

Midstate Regional EMS Program



Advanced Life Support Protocols

2009

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These Protocols are effective July 1, 2009

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EMS Program Agency
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Forward - Medical Control Agreement

The following protocols are intended to result in improved patient care by Pre-Hospital Providers in the Midstate EMS Region. They reflect American Heart Association Basic, Advanced, and Pediatric Cardiac Care Standards. These protocols are not intended to be absolute treatment doctrines, rather as Principals and Midstate REMAC Directives which are sufficiently flexible to accommodate the complexity of patient management.

THESE PROTOCOLS ARE NOT A SUBSTITUTE FOR GOOD CLINICAL JUDGMENT

The goal of pre-hospital care is to provide the best definitive care in a timely and safe manner.

As an advanced provider in the Midstate Regional EMS system you agree to:

- Membership in a regionally approved, Advanced Life Support Agency.
- Maintain registration with the Faxton - St. Luke's Healthcare EMS Program, including documentation of NYS DOH certification, appropriate CPR training and any additional REMAC requirements.
- Successful completion of the appropriate provider level Midstate Protocol Examination.
- Participate in the Midstate REMAC continuing medical education and skills maintenance programs.
- Participation in the Midstate REMAC Quality Assurance Program.

In turn the Midstate REMAC agrees to authorize you to practice in our system of medical control at the level at which you are currently certified.

If you deviate from the protocols in such a manner as to endanger, potentially endanger a patient or employ a skill improperly, you may be subject to suspension of privileges by the Regional Medical Director. If your privileges are suspended (or practice limited), you will be given the opportunity for a REMAC hearing. If you have any questions or concerns please contact the Faxton - St. Luke's EMS Program at 315 738-8351 or 888 225-6642

1.1 ROUTINE MEDICAL CARE

All patients requiring Advanced Life Support Care will receive routine medical care. The following equipment should be brought to your patient.

Oxygen, IV Normal Saline (1000mL) with Macro-drip or Saline Lock, Cardiac Monitor/Defibrillator/ETCO₂ monitoring, Advanced Airway Equipment, Suction, and Protocol Medications.

THE FOLLOWING PROCEDURES WILL BE PERFORMED ON PATIENTS REQUIRING ADVANCED LIFE SUPPORT CARE:

1. Reassurance and proper positioning.
2. Obtain baseline vital signs as patient condition warrants.
3. Airway Management with ventilatory assistance and Oxygen as needed.
4. Establish an IV of Normal Saline OR Saline Lock.
5. Cardiac Monitoring.
6. Contact Medical Control within 20 minutes of patient contact.
7. Obtain/Ascertain DNR/MOLST status.

NOTE:

Patients presenting with stroke symptoms (Positive Cincinnati Stroke Scale) will be transported to a designated Stroke Center, per current NYS DOH BEMS Policy, unless one of the following conditions exists;

- Patient in Cardiac Arrest
- Patient has unmanageable airway
- As directed by Medical Control Physician

1.2 ROUTINE TRAUMA CARE

Spinal Immobilization, airway management, ventilatory support as needed with supplemental oxygen.

The following equipment should be brought to your patient. Oxygen, IV Normal Saline (1000mL) Macro-drip or Saline Lock, Cardiac Monitor/Defibrillator/ETCO₂ monitoring, Advanced Airway Equipment, Suction, and Protocol Medications.

Patient assessment and vital signs as patient condition warrants.

Based on Assessment and Mechanism of Injury determine if patient meets MAJOR TRAUMA CRITERIA

STABILIZE PATIENT AS APPROPRIATE

ESTABLISH IV/IO ACCESS

MONITOR CARDIAC RHYTHM

Apply and inflate PASG/MAST (if available) for all adult patients with signs and symptoms of shock and severe hypotension with systolic BP < 50mmHg or Hypotension with systolic BP < 90 mmHg with signs and symptoms of an unstable pelvic fracture.

NOTE:

Patients meeting Major Trauma Criteria will be transported to a designated Trauma Center, unless one of the following conditions exists;

- Patient in Cardiac Arrest
- Patient has unmanageable airway
- As directed by Medical Control Physician

1.3 INTRAVENOUS THERAPY

The approved IV set-up is 1000 mL Normal Saline with Macro drip tubing OR Saline Lock

AEMT-I

Patients 16 years old and greater

- Responding with an ALS First Response Agency which is awaiting the arrival of an Ambulance.
- Responding with an Ambulance and the highest level present is Intermediate, and an ALS Intercept has been requested.
- Under the direction of an ALS provider or Medical Control.
- Establish IV/IO

AEMT-Critical Care

Patients 5 years old and greater

- Establish an IV on patients under 5 years old with medical control.
- Establish an IV/ IO on patients under 5 years old in Cardiac Arrest

AEMT-Paramedic

- All Patients

NOTE:

- *Consider IO on critical patients if unable to establish venous access within 90 seconds*
- *Consider External Jugular Vein cannulation on critical patients when peripheral sites are unavailable*

1.4 TERMINATION OF RESUSCITATION

Once resuscitation has begun, EMS may terminate efforts if a valid DNR/MOLST document is presented to the EMS Provider, in the absence of a DNR/MOLST form, Prior to Termination of Resuscitation the EMS Provider will;

- Discuss the termination with family
- Complete the Asystole protocol
- Confirm Asystole in 3 leads
- Contact Medical Control

Upon consultation with Medical Control, resuscitation efforts may be terminated

- Contact law enforcement
- Leave invasive therapies (IV, IO, ET etc) in place
- Provide support to family members
- Bring/Fax Completed Pre-Hospital Care Report to hospital for Medical Control Signature.

THIS PROCEDURE CAN NOT BE USED DURING RADIO FAILURE, ON-LINE MEDICAL CONTROL REQUIRED

1.5 PATIENT REFUSAL

Talk with patient and family, attempt to convince them of the need for treatment/transport. Offer to call Medical Control and have the patient speak directly to the Physician.

- If Patient continues to refuse treatment/transport
- Assess Level of Consciousness

Altered Mental Status

- Patient can NOT refuse, Contact Medical Control and enlist assistance of Law Enforcement

Alert and Oriented

Rule Out:

- Threat/Attempt Suicide
- Minor (<18 yo) refusing Care
- Parent refusing and potentially serious illness/injury exists
- Child abuse/neglect

Document and bring or fax PCR to hospital for Physician signature immediately after call.

UNDER NO CIRCUMSTANCE SHOULD FIELD PERSONNEL ALLOW THEMSELVES TO BE PLACED IN DANGER. IF POTENTIAL EXISTS, GO TO SAFE PLACE AND CALL FOR LAW ENFORCEMENT.

1.6 COMMUNICATION FAILURE

THIS COMMUNICATION FAILURE PROTOCOL CAN NOT BE USED TO TERMINATE RESUSCITATION EFFORTS IN THE FIELD

In the event that on-line communications with the Resource or an Midstate Associate Hospital cannot be established because of equipment failure/malfunction or communication “dead spots”, making it impossible for the advanced level provider to make direct contact with a Medical Control Physician, the following policy will be in effect;

ALL PROTOCOLS BECOME STANDING ORDER FOR THE AEMT-CC AND PARAMEDIC WITHIN THEIR SCOPE OF PRACTICE WHICH INCLUDE ORDERS USUALLY REQUIRING ON-LINE MEDICAL CONTROL. THIS IS TO ENSURE THAT THERE IS NOT A DELAY IN THE TREATMENT OF THE PATIENT DURING THEIR MEDICAL EMERGENCY.

