1 complete extremity crushed > 2 hours or 2 extremities crushed >1 hour:
  - Sodium Bicarbonate 50 mEq IV slow push every 30 minutes
  - One minute prior to extrication: Sodium Bicarbonate 50 mEq IV

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- If hyperkalemia is suspected and EKG changes: Calcium Chloride 1 gram IV (over 5 minutes). Repeat in 10 minutes if no resolution
- Sodium Bicarbonate infusion (150 mEq in 1 liter D5W*), at 1.5L per hour
- Albuterol via nebulizer

**Key Points/Considerations**
- Contact the Regional Trauma Center early and consider physician response to the scene if anticipated prolonged extrication.
- Use one dedicated IV for Sodium Bicarbonate, the other IV for other medications
- Hyperkalemia is indicated by PVC’s, peaked T-waves or widened QRS complexes
- After extrication immobilize the extremity and apply cold therapy. Do not elevate the extremity
- *D5W is not on the standard formulary. Must obtain from hospital and have brought to the scene if needed
Trauma: Eye Injuries and Exposures

**EMT**

- Stop the burning
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Consider air medical intercept for direct transport to a Burn Center for severe burns to the eye (See Trauma: Burn Center Transport Criteria)
- Burns to the eye require copious irrigation with Normal Saline — do not delay irrigation – irrigation may be started with tap water if available
- Stabilize any object lodged in the eye, and cover both eyes to prevent consensual movement

**EMT STOP**

**ADVANCED**

- Vascular access

**ADVANCED STOP**

**CC**

**PARAMEDIC**

- Tetracaine 0.5% 2 drops in the affected eye for pain every 5 minutes as needed
- For chemical exposure to the eye: Morgan Lens for irrigation
- Pain management

**CC and PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Additional Tetracaine

**Key Points/Considerations**

- If hazardous materials, notify the destination hospital immediately to allow for decontamination
- Do not put any pressure on the eye when covering with a shield or patch
Trauma: Hemorrhage Control

Criteria

- This protocol authorizes the use of hemostatic dressings and commercially manufactured tourniquets
- These devices are not mandatory for any agency to stock or carry
- Specific tactical application of these devices may be different. Local agency education and manufacturer specific instructions may take precedence.

<table>
<thead>
<tr>
<th>EMT</th>
<th>ADVANCED</th>
<th>CC</th>
<th>PARAMEDIC</th>
</tr>
</thead>
</table>

Immediate intervention for severe arterial bleeding:

- Apply pressure directly on the wound with a sterile dressing
- Apply a pressure dressing to the wound
- If bleeding soaks through the dressing, apply additional dressings and reapply pressure
- If severe bleeding persists, remove all dressings, expose site of bleeding, and apply hemostatic dressing according to manufacturer’s instructions and training (if equipped)
- Cover the dressed site with a pressure bandage
- Splints and pressure splints may also be used to control bleeding
- Use a tourniquet for uncontrollable bleeding from an extremity
- ABC and vital signs
- Refer to the hypoperfusion protocol
- Airway management and appropriate oxygen therapy

EMT, ADVANCED, CC, AND PARAMEDIC STOP
## Trauma: Hypoperfusion / Hypovolemia

### EMT
- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

### ADVANCED

### CC

### PARAMEDIC
- Vascular access
  - If COMPENSATED SHOCK:
    - Normal Saline, 1 liter, then 500 ml/hour
  - If DECOMPENSATED SHOCK:
    - Additional vascular access, infuse Normal Saline, 2 liters, then 500 ml/hour

**ADVANCED, CC, AND PARAMEDIC STOP**

### PHYSICIAN OPTIONS
- Additional Normal Saline
- Norepinephrine 2 mcg/min titrated to 20 mcg/min, if needed, after fluid bolus complete to maintain MAP > 65 or SBP > 100

### Key Points/Considerations
**COMPENSTATED SHOCK** in trauma is defined as significant mechanism of injury AND tachypnea, tachycardia, pallor, or restlessness, AND Systolic BP greater than 90 mmHg, MAP > 60 mmHg

**DECOMPENSTATED SHOCK** is defined as clinical picture of shock AND Systolic BP less than 90 mmHg, MAP < 60

- A falling BP is a LATE sign of shock
- Contact receiving hospital early, with “Trauma Alert” call, giving brief description of mechanism of injury, status of patient and estimated time of arrival
- Consult physician if guidance of care or orders are needed
## Trauma: Smoke Inhalation – Symptomatic

### EMT

- ABC
- Apply carbon monoxide monitor if equipped

**EMT STOP**

### ADVANCED

- Airway management as appropriate
- If the patient is in respiratory distress or rales are present, consider CPAP
- Vascular access
- Normal Saline 500 ml bolus

**ADVANCED STOP**

### CC

### PARAMEDIC

- Cardiac Monitor with 12 lead EKG

**CC AND PARAMEDIC STOP**

### PHYSICIAN OPTIONS

- Repeat dose Hydroxycobalamin (CyanoKit) 5 grams IV over 15 minutes to 2 hours (depending on clinical condition)

### Key Points/Considerations

- Hydroxycobalamin (CyanoKit) is not available in all ambulances. It may be available for response to scenes through County Fire and EMS Coordinators.
- Drawing bloods is of increased importance prior to CyanoKit administration, as it can alter laboratory test results
- Suspect cyanide toxicity in patients who were in enclosed spaces during a fire and have soot in their nares or oropharynx and exhibit altered mental status
- Disorientation, confusion, and severe headache are potential indications of cyanide poisoning IN THE SETTING of smoke inhalation
- Hypotension without other obvious cause IN THE SETTING of smoke inhalation increases the likelihood of cyanide poisoning
- Do not delay transport awaiting a CyanoKit. It is available at most EDs.
- For IO administration, placing a stopcock on the IV tubing will allow use of syringe to draw medication from the bottle and inject into the IO line
**Trauma: Suspected Carbon Monoxide Exposure**

### Criteria

- Any patient with suspected carbon monoxide poisoning should receive oxygen via NRB mask consider CPAP if device delivers 100% oxygen
- The Masimo RAD-57 or other objective carbon-monoxide evaluation tool may be used to guide therapy

**ASYMPTOMATIC** potentially exposed people:

- If there is a CO alarm in a residence, the Masimo RAD-57 may be used to test for levels on the occupants of the location
- Any asymptomatic patient with a level of greater than 15% should receive high flow oxygen for 30 minutes; then reassess the patient

**SYMPTOMATIC** patients:

- If there is a CO alarm in a residence, the Masimo RAD-57 may be used to test for levels on the ill occupants of the location
- Carbon monoxide poisoning does not have specific, clear cut symptoms, and other medical conditions may present with dizziness, nausea or confusion
- All symptomatic patients should be transported, regardless of CO level

**MULTIPLE** patients:

- Consult a physician for guidance regarding transport location decisions and on-scene treatment and release when multiple patients are involved
- If there is potential for greater than 5 patients, consider requesting a physician to the scene

### PHYSICIAN OPTION

- CONSIDER direct transport to a hyperbaric center if patient’s SpCO reading is > 25% AND/OR the patient is unconscious, has significant altered mental status, abnormal neurologic exam or the patient is pregnant

### Key Points/Considerations – Massimo RAD-57

- Pediatrics – The Masimo RAD-57 is not intended for patients weighing <30 kg
- Pregnant Women – The fetal SpCO may be 10-15% higher than the maternal reading
- Smokers – Heavy smokers may have baseline SpCO levels up to 10%
- A misapplied or dislodged sensor may cause inaccurate readings
- Never use tape to secure the sensor
- Do not place the sensor on the thumb or 5th digit

### Key Points/Considerations

- The Massimo RAD-57 or other FDA approved objective carbon-monoxide evaluation tool may be used to guide therapy
- There is no commercial endorsement implied by this protocol
OB/Gyn: Eclampsia

**EMT**
- ABC vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**
- Vascular access

**ADVANCED STOP**

**CC**

**PARAMEDIC**
- If patient is seizing or has had a witnessed seizure, administer:
  - Magnesium 4 grams over 20 minutes, IV

**PARAMEDIC AND CC STOP**

**PHYSICIAN OPTIONS**
- Additional Magnesium infusion or bolus
- Metoprolol (Lopressor) 5 mg Slow IV every 5 minutes (max 3 doses)
- Midazolam (Versed) 2.5 mg IV or 5 mg IM or IN