When this protocol is implemented:

- Document all time sequences, all indications for treatment, the times that the treatments were given and the patient responses to the treatment(s).
- Document the communications problem(s) you encountered, including your location, the number of times you attempted to contact Medical Control and your patient’s initial condition which prompted the initiation of this protocol.
- Administration of Fentanyl can NOT be used under radio failure protocol

You must immediately notify Resource Hospital upon completion of your transport to the hospital of this protocol. A copy of your PCR and CCR should be sent within three days to the Midstate REMAC regarding utilization of this protocol.

1.7 COORDINATION OF SERVICES

The provision of patient care is a responsibility given to certified and licensed individuals who have completed a medical training and evaluation program specified by the NYS Public Health or Education Laws and related regulations or policy. Pre-hospital providers are required to practice to the standards of the certifying agency (DOH) and the medical protocols authorized by the local REMAC.

Patient care takes place in many settings, some of which are hazardous or dangerous. The equipment and techniques used in these situations are the responsibility of the locally designated, specially trained and qualified personnel. Emergency incident scenes may be under the control of designated incident commanders who are not emergency care providers. These individuals are generally responsible for scene administration, safe entry to a scene or decontamination of patients or responders. When access to a patient is restricted because of safety concerns or other limitations, medical direction of patient care by certified EMS personnel is essential. This can be provided by trained responders wearing appropriate personal protective equipment or by communicating instructions to those responders moving or extricating the patient.

Pursuant to the provisions of Public Health Law, the individual having the highest level of pre-hospital certification, and who is responding with authority (duty to act) is responsible for providing and or directing emergency medical care and the transportation of a patient. Such care and direction shall be in accordance with all NYS standards of training, applicable State and Regional protocols and may be provided under medical control.

The Governor's Executive order No.26 of March 5, 1996, establishes the National Incident Management System (NIMMS) as the standard of command and control system for emergency operations in New York State. The Incident Command System (ICS) does not define who is in charge, but rather it defines an operational framework to manage many types of emergency situations. One essential component of ICS is Unified Command. Unified Command is used to manage situations involving multiple jurisdictions, multiple agencies or multiple technical needs. The principles of Unified Command apply equally to single vehicle MVC's or large-scale incidents. The specific issues of direction, provision of patient care, and the associated communications among responders must be integrated into each single or unified command structure and be assigned to the appropriately trained personnel to carry out.

1.8 LEVEL OF CARE

CFR:

A First Responders in the Midstate Region will follow NYS DOH CFR protocols. The following additional procedures will be performed if the agency is authorized to perform and if previously trained by a NYS DOH BEMS Certified Instructor.

- Blood Pressure
- Spinal Immobilization
- Administration of glucose

EMT-B:

NYS certified Emergency Medical Technicians will follow NYS BEMS Basic Life Support Protocols. EMT-B's will provide the following if the EMS Agency is authorized to provide and if previously trained.

- Epi-Pen
- Albuterol

EMT-I:

NYS certified Emergency Medical Technician-Intermediate providers will provide advanced airway and IV/IO fluid administration on patient's 16 years of age or older. In addition AEMT-I providers will provide the following if the EMS Agency is authorized to provide and previously trained.

- Albuterol
 - » IV/IO procedure
 - » Awaiting arrival of ALS Ambulance
 - » Under on-line Medical Control
 - » Working as ALS-FR with a ALS Ambulance enroute
 - » Under the direction of AEMT-CC/P

1.9 ADVANCED LIFE SUPPORT CRITERIA

The Midstate 911 Centers utilized nationally recognized Priority Emergency Medical Dispatch protocols that have been reviewed and approved by the Midstate REMAC. Responders should request ALS intercept, as soon as criteria is recognized and begin transport to the hospital.

1.10 CONTROLLED SUBSTANCE POLICY

Administration of controlled substances will follow the Midstate REMAC's Pre-Hospital Protocol. Only Advanced Life Support Agencies registered with the NYS DOH Bureau of Emergency Medical Services, the Bureau of Narcotic Enforcement, and the Midstate REMAC may utilize controlled substances in accordance with Public Health Law Article 33 and Part 80, as well as all other pertinent regulations and policies.

1.11 ON SCENE MEDICAL PERSONNEL

PATIENT'S PERSONAL PHYSICIAN – On Location

If the patient's personal physician is on location, they may assume responsibility for their patient. The patient's personal physician assuming responsibility for the patient must:

- Write all orders for the EMS provider on the PCR
- Sign for their orders on the PCR

If the physician chooses not to accompany the patient to the hospital, standard operating procedures will prevail if the patient's condition deteriorates and/or other procedures are required. If the patient's personal physician accompanies the patient to the hospital, he/she continues to assume full responsibility for all orders and patient care decisions. The EMS provider will decline any orders that are contrary to, or exceed their level of training.

NOTE:

If the physician refuses to sign, Medical Control is to be contacted.

BYSTANDER PHYSICIAN – On Location

If physician is not known, he/she must produce valid NYS certificate of practice documentation

A Bystander physician wishing to assume responsibility for a patient may do so only with approval from the Medical Control Physician. The on-scene physician should be put in touch with a Medical Control Physician (Resource). If communications with a medical control physician can not be made, providers are to adhere to the Midstate REMAC's protocols and take NO medical control orders from the on-scene physician. The Medical Control Physician may:

- Refuse to release the patient.
- Release the patient to the on-scene physician:
 - » The Physician will write orders and sign the PCR
 - » Accompany the patient to the hospital
- In the event that a physician gives an order which is contrary to Midstate Protocols or the EMT's training, or which clearly and certainly in the opinion of the EMT, will be detrimental to the patient's care, the EMT will respectfully question the order, and then decline the order.

NON PHYSICIAN MEDICAL PERSONNEL – On Location

These personnel may assist with patient care under the direction of the ALS or BLS technician, but may not take charge of or assume responsibility for patient care.

1.12 ALS RELEASE TO BLS CARE

An ALS-Level unit (ALS-FR or ALS Ambulance) may transfer care of a patient to a BLS-Level unit according to the following procedure. If any question exists On-line medical control must be contacted.

1. The ALS Provider has completed a full assessment and determined no ALS is required.
2. The ALS Provider will assure through verbal conference with the BLS crew they are comfortable assuming care of the patient.
3. The ALS Provider will document findings on the PCR
4. The ALS Provider must accompany the patient to the hospital if the BLS crew expresses any discomfort with assuming care for the patient.
5. The following patients may NOT be released to BLS care;
 - » Patients that have received any medication (other than oxygen)
 - » Suspected stroke with new onset or active symptoms
 - » Patients meeting NYS DOH Trauma criteria
 - » Suspected poisoning/overdose patients
 - » Patients with confirmed loss of consciousness
 - » A 12 lead EKG does not rule out the presence of a myocardial infarction or other cardiac emergency. Acquisition of an EKG should not be used to release to BLS care.

1.13 AIR MEDICAL

Air Medical transport should be considered for the following:

- Any time patient outcome could be improved by shortened transport time, such as:
 - Ground transport greater than 30 minutes
 - Prolonged extrication
 - A remote / wilderness area, difficult terrain, or any other time when ground ambulance access is prevented or delayed.
 - Multiple critical / unstable patients / multiple casualty incident.
 - To bring special medical personnel and equipment to the scene, such as physician or surgeon.
 - Paramedic level care is otherwise unavailable.

A request for Air Medical Service should be made immediately when one of the above criteria is met.

Patient transport should not be delayed awaiting a helicopter. Begin transport to the hospital and rendezvous with the helicopter, if possible and at a predetermined safe landing site, enroute to the Trauma Center or community hospital.

Requests from the scene should be made by the highest trained EMS provider (through the incident commander, as appropriate) to the County Dispatch Center (Fire Control or 911 Center).