**Key Points/Considerations**
- Pre-eclampsia is defined as BP > 140/90 in a pregnant patient or one who has recently given birth, with severe headache, confusion and/or hyper-reflexia
- Eclampsia is the above with seizure activity
- If the patient has a known seizure history, refer to “Seizure Protocol”
OB/Gyn: Pre-term Labor (24 – 37 weeks)

**EMT**
- ABC vital signs
- Airway management and appropriate oxygen therapy

**EMT STOP**

**ADVANCED**

**CC**
- Vascular access
- Normal saline 500ml IV bolus

**ADVANCED, CC, AND PARAMEDIC STOP**

**PARAMEDIC**

**PHYSICIAN OPTIONS**
- Magnesium 2 grams in 100 ml IV over 20 minutes
- Additional normal saline

**Key Points/Considerations**
- Transport to the closest appropriate hospital if delivery is imminent or occurs on scene
- Notify destination hospital ASAP
- If patient unwilling to go to closest appropriate hospital, consult physician for assistance in determining appropriate destination
OB/Gyn: Childbirth

**Management of a Normal Delivery**
- Support the baby’s head over the perineum with gentle pressure to prevent precipitous birth
- If the membranes cover the head after it emerges, tear the sac with your fingers or forceps to permit escape of the amniotic fluid
- Gently guide the head downward until the shoulder appears
- The other shoulder is delivered by gentle upward traction
- The infant’s face should be upward at this point

**Management of Umbilical Cord Around the Neck**
- Umbilical cord around the neck is an emergency, as the baby is no longer getting any oxygen either through the cord or by breathing
- If the cord is around the neck:
  - Unwrap the cord from around the neck
  - Clamp the umbilical cord with two clamps
  - Cut the cord between them

**Management of a Breech Delivery**
- Support the buttocks or extremities until the back appears
- Grasp the baby’s ILIAC WINGS and apply gentle downward traction. DO NOT pull on the legs or back, as this may cause spine dislocation or adrenal hemorrhage.
- Gently swing the infant’s body in the direction of least resistance
- By swinging anteriorly and posteriorly, both shoulders should deliver posteriorly
- Splint the humerus bones with your two fingers; apply gentle traction with fingers
- Gentle downward compression of the uterus will assist in head delivery
- Swing the legs upward until the body is in a vertical position. This will permit delivery of the head

**Management of Prolapsed Cord or Limb Presentation**
- Place the mother in a face-up position with hips elevated
- Place a gloved hand in the vagina; attempt to hold baby’s head away from the cord and maintain an airway for the baby
- Keep the cord moist using a sterile dressing and sterile water
- Transport as soon as possible to closest appropriate facility
Key Points

- Determine the estimated date of expected birth, the number of previous pregnancies and number of live births
- Determine if the amniotic sac (bag of waters) has broken, if there is vaginal bleeding or mucous discharge, or the urge to bear down
- Determine the duration and frequency of uterine contractions
- Examine the patient for crowning
  - If delivery is not imminent, transport as soon as possible
  - If delivery is imminent, prepare for an on-scene delivery
- If multiple births are anticipated but the subsequent births do not occur within 10 minutes of the previous delivery, transport immediately
- After delivery of the placenta massage the lower abdomen
- Take the placenta and any other tissue to the hospital for inspection
- Do not await the delivery of the placenta for transport
- If uterine inversion occurs (uterus turns inside out after delivery and extends through the cervix), treat for shock and transport immediately. Cover the exposed uterus with moistened towels
Neonatal Resuscitation

EMT

ADVANCED

CC

• Assess the infant’s respiratory status, pulse, responsiveness and general condition

If the infant is breathing spontaneously and crying vigorously and has a pulse > 100/min:

• Clamp the umbilical cord with two clamps three inches apart and cut the cord between them, at least 1 min after delivery. The first clamp will be 8 – 10 inches from the baby. Place the second clamp 3 inches from the first clamp towards the mother.

• Cover the infant’s scalp with an appropriate warm covering

• Wrap the infant in a dry, warm blanket or towels and a layer of foil or plastic wrap over the layer of blankets or towels, or use a commercial-type infant swaddler if one is provided with the OB kit. Do not use foil alone!

• Keep the infant warm and free from drafts. Monitor the infant’s respirations continuously.

If the infant is not breathing spontaneously or not crying vigorously:

• Rub the infant’s lower back gently

• Snap the bottom of the infant’s feet gently

If the respirations remain absent, gasping or become depressed (< 30/min) despite stimulation, if the airway is obstructed, or if the heart rate < 100:

• Clear the infant’s airway by suctioning the mouth and nose gently with a bulb syringe and then ventilate the infant at a rate of 40 – 60 /minute with appropriate BVM as soon as possible. Start with room air. If no response after 90 seconds, add oxygen.

• Insert the proper size oral airway gently

• Each ventilation should be given gently over one second assuring that the chest rises with each ventilation

• Monitor the infant’s pulse rate and pulse oxygenation continuously using wrist or palm

If the pulse rate drops below 60 beats per minute at any time:

• Chest compressions with assisted ventilations at a 3:1 compression to ventilation ratio

○ EMT, ADVANCED, and CC STOP

PARAMEDIC

• Consider intubation

○ PARAMEDIC STOP

Key Points/Considerations

• Begin transport to the closest appropriate hospital as soon as possible
Pediatric Emergencies

For these protocols, pediatric patients are as defined by the AHA, “Children without secondary signs of puberty”. Use appropriate judgment and discretion to determine the presence or absence of these signs in the field. Use a length based resuscitation tape or similar device to determine the correct medication dosage.

Vascular Access

There are no prophylactic vascular access procedures performed in children; do not initiate vascular access in children unless they require IV/IO fluid or medication.

For patient safety, all pediatric IVs must be started with NS 100 ml bags.

Vascular access procedures for Critical Care Technicians are only for Cardiac or Respiratory Arrest, Unstable Major Trauma and Diabetic Emergency when intervention is critical. In all other clinical situations you must contact Medical Control.

Airway Management

Only paramedics may intubate pediatric patients. CC may use age-appropriate pediatric laryngoscope and Magill forceps in cases of obstructed airway.

Normal Vital Signs for Infants and Children:

<table>
<thead>
<tr>
<th>Age</th>
<th>Respirations</th>
<th>Pulse</th>
<th>Systolic BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn (&lt;28 days)</td>
<td>30 – 60</td>
<td>100 – 180</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Infant (&lt; 1 year)</td>
<td>30 – 60</td>
<td>100 - 160</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Toddler (1 – 3 years)</td>
<td>24 – 40</td>
<td>90-150</td>
<td>&gt;70</td>
</tr>
<tr>
<td>Preschooler (3 – 5 yrs)</td>
<td>22 – 34</td>
<td>80-140</td>
<td>&gt;75</td>
</tr>
<tr>
<td>School-aged (6 – 8 yrs)</td>
<td>18 – 30</td>
<td>70-120</td>
<td>&gt;80</td>
</tr>
</tbody>
</table>

From: American Academy of Pediatrics, Pediatric Education for Prehospital Professionals
Pediatric Cardiac Arrest: Asystole or PEA

**EMT ADVANCED**

- General Cardiac Arrest Care
- Airway management and appropriate oxygen therapy via BVM

**EMT AND ADVANCED STOP**

**CC**

- Vascular access
- Cardiac Monitor
- Normal Saline 20 ml/kg rapid IV or IO bolus
- Epinephrine 1:10,000 dose 0.01 mg/kg IV or IO
- Repeat Epinephrine every 3 – 5 minutes

**CC STOP**

**PARAMEDIC**

- Consider intubation

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- Epinephrine 1:1,000 dose 0.1 mg/kg IV or IO
- Sodium Bicarbonate 1 mEq/kg IV

**Key Points/Considerations**

- Call physician and begin transport to the closest hospital as soon as possible
- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Confirm asystole in more than 1 lead
- Perform CPR for at least 3 minutes between medication doses
- Consider airway obstruction
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hyperkalemia, Toxins, Tension pneumothorax, Trauma
Pediatric Cardiac Arrest:  
Ventricular Fibrillation / Pulseless V-Tach