The pilot will determine if the mission will be flown. Once at the scene, the flight medical crew may elect to fly the patient, accompany the patient by ground, or have the patient transported by ground with the on-scene crew.

1.14 MEDICAL ORDER FOR: LIFE SUSTAINING TREATMENT(MOLST) DO NOT RESUSCITATE (DNR)

If a valid DNR/MOLST exists, and a patient becomes pulseless and or apneic **DO NOT ATTEMPT RESUSCITATION.**

DNR/MOLST should be honored:

- Transferring a patient from a health care facility with a valid DNR/MOLST order, or an order signed by a physician to accompany the patient in the ambulance.
- When the patient has a valid DNR/MOLST form.

DNR/MOLST should be disregarded:

- The Provider believes in good faith that the order has been revoked.
- A physical confrontation with a family member, who disagrees with the order appears likely.

Living Wills and Health Care Proxies:

- Living Wills have **NO** validity in the pre-hospital setting and should be disregarded if necessary contact Medical Control for assistance
- When a health care proxy is present (both the document and the designated individual) and there is a disagreement as to the validity, and whether resuscitation attempts should be initiated/continued, contact Medical Control.

In the event a patient expires during transport between medical facilities that patient should be returned to the sending facility. Contact Medical Control for additional assistance.

1.15 INTER-FACILITY PROTOCOL

Critical Care Technician

Provide Advanced Life Support for Adult and Pediatric Patients 5 years old and greater:

- Intubated Patients
- Monitor/Defib/Pacing (non-invasive)
- Crystolloid IV and Saline Locks
- Chest Tubes (maintain)
- Hickman Caths, Subclavian lines (maintain)
- Internal Jugular Lines, Port-a-Caths, Arterial Lines (maintain)

Medications:

All Midstate REMAC Pre-Hospital Approved Critical Care Medications and;

- Heparin
- Antibiotics (20 minutes after start of administration)
- Tridal
- Insulin
- GPIIb/IIIa Inhibitors (Reopro, Integrilin, Agristat)
- Electrolyte/Lipid solutions (example Potassium)

PARAMEDIC

Provide Adult and Pediatric Advanced Life Support to all Patients;

- Medications:
- All Midstate REMAC Pre-Hospital Approved Paramedic Medications and;
- Above medications
- Aminophylline
- Dobutamine

SPECIAL NOTES

- It is the responsibility of the EMS Provider and Sending Hospital to assure training in any transfer equipment (i.e. IV pumps etc.)
- Blood and blood products can NOT be transported by pre-hospital providers.
- Inter-facility Transfer instructions must be written and signed.
- Controlled Substances expected to be used during transfers must be supplied by the sending facility.

2.1 ADVANCED AIRWAY MANAGEMENT

Endotracheal Intubation should be performed as patients condition indicates. All Trauma patients require manual Cervical Spine Stabilization

AEMT-I

Patients 16 years old and greater

Attempt direct endotracheal intubation up to 3 times on patients with agonal respirations or those patients in respiratory arrest

AEMT-Critical Care

Patients 5 years old and greater

Patients with altered mental status, respiratory rate less than 10 breaths per minute and tolerates an oropharyngeal airway.

AEMT-Paramedic

May attempt direct endotracheal intubation up to 3 times on any patient requiring definitive airway management.

SPECIAL NOTES

- *Consider the use of the Bougie to assist in difficult intubations.*
- *Consider the placement of Approved alternative Airway if Endotracheal Tube placement cannot be established and confirmed in adult patients.*
- *Tube placement must be confirmed and documented after intubation with continuous waveform capnography.*
- *Quicktrach requires medical control order for Critical Care and Paramedic*
- *Paramedics with medical control order may perform needle Cricothyroidotomy*

2.2 AIRWAY OBSTRUCTION

Conscious Patient:

Assess effectiveness of respirations

Good / Poor

No Exchange

Encourage Coughing

5 Abdominal/Chest Thrusts

TRANSPORT

Repeat as Needed

Unconscious Patient:

Manually open the airway, attempt finger sweep if object is visible, attempt to ventilate, give 2 breaths if possible.

Reposition and reattempt to ventilate

Start CPR

Use direct laryngoscopy and Magill forceps

If unsuccessful insert an ET tube and attempt to push through the obstruction or to push it into the right mainstem bronchus

If unsuccessful, continue efforts and transport

***PERFORM CRICOTHYROIDOTOMY**

*** MEDICAL CONTROL ORDER**

Use of these techniques should correspond with the approved age limits outlined in Advanced Airway Management for each level of provider.

2.3 FACILITATED INTUBATION

For adult patients requiring sedation prior to intubation,

AEMT-Critical Care / Paramedic

Etomidate

0.3 mg/kg IV over 30-60 seconds
(maximum total dose 40 mg)

If not successful

Midazolam (Versed)

5 mg IV/IO

After successful intubation

Midazolam (Versed)

5 mg IV/IO for continued sedation

May repeat dose once with systolic BP > 90 mmHg

If Intubation is unsuccessful, may repeat initial dose of

* **Midazolam (Versed)**

5 mg. IV/IO

SPECIAL NOTES

- If intubation attempts are unsuccessful, consider approved alternate airway device.
- If Versed is unavailable, intercept with Controlled Substance Agency or transport directly to hospital whichever brings Versed to the patient sooner.

* MEDICAL CONTROL ORDER

2.4 CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

PERFORM ROUTINE MEDICAL CARE

ASSESS INDICATIONS FOR CPAP:

Respiratory distress or impending Respiratory Failure due to pulmonary edema or decompensated obstructive pulmonary disease.

Patient does not improve following use of non-rebreather mask

Assess effectiveness of respirations

Effective Respirations

Ineffective Respirations
Minimal Air exchange
Decreased LOC
Falling Respiratory Rate < 12
Cyanosis
Falling Spo²

Consider
***Ativan (lorazepam)**
2 mg IV/IO
for mild sedation

Consider BVM ventilations or
intubation

Apply CPAP
Start CPAP at 5 cm H₂O PEEP

If No Improvement

Increase PEEP to maximum of
10 cm H₂O

TRANSPORT

* MEDICAL CONTROL ORDER

2.5 RESPIRATORY DISTRESS

For patients experiencing respiratory distress, secondary to Asthma or COPD
Begin nebulizer treatment prior to establishing IV access

Combine unit dose of **Albuterol** (2.5 mg / 3 mL) and
Ipratropium Bromide (**Atrovent**) (500 mcg / 2.5 mL)
Via nebulizer

If no relief

Repeat **Albuterol/Atrovent** treatment

If no relief

Repeat **Albuterol/Atrovent** treatment

If no relief

CPAP

Consider use of CPAP
See protocol 2.4

ASTHMA

Epinephrine (1:1000)

Pt's < 50 y.o. 0.3 mg SubQ

Terbutaline

Pt's > 50 y.o. 0.25 mg SubQ

COPD

Administer Third treatment

Atrovent/Albuterol

Same dose

Consider **Solumedrol**

125 mg IV bolus

Consider ***Magnesium Sulfate**

2 Grams in 100 mL Saline IV

(10 mins)

TRANSPORT

* MEDICAL CONTROL ORDER

2.6 ALTERED MENTAL STATUS

Perform Routine Medical/Trauma Care
Assess Glucose

Glucose Level > 80

Glucose Level < 80

Narcotic Overdose Suspected

50% Dextrose

50 mL IV/IO

If no IV access

Glucagon

1 mg IM

Naloxone (Narcan)

Up to 2 mg IV/IO/IM

Titrate to respiratory response

Thiamine

100 mg IV/IO

Narcotic Overdose suspected

Naloxone (Narcan)