EMT

ADVANCED

- General Cardiac Arrest Management
- Defibrillation as indicated (AED or for CC/Paramedic manual 2 J/kg)
- Airway management and appropriate oxygen therapy via BVM

EMT AND ADVANCED STOP

CC

- Vascular access
- Cardiac Monitor
- Epinephrine 1:10,000 dose 0.01 mg/kg IV or IO
- Repeat Epinephrine every 3 – 5 minutes
- Defibrillate at 4 J/kg between doses of medication

CC STOP

PARAMEDIC

- Consider intubation
- Amiodarone (Cordarone) 5 mg/kg bolus IV or IO; repeat twice as needed
  (Amiodarone should be mixed as 150 mg in 100ml, 1.5 mg/ml)

PARAMEDIC STOP

PHYSICIAN OPTIONS

- Lidocaine, 1 mg/kg IV or IO

Key Points/Considerations

- Call physician and begin transport to the closest hospital as soon as possible
- Do not interrupt compressions for placement of an advanced airway during the first 4 minutes of CPR
- Treat V-Tach without a pulse as V-fib
- Use the small (pediatric) pads for patients less than 10 kg
- Initial defibrillation 2 J/kg
- Defibrillate at 4 J/kg after each medication administration
- V-fib cardiac arrest is rare in children
- Consider toxic ingestions including tricyclic antidepressants
- Consider and treat causes that EMS can manage: Hypoglycemia, Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hyperkalemia, Toxins, Tension pneumoThorax, Trauma
## Pediatric Cardiac: Bradycardia

### EMT

**ADVANCED**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- If heart rate is bradycardic and patient's mental status and respiratory rate are decreased, ventilate with BVM
- If symptomatic bradycardia persists start CPR

**EMT AND ADVANCED STOP**

### CC

- Cardiac Monitor

**CC STOP**

### PARAMEDIC

- Secure airway as appropriate
- Vascular access
- Epinephrine 1:10,000 dose 0.01 mg/kg IV or IO
- Repeat Epinephrine every 3 – 5 minutes
- Atropine 0.02 mg/kg, with a minimum dose 0.1 mg IV or IO
- Repeat Atropine once in 5 minutes, to maximum total dose of 0.04 mg/kg

**PARAMEDIC STOP**

### PHYSICIAN OPTIONS

- CC vascular access
- Transcutaneous pacing
- Epinephrine 0.1-1.5 mcg/kg/minute IV drip

### Key Points/Considerations

- Call Physician as soon as possible
- Newborn/Infant bradycardic if pulse less than 60 bpm
- Symptomatic includes poor systemic perfusion, hypotension, respiratory difficulty or altered level of consciousness
- If you suspect bradycardia is due to increased vagal tone or primary AV block give atropine before giving epinephrine
- Do not treat asymptomatic bradycardia. Contact Medical Control
Pediatric Cardiac: Tachycardia

**EMT**

**ADVANCED**

- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT AND ADVANCED STOP**

**CC**

- Cardiac Monitor

**CC STOP**

**PARAMEDIC**

- Vascular access
- Consider 12 Lead EKG
- Normal Saline 20 ml/kg bolus IV or IO; may repeat once

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- CC vascular access
- UNSTABLE patient
  - Synchronized cardioversion 0.5 – 1 J/kg
  - Consider sedation if vascular access available (see Pediatric Procedural Sedation Protocol)
- STABLE patient, wide QRS:
  - Amiodarone (Cordarone) 5 mg/kg IV, IO; over 20 minutes (Amiodarone 150 mg diluted in 100ml, 1.5 mg/ml)
  - Lidocaine 1 mg/kg IV
- STABLE patient, narrow QRS:
  - Vagal maneuvers
  - Adenosine (Adenocard) 0.1 mg/kg IV, IO (max 6 mg) may repeat at 0.2 mg/kg

**Key Points/Considerations**

- Call physician as soon as possible
- Newborn/Infant SVT if pulse greater than 220 bpm; child over 1 year of age SVT if pulse greater than 180 bpm, with no discernable p-waves on PRINTED EKG strip
- The most common causes of Sinus Tachycardia in children are fever and dehydration, not cardiac etiology
- UNSTABLE includes cardio-respiratory compromise, hypotension, or altered level of consciousness
- Do not treat asymptomatic tachycardia. Contact Medical Control.
Pediatric: Acute Asthma

EMT

ADVANCED

• ABC and vital signs
• Airway management and appropriate oxygen therapy
• Determine if patient has been given their own asthma medications
• Implement BLS Albuterol Protocol

EMT AND ADVANCED STOP

EMT AND ADVANCED PHYSICIAN OPTIONS

• If patient is not improving contact Medical Control for use of EpiPen
  o Administer appropriate EpiPen or EpiPen Jr if < 30 kg

CC

• Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer; repeat to a total of three doses

If patient not improving:

• Epinephrine 1:1,000 dose 0.01 mg/kg IM, if patient in severe distress; max 0.5 mg
• Cardiac Monitor

CC STOP

PARAMEDIC

• Vascular access only if needed for medication administration
• Methylprednisolone (Solu-Medrol) 2 mg/kg IV

PARAMEDIC STOP

PHYSICIAN OPTIONS

• EMT and AEMT EpiPen if patient is in severe distress
• CC vascular access
• Methylprednisolone (Solu-Medrol) 2 mg/kg IV
• Epinephrine 1:1,000 dose 0.01 mg/kg IM, max 0.5 mg (repeat doses)
• Epinephrine 1:1,000 dose 0.3 mg mixed with 3 ml Normal Saline, via nebulizer
• Epinephrine 0.1-1.5 mcg/kg/minute IV drip
• Magnesium sulfate 50 mg/kg over 10 minutes IV
• Albuterol nebulized continuously

Key Points/Considerations

• Absence of breath sounds can be indicative of status asthmaticus. Be prepared for imminent respiratory arrest
• EpiPen use by EMT or AEMT is Medical Control option only and must be reported for Regional QI by the agency
Pediatric: Allergy and Anaphylaxis

EMT

ADVANCED

• ABC and vital signs
• Airway management and appropriate oxygen therapy
Patient **prescribed** EpiPen and has severe respiratory distress, edema, or hypotension:
  • Administer appropriate EpiPen
Patient **NOT prescribed** EpiPen and severe respiratory distress, edema, hypotension:
  • Contact Medical Control for orders to administer appropriate EpiPen
  • IF UNABLE to contact Medical Control:
    • Administer appropriate EpiPen or EpiPen Jr if < 30 kg

**EMT AND ADVANCED STOP**

CC

• Epinephrine 1:1,000 dose 0.01 mg/kg IM; max 0.5 mg
• Cardiac Monitor
• Albuterol 2.5 mg in 3 ml (unit dose) + Atrovent 0.5 mg in 2.5 ml (unit dose) mixed together, via nebulizer for wheezing
• Diphenhydramine (Benadryl) 1 mg/kg IM; max dose 50 mg

**CC STOP**

PARAMEDIC

• Vascular access
• Diphenhydramine (Benadryl) 1 mg/kg IV; max total dose 50 mg
• Methylprednisolone (Solu-Medrol) 2 mg/kg IV; max total dose 125 mg
• Normal Saline 20 ml/kg IV or IO bolus

**PARAMEDIC STOP**

PHYSICIAN OPTIONS

• CC vascular access
• Epinephrine 0.1-1.5 mcg/kg/minute IV drip
• Cardiovascular collapse: Epinephrine 1:10,000 dose 0.01 mg/kg IV or IO

Key Points/Considerations

• If an EMT has administered an EpiPen, or the patient has administered their own epinephrine, consult physician prior to administering additional epinephrine
• If an EMT has administered an EpiPen, or the patient utilized their own epinephrine autoinjector, consult physician prior allowing a patient to RMA
**Pediatric: Diabetic**

**EMT**

**ADVANCED**

- Airway Management and appropriate oxygen therapy
- Blood Glucose Check
- If under 60 mg/dl and patient can swallow on command then oral glucose

**EMT AND ADVANCED STOP**

**CC**

**PARAMEDIC**

If no response to oral glucose then:

- Vascular access
- D10 dose 5 mL/kg IV or IO via syringe NOT via drip
- If vascular access is limited, Glucagon 0.5 mg if < 20 kg, otherwise, 1 mg IM
- Consider IO access only if no response to Glucagon