Up to 2 mg IV/IO/IM

Titrate to respiratory response

TRANSPORT

Perform repeat glucose level after 10 minutes,
repeat protocol as indicated

2.7 ANAPHYLAXIS/ALLERGIC REACTION

In Critical patients, administer medications prior to IV access

Routine Medical / Trauma Care

Systolic BP < 90 mmHg
and/or
Severe Respiratory Compromise

Epinephrine 1:1000
0.3 mg IM
*50 yrs old or greater obtain
Medical Control

Fluid Challenge
If indicated

Benadryl
50 mg IV / IO / IM

IF NO IMPROVEMENT
Consider
Epinephrine
1:1000 0.3 mg IM
1:10,000 0.5-1.0 IV/IO

Consider
Solumedrol
125 mg IVP

Systolic BP > 90 mmHg
and/or
No Respiratory Compromise

Benadryl
50 mg IV / IO / IM

If no relief consider
Epinephrine 1:1000
0.3 mg SubQ
*50 yrs old or greater obtain
Medical Control

Consider
Solumedrol
125 mg IVP

TRANSPORT

* MEDICAL CONTROL ORDER

2.8 COMBATIVE PATIENT

The following Medical Control Option may be used for hemodynamically stable patients with a psycho social condition combative/violent behavior. If the patient presents a substantial risk of bodily harm or injury to themselves, others, or emergency personnel; involve law enforcement.

*Routine Medical/Trauma Care
Including Blood Glucose*

*** Ativan (lorazepam)**

2mg IM/IV

AND

Diphenhydramine (Benadryl)

50 mg IM/IV

May repeat above medication in 10 minutes; contact Medical Control for orders and dosage.

*If controlled substances are
not available intercept with
appropriate agency or transport
to hospital whichever will deliver
medication to patient fastest.*

***MEDICAL CONTROL ORDER**

2.9 BURNS

Perform Routine Trauma Care

<i>Assess Burns to upper airway or airway compromise</i>	
YES	NO
<i>Refer to advanced Airway management</i>	Transport

Consider fluid challenge

Consider Pain Management

****NOTE**

Determine whether or not patient meets trauma criteria and/or transport to closest hospital for airway management. If burn is second degree or greater and involves 15% or more BSA, transport to Burn Center or Trauma Center.

2.10 FLUID CHALLENGE

Confirm indications for fluid challenge

Routine Medical/Trauma Care

Infuse 500 mL Normal Saline rapidly

Reassess and reconfirm indications

Repeat Infusion of 500 mL Normal Saline rapidly

Contact Medical Control

If condition persists, repeat fluid challenge as indicated

2.11 HEAD TRAUMA

If Head Injury is suspected, the GCS is 8 or less, has seizures and has one or more of the following signs:

- Fixed or asymmetric pupils
- Abnormal flexion/extension (posturing)
- Hypertension/Bradycardia (Cushing's Reflex)
- Intermittent apnea
- Decrease in GCS of 2 or more points

*Perform Routine Medical/Trauma
Including glucose level*

Ventilate at 20 breaths per minute

If indicated attempt intubation as appropriate

Transport

2.12 HYPOTHERMIA

Routine Medical/Trauma Care

Prevent further heat loss

Remove wet clothing

Handle patient gently avoid excessive activity

Glucose Level > 80

Glucose Level < 80

50 % Dextrose
50 mL IV/IO

Transport

If Cardiac Arrest defibrillate as appropriate x 3,
intubate as required and contact Medical Control prior
to medication administration

2.13 SHOCK / HYPOPERFUSION

Shock (hypoperfusion) defined as:

Signs of Inadequate Perfusion

(Altered mental status, tachycardia, pallor and/or cold, clammy skin.)

Routine Trauma Care

Fluid Challenge

Paramedic Only

Dopamine

Infusion at 5 mcg/kg/min

Titrate to systolic BP of 100 mmHg, by increasing 5 mcg/kg/min q 5 mins to a maximum of 20 mcg/kg/min

TRANSPORT

2.14 NAUSEA / VOMITING

Indications:

For the prevention and treatment of nausea and vomiting

Routine Medical/Trauma Care

Zofran (Ondansetron)

4 mg IV/IM

If no relief

Repeat same dose once after 5 minutes

2.15 NEAR DROWNING

Patients that have suffered a near-drowning episode should be transported in the care of an ALS provider and should be transported for evaluation even if asymptomatic

Routine Trauma Care

Consider the following:

Hypothermia
Hypoxia
Head Injury
Spinal Shock
Bronchospasm
Seizures
Dysrhythmias

TRANSPORT

2.16 CRICOTHYROIDOTOMY

This procedure is to be used as a last result and may not provide adequate oxygenation for long periods of time. Immediate transport to the closest hospital is required to provide definitive airway management

Indications

Patients in respiratory failure, in which an airway cannot be secured by intubation, approved alternate airway device or BVM.

Patients that a standard intubation cannot be performed.

Routine Trauma Care

**** Perform Age appropriate**
*** Cricothyroidotomy**
With LARGE Quick Trach device

Ventilate with BVM use SLOW Ventilations with extended exhalation periods

AEMT-CC able to perform Quicktrach on patients 5 years old and older

* MEDICAL CONTROL ORDER

2.17 OBSTETRIC COMPLICATIONS

Patients with severe pre-eclampsia, eclampsia or post partum hemorrhage. Indications of severe eclampsia include systolic BP >160 mmHg, diastolic > 110 mmHg and/or severe headache, visual disturbances, acute pulmonary edema, upper abdominal tenderness and seizures.

Perform Routine Medical/Trauma Care

Pre-eclampsia/ Eclampsia	Severe Post Partum Hemorrhage
Magnesium Sulfate 4 grams in 50 mL over 10 mins	Put infant to mothers breast
If Seizures Ativan (lorazepam) 4 mg IV/PR may repeat q 5 mins to effect	Fundal massage
If no improvement repeat Magnesium Sulfate 4 grams in 50 mL normal saline over 15 minutes	Consider fluid challenge
TRANSPORT	

** If Ativan unavailable, intercept or transport to hospital whichever brings Ativan to the patient sooner

2.18 PAIN-MANAGEMENT

Perform Routine Medical/Trauma Care

Morphine Sulfate

5 mg IV

**Repeat dose requires MEDICAL CONTROL ORDER*

OR

****Fentanyl***

50 micrograms IM/IV

*REQUIRES MEDICAL CONTROL ORDER

TRANSPORT

*** If controlled substances unavailable, intercept or transport to hospital whichever brings appropriate medication to the patient sooner*

** Repeat Morphine and any Fentanyl dose requires Medical Control Order*

2.19 POISONING/OVERDOSE

Patients presenting with or reported as overdose/poisoning will be transported in the care of Advanced Life Support Providers

Perform Routine Medical/Trauma Care

If ingestion has occurred or suspected
And patient is Conscious Alert and Oriented

****Activated Charcoal***

1 gram/kg PO

Maximum 50 grams

Providers should contact medical control early for treatment options

TRANSPORT

* MEDICAL CONTROL ORDER

2.20 SEIZURES

Perform Routine Medical/Trauma Care

Assess Glucose Level

Glucose level > 80

Ativan (lorazepam)
4 mg IV/IO/IM/PR

May repeat

Ativan (lorazepam)
4 mg IV/IO/IM/PR

Glucose level < 80

Dextrose
50% Dextrose 50mL IV/IO
or
Glucagon
1 mg IM if no IV access

If seizure continues

Ativan (lorazepam)
4 mg IV/IO/IM/PR

May repeat
Ativan (lorazepam)
4 mg IV/IO/IM/PR

* If seizures are a suspected result of pre-eclampsia or eclampsia, refer to obstetrical complications.