- If blood glucose above 400 mg/dl: NO STANDING ORDERS

**CC AND PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- If blood glucose if above 400 mg/dl and ONLY if signs of dehydration are present, fluid bolus:
  - Normal saline 10 ml/kg; ONLY for suspected dehydration

**Key Points/Considerations**

- If the patient’s parent or guardian wishes to RMA the patient and you have administered any medications including oral glucose you must contact a Medical Control Physician prior to completing the RMA
- Do NOT hang D10 drip on a pediatric patient
- If patient regains normal responsiveness prior to infusion of the complete dose, please stop dextrose administration and record amount infused
- Diabetic patients may exhibit signs of hypoglycemia with a blood sugar between 60-80 mg/dl. If suspected titrate dextrose up to 5 gm (D10 50 ml) for treatment and diagnosis
## Pediatric: Hypoperfusion

### Criteria
- For patients with hypoperfusion due to trauma, bleeding, vomiting, diarrhea or sepsis

### EMT

#### ADVANCED
- ABC and vital signs
- Airway management and appropriate oxygen therapy
- **EMT AND ADVANCED STOP**

### CC
- Cardiac Monitor
- **CC STOP**

### Paramedic
- Vascular access
- Normal Saline 20 ml/kg bolus IV or IO using NS 100 ml bag if patient < 50 kg
- **PARAMEDIC STOP**

### Physician Options
- CC vascular access

### Key Points/Considerations
- Consult Medical Control Physician if you suspect cardiogenic shock
- Do not use Normal Saline 1000 ml (liter) bags for pediatric patients unless > 50 kg
- Diagnostic criteria for hypoperfusion includes: capillary refill time > 2 seconds, cool, clammy or mottled skin, inability to recognize parents, restlessness, listlessness, tachycardia, tachypnea, SBP < 70 (2 years and older)
- Contact receiving hospital early
Pediatric: Nausea and/or Vomiting (> 2 y/o)

**EMT ADVANCED**
- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT AND ADVANCED STOP**

**CC**
- Ondansetron (Zofran) 2 mg IM or 2mg PO (1/2 of 4mg dissolving tablet)
- Consider Cardiac Monitor

**CC STOP**

**PARAMEDIC**
- Vascular access
- Ondansetron (Zofran) 2mg IV or IM or dissolving tablet PO
- SEE Pediatric Hypoperfusion protocol

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- CC vascular access

**Key Points/Considerations**
- Protocol does not apply to patients under the age of 2 years old
- A single dose of medication may be given prior to seeking medical consultation
**Pediatric: Overdose or Toxic Exposure**

**EMT**

**ADVANCED**

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Determine what was taken, when and how much, if possible
- Check blood glucose, if equipped. If abnormal refer to Pediatric Diabetic Protocol
- Suspected opioid overdose:
  - Naloxone (Narcan) 1 mg IN, 0.5 mL per nare
  - May repeat in 3-5 minutes

**EMT AND ADVANCED STOP**

**CC**

- Cardiac Monitor
- For symptomatic opiate overdose:
  - Naloxone (Narcan) 0.1 mg/kg IM or IN. Max 2 mg

**CC STOP**

**PARAMEDIC**

- Vascular access

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- CC vascular access
  For symptomatic patient with:
  - Organophosphate poisoning:
    - Atropine 1 mg IV per dose every 3 – 5 minutes, until secretions dry
  - Dystonic reaction:
    - Diphenhydramine (Benadryl) 1 mg/kg IV or IM.
  - Beta blocker OD:
    - Glucagon 1 mg IV
  - Sympathomimetic ingestion (cocaine/amphetamine):
    - Midazolam (Versed) 0.1 mg/kg IV, IO, IM or IN
  - Calcium channel blocker OD:
    - Calcium Chloride 20 mg/kg IV and Glucagon 1 mg IV

**Key Points/Considerations**

- Consult Medical Control Physician as soon as possible
- Only give Naloxone if the patient has hypoventilation or respiratory distress,
- Includes patients who are unconscious/unresponsive without suspected trauma or other causes, and patients with a brief loss of consciousness
- If suspected WMD refer to NYS Advisory on Mark I Kits, SEMAC Advisory 03-05
  Collaborative New York Protocols
  Interim Update 2015 - 70
**Pediatric: Pain Management**

**EMT**

**ADVANCED**

- ABC and vital signs
- Airway management and appropriate oxygen therapy

**EMT AND ADVANCED STOP**

**CC**

- Cardiac Monitor
- Morphine 0.1 mg/kg IM
  Morphine may be repeated after 5 minutes; maximum total dose of 10 mg
- Ondansetron (Zofran) 2 mg IM or PO, only if patient becomes nauseous

**CC STOP**

**PARAMEDIC**

- Fentanyl 1-1.5 mcg/kg IN
  Fentanyl may be repeated after 5 minutes once; maximum total dose 100 mcg
- Vascular access
- Morphine 0.05 mg/kg IV or 0.1 mg/kg IM
  Morphine may be repeated after 5 minutes; maximum total dose of 10 mg

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**

- CC vascular access
- Fentanyl IV or IM
- Additional Morphine IV or IM
- Additional Ondansetron (Zofran) 0.1 mg/kg IV or IM

**Key Points/Considerations**

- Morphine up to maximum dose may be given on standing orders.
- Fentanyl may be given intranasally on standing orders
- Contraindications to standing order pain management: altered mental status, hypoventilation, hypoperfusion, other traumatic injuries
- Fentanyl should be used if there is concern for potential hemodynamic instability
- For ease of administration, if clinically appropriate, consider Fentanyl dosing to nearest of 25 or 50 mcg and consider Morphine dosing of 2.5 or 5 mg
- Opioids and Benzodiazepines may not be used together without consultation with a physician
### Pediatric: Procedural Sedation

<table>
<thead>
<tr>
<th>EMT ADVANCED</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ABC and vital signs</td>
</tr>
<tr>
<td>• Airway management and appropriate oxygen therapy</td>
</tr>
<tr>
<td><strong>EMT AND ADVANCED STOP</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cardiac Monitor</td>
</tr>
<tr>
<td><strong>CC STOP</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARAMEDIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Vascular access</td>
</tr>
<tr>
<td><strong>PARAMEDIC STOP</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICIAN OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CC vascular access</td>
</tr>
<tr>
<td>• Morphine 0.1 mg/kg IV, IO or IM</td>
</tr>
<tr>
<td>• Fentanyl 1-1.5 mcg/kg IV, IO, IM, or IN</td>
</tr>
<tr>
<td>• Midazolam (Versed) 0.1 mg/kg IV, IO, IM, or IN</td>
</tr>
</tbody>
</table>

### Key Points/Considerations
- Consult Medical Control Physician as soon as possible
# Pediatric: Seizures

## EMT

### ADVANCED

- ABC and vital signs
- Airway management and appropriate oxygen therapy
- Check blood glucose, if equipped. If abnormal refer to Pediatric Diabetic Protocol

**EMT AND ADVANCED STOP**

## CC

- Cardiac Monitor
- Midazolam (Versed) 0.1 mg/kg IM, or IN

**CC STOP**

## PARAMEDIC

- Consider vascular access
- If patient continues to seize:
  - Midazolam (Versed) 0.05 mg/kg IV or IO

**PARAMEDIC STOP**

## PHYSICIAN OPTIONS

- CC vascular access
- Additional Midazolam (Versed) 0.1-2 mg/kg IV, IO, IM, or IN

## Key Points/Considerations

- Consult Medical Control Physician as soon as possible if seizures persist
- Protect the patient and EMS crew from injury during the seizure
- Any EMS provider may assist the patient’s family or caregivers with administration of rectal Valium (Diastat)
**Pediatric: Stridor**

**EMT ADVANCED**
- ABC and vital signs
- Airway management with high concentration, humidified, blow-by oxygen (as tolerated)
- Consider mechanical obstruction and treat accordingly

**EMT AND ADVANCED STOP**

**CC**
- Cardiac Monitor
- If patient unconscious and suspected mechanical obstruction, attempt removal of object with Magill forceps