TRANSPORT

If Ativan is unavailable, meet ALS unit controlled substances or transport to the hospital, whichever brings **Ativan** to the patient fastest

2.21 STROKE

Patients with stroke symptoms in which the onset can be confirmed < 2 hours should be given high priority and quick transport to designated stroke center

Perform Cincinnati Pre-Hospital Stroke Scale
Obtain Glucose Level

Glucose level < 80

Glucose level > 80

Dextrose

50% Dextrose 50 mL IV/IO

or

Glucagon

1.0 mg IM if no IV/IO access

Observe neurological deterioration or seizure activity

TRANSPORT TO APPROPRIATE HOSPITAL.

If seizures are a suspected result of pre-eclampsia or eclampsia, refer to obstetrical complications.

2.22 TRAUMATIC CARDIAC ARREST

Perform Routine Trauma Care

If suspected Chest Trauma

If suspected hypovolemia

If indicated, Chest trauma
**Consider Bilateral
Needle Thoracostomies**

Apply and inflate MAST, per NYS
DOH BEMS guidelines

Fluid Challenge

Contact Medical Control

TRANSPORT

3.1 CARDIAC ASYSTOLE

Determine DNR/MOLST status

Perform CPR and Routine Medical Care

Confirm asystole in three leads

Epinephrine 1:10,000

1 mg IV/IO

Repeat q 3-5 minutes during arrest

Atropine

1 mg IV/IO

Repeat q 3-5 minutes up to max of 3mg

Consider:

Sodium Bicarbonate

1 mEq/kg IV/IO

Confirm and document asystole in 3 leads

Contact Medical Control

Consider Termination of Resuscitation

Refer to Section 1.4

CPR should be performed for
30-60 seconds after drug
administration

Consider Causes:

Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hypo/hyperkalemia,
Hypoglycemia, Hypothermia, Toxins, Tamponade, Tension Pneumothorax,
Thrombosis, Trauma

3.2 CARDIAC BRADYCARDIA

Symptomatic Bradycardia is defined as a heart rate < 60 BPM and signs and symptoms of hypo-perfusion

Perform Routine Medical Care

Atropine

0.5mg IVP

If unable to establish IV/IO

Max dose of 3 mg

Transcutaneous Pacing

Consider **Etomidate** 0.15mg/kg

Max dose 40 mg

Assess Signs of CHF

Absent

Present

Fluid Challenge

Dopamine

Paramedic Only

5mcg/kg/min, titrate to systolic BP of 100mmHG, by increasing 5mcg/kg/min q 5 mins to maximum of 20 mcg/kg/min

TRANSPORT

3.3 CARDIOGENIC SHOCK

Perform Routine Medical Care

Assess for Signs of CHF	
ABSENT	PRESENT
Fluid Challenge	Dopamine Paramedic Only Start Dopamine at 5mcg/kg/ minute. Titrate to systolic BP of 100 mmHG, increasing 5mcg/ kg/min. Max dose of 20mcg/kg/min
Dopamine Paramedic Only Start Dopamine at 5mcg/kg/ minute. Titrate to systolic BP of 100 mmHG, increasing 5mcg/ kg/min. Max dose of 20mcg/kg/min	
TRANSPORT	

3.4 CARDIAC CHEST PAIN

Acute Coronary Syndrome

Perform Routine Medical Care

Nitroglycerine

0.4 mg SL (or 1 spray) q 5mins
as long as systolic BP remains greater than 90 mmHg

Aspirin

Total pre-hospital dose 325 mg

Morphine Sulfate

5 mg IVP

OR

***Fentanyl**

50 micrograms IVP

Consult Medical Control for additional pain management

ST-ELEVATION - 12 Lead

*** Lopressor (Metoprolol)**

BP > 100 systolic and Heart rate >60 bpm

5 mg IVP slow q 5 min x 3

Transport to appropriate destination - STEMI-Center

*** MEDICAL CONTROL ORDER**

If 12-Lead, or Controlled Substance not available intercept with appropriate agency or transport to hospital, whichever provides appropriate care sooner

Nitroglycerine should not be administered to patients that have taken Viagra or similar medications in the previous 24 hours.

3.5 12 LEAD EKG

Perform Routine Medical Care on all patients complaining of chest pain, atypical chest pain, anginal equivalents, Dyspnea, Palpitations, Syncope, General Weakness, Dizziness, Hyperglycemia or as patient condition warrants.

Frequency

- Initial 12 Lead should be obtained during assessment and vital signs, preferably where the patient is found.
- If not performed on scene as soon as patient is in ambulance.
- During transport with any patient change.

Suspected Acute Myocardial Infarctions

- Follow Chest Pain protocol
- Report findings to ED(transmit 12 lead if possible)
- Speak directly to physician with ST Elevated MI reports
- Assure ED has copy of pre-hospital 12 lead ECG's.

SPECIAL NOTES

- If unable to provide 12-Lead EKG, intercept with closest EMS agency able to provide 12 lead or Emergency Department whichever provides appropriate care sooner
- Transport ST-Elevated AMI's in the emergent mode to a Cath Lab Facility

3.6 CARDIAC – STABLE TACHYCARDIA

Perform Routine Medical Care including 12 lead ECG

Stable defined as Pulse > 150 bpm, without S/S of shock

Assess Complex

Narrow Complex

Regular

Consider Valsalva
maneuver
Or Cough Reflex

Adenosine
6mg Rapid IV/IO

Adenosine
12mg Rapid IV/IO

Adenosine
12mg Rapid IV/IO

Irregular

A-Fib, A Flutter, MAT

Cardizem (diltiazem)

0.25 mg/kg IV

OR

***Lopressor
(Metoprolol)**

BP > 100 systolic

5 mg IV/IO

q 5 min x 3

Amiodarone

150 mg IV/IO

Wide Complex or Uncertain

Amiodarone

150 mg IV/IO

Lidocaine

1.5 mg/kg IV/IO

Adenosine

6 mg Rapid IV/IO

Adenosine

12 mg Rapid IV/IO

Adenosine

12 mg Rapid IV/IO

TRANSPORT

* MEDICAL CONTROL ORDER

3.7 PULMONARY EDEMA

Perform Routine Medical Care including
12 Lead EKG

If Wheezing

Albuterol 2.5 mg in 3ml + **Atrovent** 0.5 mg in 2.5 via nebulizer

Consider **Continuous Positive Airway Pressure (CPAP)**

Assess Blood Pressure

Systolic BP > 90 mmHg

Nitroglycerine
0.4 mg SL or 1 spray q 5 mins
as long as systolic BP remains
> 90 mmHg.

Lasix
40 mg IVP

***Morphine Sulfate**
0.1 mg/kg IV
May be repeated q 5 minutes
max of 20 mg.

Systolic BP < 90 mmHg

DOPAMINE
Paramedic Only
Start Dopamine at 5mcg/kg/
minute. Titrate to systolic BP of
100 mmHG, increasing 5mcg/
kg/min.
Max dose of 20mcg/kg/min

Transport

* MEDICAL CONTROL ORDER

3.8 CARDIAC UNSTABLE TACHYCARDIA

Perform Routine Medical Care

Unstable defined as; Pulse greater than 150 bpm

AND

Decreased level of consciousness,
Signs and symptoms associated with shock,
S&S of CHF

Perform Immediate **Synchronized Cardioversion**

Initial cardioversion @ 50 joules, followed by 100 joules,
200 joules and 360 joules as patient condition warrants

Consider sedation

Etomidate

0.15 mg/kg IV

TRANSPORT

NOTES:

If patient becomes pulseless (V.Tach, Torsades or V.Fib) perform immediate unsynchronized counter-shock.

3.9 PULSELESS-V.TACH/V.FIB

Perform Routine Medical/Trauma Care

(Unwitnessed Arrest) Begin CPR for 2 minutes, confirm V-Fib or Pulseless V-Tach
Defibrillate per AHA Guidelines
(Witnessed Arrest) Defibrillate per AHA guidelines

Resume CPR, establish IV/IO

Epinephrine 1:10,000
1 mg/kg IV/IO
Repeat q 3 minutes during arrest

Defibrillate per AHA Guidelines

Amiodarone
300mg IV/IO

Defibrillate per AHA Guidelines

Lidocaine
1.5 mg/kg IV/IO

Defibrillate per AHA Guidelines

Lidocaine
1.5 mg/kg IV/IO

Defibrillate per AHA Guidelines

TRANSPORT

If refractory or in Torsades de Pointes consider **Magnesium Sulfate**
2 grams/10mL over 1 minute

CPR should be performed for 30-60 seconds after medication administration and before defibrillation

3.10 CARDIAC EMD/PEA

Perform Routine Medical Care

Epinephrine

1 mg (1:10,000) IV/IO

Repeat q 3-5 mins during arrest

If rate is < 60 min

Atropine

1 mg IV/IO

Repeat q 3-5 minutes, up to 3mg.

Consider:

Sodium Bicarbonate

1 mEq/kg IV

Consider

Fluid Challenge

TRANSPORT

Consider Causes:

Hypoxemia

Hypovolemia

Hypothermia

Hypokalemia

Tamponade

Tension Pneumothorax

Toxins, Poisons, Drugs

Thromboembolism

4.1 PEDIATRIC ROUTINE MEDICAL CARE

All patients requiring Advanced Life Support Care will receive routine medical care. The following equipment should be brought to your patient. Oxygen, IV Normal Saline (1000mL) Macro-drip or Saline Lock, Cardiac Monitor/Defibrillator/ETCO2 monitoring, Advanced Airway Equipment, Suction, and Protocol Medications.

PEDIATRIC Protocols apply to patients < 16 years old.

AEMT-CC performs procedures within their scope of practice on patients 5 years old and older.

The following procedures will be performed on pediatric patients requiring Basic and Advanced Life Support Care:

- Reassurance and proper positioning.
- Obtain baseline vital signs as patient condition warrants
- Airway Management with ventilatory assistance and Oxygen as needed.
- Establish an IV of Normal Saline OR Saline Lock based on patient condition.
- Cardiac Monitoring.
- Contact Medical Control within 20 minutes of patient contact.
- Obtain / Ascertain DNR/MOLST status

4.2 PEDIATRIC ROUTINE TRAUMA CARE

- Spinal Immobilization, airway management, ventilatory support as needed with supplemental oxygen.
- The following equipment should be brought to your patient. Oxygen, IV Normal Saline (1000mL) Macro-drip or Saline Lock, Cardiac Monitor/Defibrillator/ETCO₂ monitoring, Advanced Airway Equipment, Suction, and Protocol Medications.
- Patient assessment and vital signs as patient condition warrants.
- Assess mechanism of injury to determine if patient meets Major Trauma Criteria.

PEDIATRIC Protocols apply to patients < 16 years old.

AEMT-CC performs procedures within their scope of practice on patients 5 years old and older.

- Stabilize Patient as appropriate
- Appropriate Oxygen Therapy
- Establish IV/IO Access as appropriate
- Monitor Cardiac Rhythm
- Fluid Challenge as appropriate

NOTES

Pediatric Patients meeting major trauma criteria will be transported to a designated Trauma Center, unless one of the following conditions exists;

- Patient in Cardiac Arrest
- Patient has unmanageable airway
- As directed by Medical Control

4.3 PEDIATRIC FACILITATED INTUBATION

AEMT-Critical Care / Paramedic

Greater than 10 years

Etomidate

0.3 mg/kg IV over 30-60 seconds
(maximum total dose 20 mg)

If not successful or patient under 10 years old

Midazolam (Versed)

0.05 mg/kg

After successful intubation

Midazolam (Versed)

0.05 mg/kg q 5minutes IVP to desired effect
maximum total dose 5 mg

Contact Medical Control for further sedation orders

If Versed is unavailable, intercept with Controlled
Substance Agency or transport directly to hospital
whichever brings Versed to the patient sooner

NOTES

- If intubation attempts are unsuccessful, consider approved alternative airway.
- less than 10 years old contact Medical Control for sedation order

* MEDICAL CONTROL ORDER

4.4 PEDIATRIC CARDIAC BRADYCARDIA

Perform Routine Medical Care

Emphasis on Airway and Oxygenation

Begin Chest Compressions if heart rate is below 60 bpm with poor perfusion in infants and children, prior to IV/IO access.

Epinephrine (1:10,000)

0.01 mg/kg IV/IO

Repeat q 3 minutes at same dose

Consider:

Atropine

0.02 mg/kg IV/IO

Minimum dose is 0.1 mg

Maximum single infant dose 0.5 mg

Maximum single child dose 1.0 mg

May repeat once

Consider:

Cardiac Pacing

TRANSPORT

Consider / Treat possible causes:

Hypoxemia

Hypothermia

Head Injury

Heart Block

Heart Transplants

Toxins/poisons

4.5 PEDIATRIC FLUID CHALLENGE

Shock is the indication for performing a fluid challenge. Signs and Symptoms include; capillary refill >2 seconds, cool clammy skin, tachycardia, tachypnea, decreased mental status, and/or hypotension

Confirm Indications for fluid challenge

Start IV/IO of Normal Saline

Rapidly Infuse 20 mL/kg bolus

Reassess and re-confirm indications

Rapidly Infuse 20 mL/kg bolus

Reassess and re-confirm indications

Rapidly Infuse 20 mL/kg bolus

TRANSPORT

* Do NOT delay transport, fluid challenge should be continued during transport

Fluid Challenge may need to be repeated, refer to appropriate protocol for further treatment options and contact medical control

4.6 PEDIATRIC AIRWAY OBSTRUCTION

An infant is considered any patient < 1 year of age. A child is considered any patient 1-8 years of age.

Routine Medical/Trauma Care

CONSCIOUS PATIENT:

<i>Assess effectiveness of respirations</i>	
<i>Good/Poor</i>	No Exchange
<i>Repeat as Needed</i>	5 Back blows / 5 Chest Thrusts as appropriate for patient age group
TRANSPORT	<i>Repeat as Needed</i>

UNCONSCIOUS PATIENT:

Manually Open the airway, attempt finger sweep as appropriate for patient age, attempt to ventilate, give 2 breaths if possible
Reposition and reattempt to ventilate
Give 5 Back blows / 5 Chest thrusts as appropriate for patient age
Use direct laryngoscopy and Magill forceps
If unsuccessful insert an ET tube and attempt to push through the obstruction or to push it into the right mainstem bronchus*
If unsuccessful, continue efforts and transport
PERFORM *<u>NEEDLE CRICOTHYROIDOTOMY</u>

*Use of this technique should correspond with the approved age limits outlined in Advanced Airway Management for each level of provider.

** Apply BLS Procedures as appropriate

4.7 PEDIATRIC RESPIRATORY DISTRESS

Consider the cause of the respiratory distress

Begin nebulized treatment prior to establishing IV access

Routine Medical / Trauma Care

Perform Assessment/Ascertain History

If you suspect Asthma/
Bronchiolitis

Atrovent
500mcg in 2.5 mL
and
Albuterol
2.5mg in 3 mL
Nebulizer

If no relief after 5 minutes
Repeat **Atrovent/Albuterol**

If no relief after 5 minutes
Repeat **Atrovent/Albuterol**

If no relief
Epinephrine (1:1000)
0.01 mg/kg IM
maximum dose 0.3 mg

Consider:
Solumedrol
2 mg/kg IV/IO/IM
max dose 125 mg

TRANSPORT

If you suspect Croup

Administer high flow humidified
oxygen.