**CC STOP**

**PARAMEDIC**
- Secure airway only if necessary; consider using smaller than usual ET tube

**PARAMEDIC STOP**

**PHYSICIAN OPTIONS**
- Vascular access
- Methylprednisolone (Solu-Medrol) 2 mg/kg IV
- Epinephrine 1:1,000 dose 0.3 mg mixed with 3 ml Normal Saline, via nebulizer

**Key Points/Considerations**
- Consult Medical Control Physician as soon as possible
General Practice: Airway Management and Oxygen Delivery

Criteria

Providers may operate as outlined below. They may not proceed below their stop-line even with direct online medical control

EMT

- Oxygen therapy via non-rebreather mask (NRB) 10-15 lpm, or nasal cannula (NC) 2-6 lpm, to maintain oxygen saturation > 95%
- Oxygen therapy using bag valve mask (BVM) 15-25 lpm
- Nasopharyngeal airways (NPA)
- Oropharyngeal airways (OPA)
- BVM assisted ventilation
- Portable automated transport ventilators, if trained (ATV)

ADVANCED CC STOP

ADVANCED

- Nasal cannula (NC) 15 lpm during intubation attempts and MFI
- Oral endotracheal intubation in unresponsive ADULTS
- Alternative rescue airway device in unresponsive ADULTS
- Continuous Positive Airway Pressure (CPAP) if EQUIPPED and TRAINED

PARAMEDIC STOP

PARAMEDIC

- Adult oral intubation
- Nasal endotracheal intubation in ADULTS, if trained
- Pediatric intubation
- Medication facilitated intubation, if equipped and credentialed
- Surgical airway, if equipped

PARAMEDIC STOP
**Key Points**

- Providers may only perform endotracheal intubation if they have end-tidal waveform capnography
- Only paramedics may intubate pediatric patients
- Medication facilitated intubation is to be performed only by paramedics who have received specific training and are approved by the agency medical director, within agencies that have been approved by the Medical Advisory Committee
- Only Aeromedical agencies may perform pediatric medication facilitated intubation on standing orders
- Tidal Volume settings for portable automated transport ventilators: 5 – 7 ml/kg
- Always have a BVM available when using a portable automated transport ventilator (ATV)
- Intubation may be attempted on a patient a maximum of 2 times by one AEMT and one more time by a second AEMT. If unsuccessful utilize an alternative rescue airway device or ventilate with BVM
- A cervical collar should be placed on all intubated patients to assist maintaining secure placement of the airway device
- Approved list of alternative rescue airway device is available through each Regional Program Agency
- Regionally approved BLS agencies may be enrolled in a BLS CPAP program when available
- Relative contraindications for use of alternative rescue airway device:
  - Patients with esophageal disease, pharyngeal hemorrhage, tracheostomy or laryngectomy
  - Patients who have ingested a caustic substance
  - Patients with known obstruction of larynx and/or trachea
General Practice: Medication and Medical Control

Key Points/Considerations - Medications
- Medications not listed in the formulary may not be carried without clearance from the Regional Medical Advisory Committee
- Local variations in medications, concentration and volume may exist because of restocking necessity
- Alternative concentrations and volumes of medications must be approved by the MAC, through the Regional Medical Director, prior to use
- In cases of medication shortages, please see approved substitutions or appropriate emergent advisory
- Medications must be kept locked in a secure environment when not being used
- Medications should be protected from extremes of temperature at all times
- If you have administered any medications and the patient wishes to RMA you must contact a Physician prior to completing the RMA
- A controlled administration set or pump must be used for all drip medications
- Controlled Substances carried must be in accordance with the Agency’s NYS Approved Controlled Substance Plan
- Medications are only to be carried in NYS-DOH Approved Vehicles and cannot be carried in a private/personally owned vehicle at any time

Key Points/Considerations – Medical Consultation
- For the protection of the patient, the provider, and the Medical Control Physician, communication over recorded lines is suggested

Key Points/Considerations – Communications Failure
- If unable to contact a Medical Control Physician, initiate all Standing Orders, and then continue care of the patient as medically appropriate
  - Describe the situation that prevented you from contacting Medical Control on the PCR
  - You must notify your ALS coordinator and the Regional QI Coordinator as soon as possible after the call
  - All cases of Communications Failure that cause a provider to perform interventions below their stop lines must be reviewed by the Agency Medical Director and reported to the Regional Medical Advisory Committee

Key Points/Considerations – Medical Consultation
- Optimal Medical Consultation will be from a regionally credentialed Medical Control Physician
- Medical consultation may be obtained from the ED physician who will be receiving the patient from the EMS crew, but only if a credentialed physician is not available
- Advanced providers may only obtain Medical Consultation from physicians
- Orders may be relayed from a Medical Control Physician by RNs, NPs or PAs if absolutely necessary
### General Practice: Formulary

<table>
<thead>
<tr>
<th>Medication</th>
<th>Administration Route</th>
<th>Concentration /ml or tab</th>
<th>Total per unit</th>
<th>Minimum Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenosine</td>
<td>Rapid IV</td>
<td>3 mg</td>
<td>6 mg</td>
<td>3</td>
</tr>
<tr>
<td>Afrin</td>
<td>Intranasal</td>
<td>variable</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Albuterol</td>
<td>Nebulized</td>
<td>0.83 mg</td>
<td>2.5 mg</td>
<td>4</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>IV bolus, drip</td>
<td>50 mg</td>
<td>150 mg</td>
<td>4</td>
</tr>
<tr>
<td>Aspirin</td>
<td>PO chewed</td>
<td>81 mg</td>
<td>variable</td>
<td>4</td>
</tr>
<tr>
<td>Atropine*</td>
<td>IV bolus</td>
<td>0.1 mg</td>
<td>1 mg</td>
<td>2</td>
</tr>
<tr>
<td>Atrovent</td>
<td>Nebulized</td>
<td>0.2 mg</td>
<td>0.5 mg</td>
<td>3</td>
</tr>
<tr>
<td>Calcium Chloride</td>
<td>IV bolus</td>
<td>100 mg</td>
<td>1 gram</td>
<td>2</td>
</tr>
<tr>
<td>Diltiazem</td>
<td>IV slow</td>
<td>5 mg</td>
<td>25 mg</td>
<td>1</td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>IV bolus</td>
<td>50 mg</td>
<td>50 mg</td>
<td>1</td>
</tr>
<tr>
<td>Epinephrine 1:1,000</td>
<td>IM, IV drip</td>
<td>1 mg</td>
<td>1 mg</td>
<td>2</td>
</tr>
<tr>
<td>Epinephrine 1:10,000</td>
<td>IV</td>
<td>0.1 mg</td>
<td>1 mg</td>
<td>6</td>
</tr>
<tr>
<td>Furosemide</td>
<td>IV</td>
<td>10 mg</td>
<td>40 mg</td>
<td>2</td>
</tr>
<tr>
<td>Glucagon</td>
<td>IM, IV</td>
<td>1 mg</td>
<td>1 mg</td>
<td>1</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>IM, IV</td>
<td>1 mg</td>
<td>5 mg</td>
<td>2</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>IM, IV</td>
<td>varies</td>
<td>30 mg</td>
<td>2</td>
</tr>
<tr>
<td>Lidocaine 2%</td>
<td>IV, IV drip</td>
<td>20 mg</td>
<td>100 mg</td>
<td>3</td>
</tr>
<tr>
<td>Lidocaine 2% (Gel)</td>
<td>Intranasal</td>
<td>20 mg</td>
<td>600 mg</td>
<td>1</td>
</tr>
<tr>
<td>Magnesium</td>
<td>IV, IV drip</td>
<td>500 mg</td>
<td>5 grams</td>
<td>2</td>
</tr>
<tr>
<td>Methylprednisolone</td>
<td>IV</td>
<td>62.5 mg</td>
<td>125 mg</td>
<td>2</td>
</tr>
<tr>
<td>Metoprolol</td>
<td>IV slow</td>
<td>1 mg</td>
<td>5 mg</td>
<td>4</td>
</tr>
<tr>
<td>Naloxone</td>
<td>IM, IV, IN</td>
<td>1 mg</td>
<td>2 mg</td>
<td>2</td>
</tr>
<tr>
<td>Nitroglycerin (paste)</td>
<td>Transdermal</td>
<td></td>
<td>1 packet</td>
<td></td>
</tr>
<tr>
<td>Nitroglycerin (PO)</td>
<td>SL, lingual</td>
<td>0.4 mg</td>
<td>Spray or tabs</td>
<td>1</td>
</tr>
<tr>
<td>Nitrous Oxide</td>
<td>Inhalation</td>
<td>50%</td>
<td>Unit dose</td>
<td>AEMT optional</td>
</tr>
<tr>
<td>Norepinephrine</td>
<td>Drip</td>
<td>4 mg</td>
<td>4 mg</td>
<td>2</td>
</tr>
<tr>
<td>Ondansetron (inj)</td>
<td>IM, IV slow</td>
<td>2 mg</td>
<td>4 mg</td>
<td>2</td>
</tr>
<tr>
<td>Ondansetron (PO)</td>
<td>SL dissolve</td>
<td>4 mg tab</td>
<td>Tab</td>
<td>2</td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>IV, IV drip</td>
<td>1 mEq/ml</td>
<td>50 mEq</td>
<td>2</td>
</tr>
<tr>
<td>Tetracaine</td>
<td>Ophthalmic</td>
<td></td>
<td>Bottle</td>
<td>1</td>
</tr>
</tbody>
</table>