If no relief
Racemic Epinephrine
0.5 mL in 2.5 mL NS Nebulizer

TRANSPORT

Consider:
Solumedrol
2 mg/kg IV/IO/IM
max dose 125 mg

4.8 PEDIATRIC ALTERED MENTAL

Routine Medical / Trauma Care

Glucose Level > 80

Glucose Level < 80

Narcotic Overdose Suspected

Administer according to age

***Dextrose**

4 mL/kg IV/IO (max 100mL)

or

Glucagon

0.05 mg/kg IV/IO/IM

max 1 mg

Naloxone / Narcan

0.1 mg/kg IV/IM

max dose 2mg

Narcotic Overdose suspected

Naloxone / Narcan

mg/kg IV/IM

max 2mg

TRANSPORT

***DEXTROSE**

Patients under 1 year old • D12.5

Patients 1-8 years old • D25

Patients over 8 years old • D50

Perform repeat glucose level after 10 minutes, repeat protocol as needed

4.9 PEDIATRIC ALLERGIC REACTION / ANAPHYLAXIS

In Critical patients, administer medications prior to IV access

Routine Medical / Trauma Care

Hypo-tensive
OR
Severe Respiratory Compromise

Epinephrine 1:1000
0.01 mg/kg IM
single maximum dose 0.3mg

IF NO IMPROVEMENT Consider

Epinephrine
1:1000 0.01 mg/kg IM
1:10,000 0.1 mg/kg IV/IO
max 0.5 mg

Benadryl (Diphenhydramine)
1 mg/kg IV/IO/IM
max dose 50 mg

Consider
Solumedrol
2 mg/kg IV/IO/IM
maximum dose 125 mg

Consider
Fluid Challenge

Normo-tensive
OR
No Respiratory Compromise

Benadryl
1 mg/kg IV/IO/IM
max dose 50 mg

If no relief consider

Epinephrine
1:1000
0.01 mg/kg SubQ

Consider
Solumedrol
2 mg/kg IV/IO/IM
max dose 125 mg

TRANSPORT

4.10 PEDIATRIC CRICOTHYROIDOTOMY

This procedure is to be used as a last result and may not provide adequate oxygenation for long periods of time. Immediate transport to the closest hospital is required to provide definitive airway management

Indications

Patients in respiratory arrest or near respiratory arrest in which an airway cannot be secured by intubation, approved alternative airway device or BVM

Routine Medical / Trauma Care

Paramedic

AEMT-CC and Paramedic

Patients under 5 years old.

Patients 5 years and older

Perform

* **Needle Cricothyroidotomy**

Minimum # 14 x2" needle

Perform

* **Cricothyroidotomy**

SMALL Quick-Trach device

Patients < 3 years old, attach
3.0mm endotracheal tube
adapter to catheter hub and
ventilate with *BVM

Ventilate with BVM
Use SLOW ventilations with
extended exhalation periods

Patients > 3years old, ventilate
with *transtracheal jet ventila-
tion

REQUIRES ON-LINE MEDICAL CONTROL

* Extreme care must be taken to avoid bending and occluding the catheter.

4.11 PEDIATRIC HYPOTHERMIA

Perform Routine Medical/Trauma Care, warm IV fluids, and

Routine Medical / Trauma Care

- If available warm humidified oxygen
- Prevent further heat loss
- Remove wet clothing
- Handle patient gently / avoid excessive activity

Contact Medical Control for all cardiac arrest patients prior to medication administration

Assess Glucose level

Glucose Level > 80

Glucose Level < 80

***Dextrose**

4 mL/kg IV/IO

OR

Glucagon

0.05 mg/kg IM/IO

max dose 1 mg

TRANSPORT

***Dextrose**

Under 1 year of age D12.5

1 year to 8 years old D25

Over 8 years old D50

4.12 PEDIATRIC PAIN MANAGEMENT

Routine Medical / Trauma Care

Morphine Sulfate

0.1 mg/kg IV/IO or IM

May be repeated q 5 minutes

Maximum single dose 2 mg

OR

****Fentanyl***

1 mcg/kg micrograms IV/IO

*REQUIRES MEDICAL CONTROL ORDER

TRANSPORT

**** If controlled substances unavailable, intercept or transport to hospital whichever brings appropriate medication to the patient sooner**

*** MEDICAL CONTROL ORDER**

4.13 PEDIATRIC NEONATAL RESUSCITATION

Meconium present with respiratory distress, apneic, or pulseless		Meconium not present, newborn is lethargic, apneic or pulseless
AEMT-CC	Paramedic	Paramedic / AEMT-CC
Use Meconium Aspirator and ETT to suction the airway up to 3 attempts	Suction mouth then nose with bulb syringe and/or mechanical suction device	Suction mouth then nose with bulb syringe or mechanical device Dry, Warm and stimulate Position and assess respiratory effort
If respiratory effort does not improve, stimulate and administer 100% Oxygen		
If no improvement, ventilate with BVM at least 40 breaths per minute		
If heart rate < 60 beats per minute begin chest compressions		
TRANSPORT		
If heart rate < 60 beats/min after ventilations and compressions, administer Epinephrine 1:10,000 0.01 mg/kg IV/IO Repeat dose q 3-5 minutes		
Assess Glucose level < 40 consider Dextrose 12.5% 2-4 mL/kg		
If respiratory depression and history of maternal narcotic use within 4 hours of delivery: Naloxone - Narcan 0.1 mg/kg IV/IO		
Consider Fluid Challenge at 10 mL/kg		

NOTE:

If meconium present and infant not lethargic do not intubate

4.14 PEDIATRIC POISONING/OVERDOSE

Patients presenting with or reported as overdose/poisoning will be transported in the care of Advanced Life Support Providers

Routine Medical / Trauma Care

If ingestion has occurred or suspected

***Activated Charcoal**

1 gram/kg PO

Maximum 50 grams

TRANSPORT

Providers should contact medical control early for
treatment options

* Requires Medical Control Order

4.15 PEDIATRIC SEIZURES

Routine Medical / Trauma Care

Assess Glucose Level

Glucose level > 80

Ativan (lorazepam)
0.1 mg/kg IV/IO/IM/PR
max dose 4 mg IV/IO/IM/PR

May repeat x1
Ativan (lorazepam)
max dose 4 mg IV/IO/IM/PR

Glucose level < 80

Dextrose
4 mL/kg per age group IV/IO
OR
Glucagon
0.05 mg IM if no IV access
max dose 1 mg

If seizure continues

May repeat x1
Ativan (lorazepam)
0.1 mg/kg IV/IO/IM/PR
max dose 4 mg

TRANSPORT

If Ativan is unavailable, meet unit with controlled substances or transport to the hospital, whichever brings Ativan to the patient fastest.

4.16 PEDIATRIC TRAUMATIC CARDIAC ARREST

Routine Medical / Trauma Care

If indicated

***Consider Cricothyroidotomy**

Requires Medical Control Order

Chest trauma perform

Bilateral Needle Thoracostomy

If hypovolemia is suspect

Fluid Challenge

TRANSPORT

AEMT-CC may perform Needle Cricothyroidotomy and Needle Thoracostomy on patients 5 years old and greater

* Requires Medical Control Order

4.17 PEDIATRIC PULSELESS ALGORITHM

Routine Medical / Trauma Care

Start/Continue CPR/Attach Monitor/ Assess Rhythm

VF / VT

Asystole/PEA

Defibrillate x 1
2 J/kg

Resume CPR
Epinephrine 1:10,000
0.1 mg/kg IV/IO
Repeat every 3-5 minutes

Give 10 cycles of CPR (about 2 mins)

Defibrillate x 1
4 J/kg
Resume CPR
Epinephrine 1:10,000
0.1 mg/kg IV/IO
Repeat every 3-5 minutes

No Pulse
Resume CPR
Epinephrine 1:10,000
0.1 mg/kg IV/IO
Repeat every 3-5 minutes

Give 10 cycles of CPR (about 2 mins)

Defibrillate x 1
4J kg
Resume CPR
Consider Antiarrhythmics
Amiodarone
5 mg/kg IV/IO
OR
Lidocaine
1 mg/kg IV/IO

Consider:
Magnesium Sulfate
25-50 mg/kg IV/IO (max 2G)
for torsades de pointes

Consider Causes:
Hypovolemia
Hypoxia
Hypothermia
Hydrogen ion (acidosis)
Hypo-hyperkalemia
Hypoglycemia
Toxins
Tamponade
Tension Pneumothorax
Thrombosis
Trauma

TRANSPORT

4.18 PEDIATRIC TACHYCARDIA

Unstable patient is defined as: BP < normal for age, capillary refill > 2 seconds, SOB, decreased mental status, or signs of CHF.

Heart rate > 240/ min (infants) and >180/min (children)

Routine Medical/Trauma Care

Assess QRS width for SVT/PSVT or V-Tach

UNSTABLE

QRS Wide for age > 0.08 sec (VT)

Consider Vagal Maneuvers

Synchronized Cardioversion

0.5-1 joule/kg

Consider sedation prior to Cardioversion

***Midazolam (versed)**

0.05 mg/kg IV/IO

Synchronized Cardioversion

2 joules/kg

as patient condition warrants

Consider sedation prior to Cardioversion

***Midazolam (versed)**

0.05 mg/kg IV/IO

STABLE

QRS Normal for age <= 0.08 sec (SVT)

Consider Vagal Maneuvers

Adenosine

0.1 mg/kg IV/IO

maximum first dose 6 mg

May double and repeat dose once

Maximum second dose 12 mg

Amiodarone

5mg/kg IV/IO bolus

Synchronized Cardioversion

0.5-1 joule/kg

Consider sedation prior to Cardioversion

***Midazolam (versed)**

0.05 mg/kg IV/IO

Synchronized Cardioversion

2 joules/kg

as patient condition warrants

Consider sedation prior to Cardioversion

***Midazolam (versed)**

0.05 mg/kg IV/IO

If versed not available, meet with appropriate agency or transport directly to hospital, whichever will bring versed to the patient fastest

* MEDICAL CONTROL.

TRANSPORT

4.19 PEDIATRIC BURNS

Routine Medical/Trauma Care

Assess Burns to upper airway or airway compromise

YES

NO

Refer to advanced
Airway management

TRANSPORT

Consider fluid challenge

Consider Pain Management

****NOTE;** Determine whether or not patient meets trauma criteria and/or transport to closest hospital for airway management. If burn is second degree or greater and involves 15% or more BSA, transport to Trauma Center.

4.20 PEDIATRIC HEAD TRAUMA

If Head Injury is suspected,

AND

GCS is 8 or less, has seizures and any of the following signs:

- Fixed or asymmetric pupils
- Abnormal flexion/extension (posturing)
- Hypertension/Bradycardia
- Intermittent apnea
- Decrease in GCS of 2 or more points

*Perform Routine Medical/Trauma
Including glucose level*

Ventilate at 25 breaths per minute

If indicated attempt intubation as appropriate

TRANSPORT

PROTOCOL DRUGS

Drug	Dose/Route	Protocol
Activated Charcoal	1 Gm/kg / P.O.	Poisoning/Overdose
Adenosine - Adenocard	6 mg / IV/IO 12 mg / IV/IO 12 mg / IV/IO	SVT
Amiodarone - Cardarone	150 mg / IV/IO 300 mg / IV/IO	Tachycardia V.Tach/V.Fib
Albuterol	2.5 mg / Neb	Respiratory Distress Pulmonary Edema
Atrovent – Ipratropium Bromide	500 mcg / Neb	Respiratory Distress Pulmonary Edema
Atropine	0.5-1.0 mg / IV/IO	Asytle Bradycardia EMD/PEA
Ativan - Lorazepam	2 mg 4mg 0.1mg/kg	Combative Patient CPAP Seizures Eclampsia / Pre-eclampsia
Aspirin (Baby)	325 mg / PO	Chest Pain
Cardizem - Diltiazem	0.25 mg/kg / IV/IO 0.35 mg/kg / IV/IO	A-Fib / A-Flutter / SVT
Dextrose 50%	25 grams / IV/IO	Altered Mental Status Hypoglycemia Seizures Stroke Neonatal Resuscitation

Drug	Dose/Route	Protocol
Diphenhydramine – Benadryl	50 mg / IV/IM/IO	Allergic Reaction Anaphylaxis Combative Patient
Dopamine	200 mg in 250 mL / N/S 5-20 mcg/kg/min / IV drip	Shock Hypo-Perfusion Cardiac Bradycardia Cardiogenic Shock Pulmonary Edema
Epinephrine 1:1000	0.3-0.5 mg / SubQ/IM	Respiratory distress Allergic Reaction Anaphylaxis
Epinephrine 1:10,000	0.5-1.0 mg / IV/IO	Anaphylaxis Cardiac Asystole V.Tach/V.Fib EMD/PEA Ped Bradycardia Neonatal Resuscitation
Epinephrine (Racemic)	0.5 mg in 2.5 ml / Neb	Ped Respiratory Distress
Etomidate	0.3 mg/kg / IV/IO 0.15 mg/kg 0.15 mg/kg	Facilitated Intubation Unstable Tachycardia Bradycardia Cardioversion
Fentanyl	50 mcg / IV/IM	Pain Chest Pain
Furosemide - Lasix	40 mg / IV/IO	Pulmonary Edema
Glucagon	1mg / IM/IV 0.05mg/kg	Altered Mental Status Hypoglycemia Seizures Stroke
Lidocaine	1.5 mg/kg / IV/IO	Tachycardia V.Tach/V.Fib

Drug	Dose/Route	Protocol
Magnesium Sulfate	2 grams in 10 ml / IV/IO 4 grams in 50 ml	Arrhythmias Eclampsia Respiratory Distress Ped Pulseless Algorithm
Metoprolol - Lopressor	5 mg./ IV/IO	ST Elevation MI Atrial Fib/Flutter Cardiac Tachycardia
Morphine Sulfate	5 mg / IV/IO/IM 0.1 mg/kg / 5 mg/kg	Pain Pulmonary Edema Chest Pain
Naloxone - Narcan	2mg / IM/IV/IO	Altered Mental Status Narcotic Overdose Neonatal Resuscitation
Nitroglycerine	0.4 mg / SL	Chest Pain Pulmonary Edema
Sodium Bicarbonate	1mEq/kg / IV/IO	Cardiac Asystole PEA/EMD
Solumedrol	125 mg / IV/IO 2mg/kg	Allergic Reaction Anaphylaxis Respiratory distress
Terbutaline	0.25 mg / Sub Q	Respiratory distress
Thiamine	100 mg / IV/IO	Altered Mental Status Hypoglycemia
Versed - Midazolam	2.5 – 5.0mg / IV/IO 0.3 mg/kg	Facilitated Intubation Sedation Ped Tachycardia
Zofran - Ondansetron	4 mg / IM/IV	Nausea/Vomiting