* Does not include atropine included in DOH field deployment stock

### General Practice: Infusion Formulary

| Dextrose 10%             | 25 gm/unit          | 250 ml     | 2 |
| Normal Saline 0.9%*     |                      | 100 ml     | 5 |
| Normal Saline 0.9%**   |                      | 1000 ml    | 4 |

* D5W 100 ml bags may be substituted for Normal Saline 100 ml if there is a persisting shortage and NS is not available.

** Lactated Ringers may be substituted for Normal Saline if there is a persisting shortage and NS is not available.
### General Practice: Formulary Controlled Substances

<table>
<thead>
<tr>
<th>Medication</th>
<th>Administration Route</th>
<th>Concentration/ml</th>
<th>Total per unit</th>
<th>Minimum number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fentanyl</td>
<td>IM, IV, IN</td>
<td>50 mcg</td>
<td>100 mcg</td>
<td>2</td>
</tr>
<tr>
<td>Ketamine</td>
<td>IM, IV, IN</td>
<td>100 mg</td>
<td>500 mg</td>
<td>2 (paramedic access only)</td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>IM, IV, IN</td>
<td>5 mg</td>
<td>5 mg</td>
<td>4</td>
</tr>
<tr>
<td>Morphine</td>
<td>IM, IV</td>
<td>10 mg</td>
<td>10 mg</td>
<td>2</td>
</tr>
</tbody>
</table>

### General Practice: Formulary MFI

*Agencies should carry only one long-term paralytic agent*

<table>
<thead>
<tr>
<th>Medication</th>
<th>Administration Route</th>
<th>Concentration/ml</th>
<th>Total per unit</th>
<th>Minimum number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Succinylcholine</td>
<td>IV rapid</td>
<td>20 mg</td>
<td>200 mg</td>
<td>2</td>
</tr>
<tr>
<td>Rocuronium*</td>
<td>IV</td>
<td>10 mg</td>
<td>100 mg</td>
<td>2</td>
</tr>
<tr>
<td>Vecuronium*</td>
<td>IV</td>
<td>1 mg</td>
<td>10 mg</td>
<td>2</td>
</tr>
</tbody>
</table>
### General Practice: Medication Infusion

**Amiodarone (Cordarone): 150 mg in 100 ml Normal Saline = 1.5 mg/ml**

<table>
<thead>
<tr>
<th>Infusion Rate</th>
<th>Admin Set: 10 drops/ml</th>
<th>Admin Set: 15 drops/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ml/min (over 10 min)</td>
<td>100 drops/min</td>
<td>150 drops/min</td>
</tr>
</tbody>
</table>

**Lidocaine: 200 mg in 100 ml Normal Saline = 2 mg/ml**  
(Must use pump or dial-a-flow)

<table>
<thead>
<tr>
<th>Infusion Rate</th>
<th>Admin Set: 60 drops/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg/min</td>
<td>30 drops/min</td>
</tr>
<tr>
<td>2 mg/min</td>
<td>60 drops/min</td>
</tr>
<tr>
<td>3 mg/min</td>
<td>90 drops/min</td>
</tr>
<tr>
<td>4 mg/min</td>
<td>120 drops/min</td>
</tr>
</tbody>
</table>

**Epinephrine: 1 mg in 1000 ml Normal Saline = 1 micrograms/ml**  
(Must use pump or dial-a-flow)

<table>
<thead>
<tr>
<th>Infusion Rate</th>
<th>Admin Set: 10 drops/ml</th>
<th>Admin Set: 15 drops/ml</th>
<th>Admin Set: 60 drops/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 microgram/min</td>
<td>10 drops/min</td>
<td>15 drops/min</td>
<td>60 drops/min</td>
</tr>
<tr>
<td>2 micrograms/min</td>
<td>20 drops/min</td>
<td>30 drops/min</td>
<td>120 drops/min</td>
</tr>
<tr>
<td>4 micrograms/min</td>
<td>40 drops/min</td>
<td>60 drops/min</td>
<td>240 drops/min</td>
</tr>
<tr>
<td>6 micrograms/min</td>
<td>60 drops/min</td>
<td>90 drops/min</td>
<td></td>
</tr>
<tr>
<td>8 micrograms/min</td>
<td>80 drops/min</td>
<td>120 drops/min</td>
<td></td>
</tr>
<tr>
<td>10 micrograms/min</td>
<td>100 drops/min</td>
<td>150 drops/min</td>
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**Magnesium:**

- 2 gm in 100 ml Normal Saline = 20 mg/ml
- 4 gm in 100 ml Normal Saline = 40 mg/ml

**MUST BE INFUSED OVER 10 MINUTES MINIMUM**

<table>
<thead>
<tr>
<th>Infusion Rate</th>
<th>Admin Set: 10 drops/ml</th>
<th>Admin Set: 15 drops/ml</th>
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</thead>
<tbody>
<tr>
<td>10 ml/min (over 10 minutes)</td>
<td>100 drops/min</td>
<td>150 drops/min</td>
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<tr>
<td>5 ml/min (over 20 minutes)</td>
<td>50 drops/min</td>
<td>75 drops/min</td>
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</tbody>
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**Norpinephrine: 4 mg in 1000 ml Normal Saline = 4 micrograms/ml**  
(Must use pump or dial-a-flow)

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<th>Infusion Rate</th>
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<th>Admin Set: 15 drops/ml</th>
<th>Admin Set: 60 drops/ml</th>
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General Practice: Vascular Access

EMT
- No options
  - **EMT STOP**

ADVANCED
- Adult IV
  - **ADVANCED STOP**

CC
- Pediatric IO
- Adult IO
- Critical Pediatric IV (cardiac arrest/respiratory arrest/diabetic emergency/unstable major trauma ONLY)
  - **CC STOP**

PARAMEDIC
- Pediatric IV
  - **PARAMEDIC STOP**

PHYSICIAN OPTIONS
- Access Pre-Existing Vascular Devices

Key Points
- Intraosseous infusion may only be used in cases of critical patients where IO access may be lifesaving.
- If IO access is started in a conscious patient, the IO should be flushed with Lidocaine (2%) 40 mg (2 mL) for adults, or 1 mg/kg for pediatric patients
- IV sites include peripheral veins, including upper and lower extremities (below the knees) the external jugular veins in adults and the scalp in infants
- Pediatric vascular access should only be obtained if there is a critical intervention to perform, such as a fluid bolus in a decompensated shock patient or glucose administration in a hypoglycemic diabetic
- There are no “prophylactic” IV lines placed in children
- For pediatric vascular access 100 ml NS for all patients under 50 kg
- If vascular access is attempted by a provider and is unsuccessful, an equal or higher level of provider must accompany the patient to the hospital or a Medical Control Physician must be consulted.
- The number of vascular access attempts, the provider making the attempt, the site of the attempt, the catheter size, the solution, the infusion rate (KVO, 250 mL/hr, open) and total fluid infused should be noted on the PCR
- Good clinical judgment will dictate the maximum number of vascular access attempts
**General Practice: Vascular Devices, Pre-Existing**

**Procedure**
- Identify device
- If the patient is in EXTREMIS and a lifesaving intervention will be performed, establish access to the device
- If the patient is not in extremis, consult Medical Control Physician for orders to access the device. No prophylactic IV lines may be established into pre-existing vascular devices.
- Procedure to establish access to Pre-Existing Vascular Access Device:
  - Discontinue any solution flowing into the pre-existing vascular device
  - Put on sterile gloves
  - Clean injection site with iodine solution or chloroprep. Do not remove or unscrew cap, unless no other means of accessing the device is possible
  - Remove any clamps on vascular access and slowly withdraw 10 ml of fluid from the port
  - Inject 5 ml Normal Saline. If bolus does not inject freely, the access must not be used
  - If the device is patent, inject the remaining 5 ml from the syringe
  - Secure administration set to access site
  - Maintain Normal Saline KVO through device
  - Administer fluid bolus and/or medications as you would for peripheral IV
  - If the access device is damaged and begins to leak, clamp it 1 inch from the skin entry site with a padded, non-serrated hemostat

**Key Points**
- EXTREMIS includes, but is not limited to: Cardiac arrest, respiratory arrest, status epilepticus, decompensated shock and life threatening arrhythmias
- Pre-existing vascular devices include Central Venous Catheters (CVC), Peripherally Inserted Central Catheters (PICC) and Renal Dialysis Lines
- Implanted ports and fistulas are not considered pre-existing vascular devices and cannot be accessed by the pre-hospital provider
- Percutaneous catheters below the nipple are not for vascular access and should not be used
- Once the device is accessed, continuous flow of Normal Saline must be maintained
Operations: Aeromedical Utilization

Criteria for considering use of air medical services

- Patient’s condition requires expeditious transport to a hospital capable of providing definitive care
- Patient’s condition requires specialized services offered by the air medical crew, prior to arrival at the hospital
- The patient’s condition is a “life or limb” threatening situation demanding intensive multidisciplinary treatment and care
- Unstable trauma patients as defined by the physiologic criteria such as vital signs and physical findings
- Critical burn patients as defined in the Trauma: Burn Care Consideration protocol
- Acutely ill, unstable medical patients as defined in the medical protocols
- When use of air medical services is not specifically defined by the protocols, the on-scene provider should consult with a physician
- The destination facility will be determined by the air medical crew, based upon medical appropriateness, with consideration of patient preference and on-line medical direction (when Medical Control Physician has been consulted by ground EMS)
- Do not delay on the scene for the helicopter
- If it is considered critical for the individual patient and the patient is packaged and ready for transport, start enroute to the hospital and reassign the Landing Zone either closer to the hospital or at the hospital’s designated Landing Zone; the helicopter can intercept with you

Key Points

- This is a guideline and is not intended to specifically define every condition in which air medical services may be requested. Good clinical judgment should be used at all times
- Police, Fire or EMS will evaluate the situation/patient condition and if necessary place the helicopter on standby
- The helicopter can be requested to respond to the scene when:
  - ALS personnel request the helicopter
  - BLS personnel request the helicopter, when ALS is delayed or unavailable
  - In the absence of an EMS agency, any emergency agency may request the helicopter if felt to be medically necessary
- When EMS arrives, they must assess the situation. If it is determined by the most highly trained EMS provider ON THE SCENE that the helicopter is not needed, it should be cancelled as soon as possible
Operations: Emergency Incident Rehab

Key Points

- For events where people are expected to be working for 1 hour or more, including drills, fire ground operations, hazardous materials incidents, lengthy extrications and any other event where personnel are wearing protective gear and fluid loss is a concern
- When a person arrives in rehab with no significant complaints:
  - Encourage the person to drink at least 8 ounces of fluid
  - An EMT should do a visual evaluation for signs of heat or cold related stress, fatigue, or signs indicative of a medical emergency. If any of these are present, take their vital signs.
- If any vital sign is out of the range listed below, protective gear should be removed, and the person should rest for at least 10 minutes, with continued oral hydration.
  - BP: Systolic \( > 160 \) mm Hg or
  - BP: Diastolic \( > 100 \) mm Hg.
  - Respiration: \( > 24 \) per minute.
  - Pulse: \( > 110 \) per minute.
  - O2 saturation \( < 92\% \)
  - SpCO \( \geq 5\% \) (if available)
  - Temperature \( > 100.6 \) (if available)
  - (Note: normal measured temperature does not exclude heat related illness)
- If vital signs return to within criteria limits, the person may be released
- If vital signs are still beyond the limits, continue rehab for another 15 minutes and determine if further intervention may be needed
- If after 30 minutes the vital signs are above the limits, transport to the hospital should be initiated
- If a person arrives at the rehab area with complaints of chest pain, shortness of breath or altered mental status follow the appropriate protocol. The person may not return to duty
- An irregular pulse mandates ALS assessment, cardiac monitoring, and removal from duty or the event
- Names and vital signs (if measured) for each person evaluated should be recorded on a log sheet for the incident
- A PCR should be written on any person transported to the hospital or receiving any ALS care or refusing care or transport against medical advice
- More aggressive treatment should be used during extremes of temperature
- Consider carbon monoxide poisoning with any exposure to smoke
- If any questions exist regarding the treatment of a patient according to this protocol, consult Medical Control Physician for advice
- For any ongoing event with high potential for injury to public safety personnel consider requesting a physician to the scene
- Agency procedures may be used in place of these guidelines as appropriate if developed from industry standard models such as the NFPA or USFA or others
Operations: Inter-Facility Transport

**EMT**

- An EMT may transport stable patients with a secured saline lock device in place, as long as no fluids or medications are attached

**ADVANCED**

- An AEMT may transport stable patients with simple IV fluids such as D5W, Normal Saline or Lactated Ringers. The solution may not contain potassium or any medications

**EMT AND ADVANCED STOP**

**CC**

**PARAMEDIC**

- Paramedics and Critical Care Technicians may transport a patient between hospitals with standard IV infusions flowing, including antibiotics, provided they are ordered and provided by the transferring physician.
- Be certain to clarify orders regarding medication titration prior to departure. Any medication in the Collaborative Protocol Formulary is permissible for transport.
- All fluids containing potassium must be run on an infusion pump
- All IV medications must be run on an infusion pump

**AMIODARONE (CORDARONE)**

Usual Dose: 1 mg/min infusion for first 6 hours, then 0.5 mg/min infusion
- Discontinue if hypotension or symptomatic bradycardia occurs. Consult ED physician.

**ANTIBIOTICS:**

- Discontinue if signs of allergic reaction

**DILTIAZEM (CARDIZEM)**

- Discontinue if hypotension or symptomatic bradycardia occurs. Consult ED physician.

**GP IIb/IIIa RECEPTOR INHIBITORS or other ANTICOAGULANT AGENTS**

- Monitor patient for signs of bleeding around IV sites, hemoptysis, hematuria, or epistaxis
- Discontinue if any signs or symptoms of bleeding complications

**HEPARIN**

- Monitor patient for signs of bleeding around IV sites, hemoptysis, hematuria, or epistaxis
- Discontinue if any signs or symptoms of bleeding complications

**NITROGLYCERIN**

- Monitor blood pressure every 5 minutes
- Discontinue if systolic blood pressure falls below 90 mm Hg, or if diminishing mental status occurs with diminishing blood pressure

**CC AND PARAMEDIC WITHOUT SCT CREDENTIALING STOP**
Operations: Specialty Care Transport

- Critical Care Technicians and Paramedics that have attended regionally-approved supplemental training focused on Specialty Care Transports and have been credentialed by the agency’s Medical Director may transport a patient between hospitals with other IV Infusions, and advanced modalities, provided the medication is ordered and provided by the transferring physician or facility.
- All medications and interventions utilized must be covered within Agency protocols.
- Be certain to clarify orders regarding medication titration prior to departure.
- The IV medications must be run on an infusion pump that the provider is trained to operate.
- See NYS DOH Regulations for Blood Transfusions.

Key Points/Considerations

- Requests for inter-hospital transfer must be screened by appropriately trained personnel to determine the transport requirements.
- After assessing the patient and reviewing the patient’s records and transfer orders, determine if the patient’s current condition is appropriate for the provider’s level of training, experience and available equipment.
- Evaluate the patient’s airway status prior to departing the transferring facility. Secure the airway as indicated.
- Prior to or during the transport, contact a physician, the agency’s medical director, the transferring/sending physician or the receiving physician for clarification, or to discuss any concerns.
- If there are any changes in the patient’s condition that are not covered by the prescribed orders or agency protocols contact Medical Control Physician. If a total failure of communications occurs and the patient is unstable and decompensating, follow these protocols and go to the closest hospital emergency department.
- An appropriately trained nurse, respiratory therapist, physician assistant, nurse practitioner or physician from the sending facility must accompany the patient for any prescribed treatments or modalities for which the designated provider is not credentialed by their agency.
- Specialty Care Transports (SCT) are a subset of Inter-Hospital Transports, and can only be done by Paramedics or Critical Care Technicians credentialed by the medical director of the agency performing the transport. Credentialing must include a regionally approved training program in Specialty Care Transports.
- Each Inter-hospital transport must be reviewed by the agency as part of the QI program.
Operations: Transfer of Care

Key Points—Transfer Between EMS Providers

- Providers are responsible for the patient while in their care. The transferring or receiving provider will not be responsible for their counterpart’s actions
- Patients may be transferred to a provider with the same or higher level of training and the same or higher level of on-line privileges within the region
- Stable patients may be transferred to a provider with a lower level of training and a lower level of on-line privileges within the region
- When transferring patients both the receiving and transferring providers should:
  - Ensure that all patient information is transferred to the receiving provider including: chief complaint, past medical history, current history, vital signs and care given prior to the arrival of the receiving provider
  - Assist the receiving provider until they are ready to assume total patient care
  - Be willing to accompany the receiving provider to the hospital if the patient’s condition warrants or if the receiving provider requests it
- The receiving provider must briefly document patient care given prior to receiving the patient
- Both providers will complete a PCR, as appropriate, detailing the care given to the patient while in their care
- ALS transferring provider PCR documentation must be delivered to the receiving hospital within two hours of the call
- BLS agencies transferring a patient to a higher level of care must comply with NYS DOH EMS Policy 02-05 and provide paperwork to the transporting agency prior to the patient leaving the scene
- Any disparity between the providers needs to be resolved by contacting a Medical Control Physician

Key Points—Transfer at Hospital

- Documentation left at the hospital must include:
  - Agency ID, Crew ID
  - Patient Demographics: Name, Date of Birth, Address, Last 4 Digits of SSN (if available)
  - Initial assessment: chief complaint and pertinent initial vital signs
  - Interventions: Medications, procedures performed and patient response
- Specimens left at the hospital:
  - If available, label specimens, monitor strip and EKG with hospital stickers
  - Do NOT leave unlabeled specimens or EKG at the hospital
  - Immediately upon arrival at the ED, notify the receiving nurse if EKG has been performed
Procedure: Avulsed Tooth

Criteria

- Only reimplant permanent teeth
- Best chance for success is when reimplantation occurs less than 5 minutes from injury
- Do not reimplant if the alveolar bone / gingiva are missing or if the root is fractured
- Do not reimplant if the patient is immunosuppressed or reports having cardiac issues that require antibiotics prior to procedures
- Do not reimplant if the patient requires spinal immobilization
- If not candidate for reimplantation, place tooth in interim storage media (lowfat milk, patients’ saliva, or saline) and keep cool. Avoid tap water storage but do not allow the permanent tooth to dry

EMT

ADVANCED

CC

PARAMEDIC

- ABC
- If altered mental status, do not reimplant
- If spinal immobilization needed, do not reimplant
- Hold the tooth by the crown (not the root)
- Quickly rinse the tooth with saline before reimplantation but do not brush off or clean tooth of tissue
- Rinse and suction the clot from the socket if needed
- Reimplant tooth firmly into socket with digital pressure
- Have the patient hold tooth in place using gauze and bite pressure
- Report to hospital staff the efforts made to reimplant tooth

ALL STOP

Key Points/Considerations

- Agency training is available through the Program Agencies
- Automatic reporting of every use of this protocol by participating agencies is expected to the Program Agencies
**Procedure: Medication Facilitated Intubation**

### INDICATIONS
- For use only by Regional MAC approved agencies, by Paramedics credentialed by agency Medical Director, with the assistance of a second MFI trained Paramedic at the scene
- Medication facilitated intubation (MFI) may be utilized on standing orders when definitive airway control is necessary in an adult

### CONTRAINDICATIONS / PRECAUTIONS
- The use of paralytic agents is contraindicated if patients cannot be ventilated with a bag-valve-mask (BVM) due to anatomy, facial/airway trauma or other reasons
- If unable to adequately ventilate the patient, perform cricothyrotomy

### PROCEDURE
- Position the patient appropriately
- Attach SaO2, NIBP and Cardiac Monitor
- Oxygenate via NRB or with a BVM if SaO2 is below 95% or unobtainable
- Consider high flow nasal oxygen during intubation
- Assemble and test all basic and advanced airway equipment including suction
- Draw appropriate medications into labeled syringes
- Pre-treat the patient as follows:
  - Fentanyl 1 mcg/kg, maximum dose 100 mcg, if increased intracranial pressure
  - Lidocaine 1.5 mg/kg, maximum dose 100 mg, if increased intracranial pressure
- Administer induction agent: (select one medication)
  - Etomidate 0.3 mg/kg rapid IV push
  - Ketamine* 2 mg/kg slow IV push over at least 1 minute
    (*NYS ketamine policy applies)
- Intubate the patient
- If intubating conditions are not obtained, administer Succinylcholine 1.5 mg/kg IV
- If intubation fails (3 attempts maximum) manage the airway and ventilate, consider inserting a rescue airway device
- If unable to adequately ventilate the patient, perform cricothyrotomy
- Attach a continuous EiCO2 monitor, confirm ETT placement and secure the ETT
- Administer continual sedation IF hemodynamically stable:
  - Midazolam (Versed) 0.05 mg/kg IV every 5-10 minutes
    alternating with:
    - Fentanyl 1 mcg/kg IV every 5-10 minutes
- OR if MAP < 65 or SBP < 100 administer continual sedation with:
  - Etomidate 0.1 mg/kg repeated every 5-10 minutes
  - Ketamine 0.5 - 1 mg/kg repeated every 5 minutes as needed
- Consider Vecuronium 0.1 mg/kg ONLY if necessary for patient or crew safety
- Continuously monitor ETT placement including effectiveness of oxygenation and ventilation

### PHYSICIAN OPTIONS
- Pediatric MFI
Resource: Mean Arterial Pressure Chart

Calculation:
• \( \text{MAP} = \left( \frac{2 \times \text{DBP}}{3} \right) + \text{SBP} \)

OR

• \( \text{MAP} = \frac{2}{3} \text{DBP} + \frac{1}{3} \text{SBP} \)

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Resource: Clinician on the Scene

**NON-REGIONALLY Credentialed Clinician**

- Verify the identity and specialty of the clinician with the patient, family members or through any written credentials
- If the identity CANNOT be verified, initiate any treatment indicated per protocol, and consult REGIONAL Medical Control Physician as soon as possible. The clinician on the scene may speak to the REGIONAL Medical Control Physician if he/she desires
- If the identity CAN be verified, request the clinician to sign the Clinician Release Form and go with the patient in the ambulance
- If the clinician is willing to sign the Clinician Release Form and accompany the patient in the ambulance, make equipment available to the clinician for their treatment, and assist with the transportation of the patient
- If the clinician is not willing to both sign the Clinician Release Form and accompany the patient in the ambulance, initiate treatment per the protocols and contact Medical Control
- If you are called to a clinician’s office, the patient is under the clinician’s care until the clinician releases the patient to your care
- If there are any conflicts or questions, contact Medical Control Physician

**Key Points**

- Clinicians include, but are not limited to: physicians, physician assistants, nurse practitioners, midwives

**REGIONALLY Credentialed Medical Control Physician**

- Verify the REGIONAL Physician’s credentials
- If the Physician is able to accompany the patient in the ambulance add the REGIONAL Physician’s name and identification on the PCR
- If the on scene Physician is not able to accompany the patient in the ambulance consult Medical Control Physician and request the 2 physicians confer
- Transport as appropriate and contact Medical Control Physician as needed
- Document both physicians’ identification on the PCR