



Finger Lakes Regional Emergency Medical Services

Standards of Care 2011

Now Includes 2010 AHA Standards

Effective Immediately

System Medical Director

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PREFACE

These are the Finger Lakes Emergency Medical Services protocols, as developed by the REMAC and approved by the Finger Lakes Regional EMS Council and its System Medical Director in 2010. Protocols for each patient care situation are listed in algorithmic format. These protocols assume that EMTs in the region stay well-versed in emergency medical care to their level of certification, and maintain a good understanding of the emergency situations contained in this document. Both adult and pediatric protocols will be found herein.

Advanced technicians working in Finger Lakes Regional EMS area are expected to observe these protocols at all times. They may not be altered without approval from the Agency Medical Director. These protocols are designed to act as STANDING ORDERS within the guidelines stated on each page.

STATEMENT OF PHILOSOPHY

No protocol can be written to cover all situations an advanced technician may encounter while practicing in the field, nor are protocols a substitute for good judgment seasoned by long experience. Technicians are expected to always utilize their best judgment, and to deliver care in the most prudent and reasonable fashion possible.

Any order given to the advanced technician by a medical control physician – or an on-scene physician – which directly contradicts or lies outside these protocols and/or the advanced technician’s scope of training, shall be respectfully declined by the technician.

AUTHORIZATION/VERIFICATION

The Medical Director for the Finger Lakes Regional EMS Council attests that these ALS Protocols constitute reasonable guidelines for off-line and on-line medical control of the Advanced Life Support System of the Finger Lakes Region in the State of New York, as required by Article 30, subsection 31 of the State of New York Public Health Law, as well as the requirements for medical direction specified in Part 800 of the Codes and Regulations of the State of New York. These protocols were approved by the Finger Lakes REMAC in May 2010 and final approval was given by the New York State SEMAC on October 5, 2010.

2/2/2011

Jack B. Davidoff, MD, EMT-P
Medical Director, Finger Lakes Regional EMS

Date



PROTOCOL NOMENCLATURE

Items with a black bordered heading are standing orders for the specified level(s). Example:

EMT-CC/EMT-P

“Stop Lines” represent treatment endpoints for the specified level. No treatment listed below the stop line is authorized for the specified level. Examples:

EMT-B STOP _____

EMT-I STOP _____

EMT-CC STOP _____

Items with a yellow bordered heading require medical control consult for the specified level(s). Example:

EMT-P CONTACT MEDICAL CONTROL

Items with a red bordered heading are absolute on-line procedures and may never be done on standing orders by the specified level(s). Example:

EMT-CC ABSOLUTE ON-LINE

The following abbreviations may be used in the Finger Lakes Regional EMS Protocols:

cc	cubic centimeter (same as milliliters)	mcg	micrograms
g	grams	mg	milligrams
IM	intramuscular	mL	milliliters
IO	intraosseous	q	every
IV	intravenous	prn	as needed
		SQ	subcutaneous



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1.00 LEVELS OF CARE

Persons at the appropriate level of certification are allowed to perform the following skills:

EMT-B

- *Cardiac*: Defibrillation with pediatric capable AED or semi-automatic defibrillator if approved by agency medical director. EMT-Bs are NOT authorized to utilize cardiac monitoring devices.
- *Airway*:
 - Basic airway management only
 - Pulse oximeter
- *Evaluation*: Blood glucose determination using a commercially available device with approval of the agency medical director and completion of appropriate training.
- *Medication Administration*: Assist patient in taking his/her prescribed medication. If the agency has received approval and the EMT-B has completed the required training, he/she may administer the epinephrine auto-injector, nebulized albuterol, or aspirin per protocol.

EMT-Intermediate

All of the above skills plus:

- *Cardiac*: Monitor and defibrillate with manual defibrillator if approved by agency medical director.
- *Airway*:
 - Use of CombiTube, KingLT or other supraglottic airway
- *IV Therapy*:
 - Venous cannulation of peripheral veins and initiation of IV fluids
 - IV attempts limited to three; do not delay transport
 - IV sites limited to arms
 - Intraosseous device placement
 - Blood draws



1.00 LEVELS OF CARE

EMT-Critical Care

All of the above skills plus:

- *Cardiac:*
 - Rhythm interpretation
 - Defibrillation with a manual defibrillator
 - Synchronized cardioversion
 - External cardiac pacing
- *Airway:*
 - Tracheal suctioning through ETT
 - Needle chest decompression, with approval of the agency medical director
- *IV Therapy:*
 - Intraosseous placement
 - Peripheral venous cannulation
 - External jugular cannulation in cardiac arrest situations only
 - IV attempts limited to three in ten minutes; repeated attempts should not delay transport per protocol and medical control order
- *Medication Administration:*
 - Administration of medication from the regional medication formulary per protocol and medical control order
 - Medications listed in the formulary as requiring additional training for EMT-CC personnel may be used only by those EMT-CC providers who have completed FLREMAC approved training on those medications.
- Additional skills/procedures as approved by REMAC

EMT-Paramedic

All of the above skills plus:

- *Airway:*
 - Needle cricothyrotomy (only with jet insufflation)
 - Surgical cricothyrotomy with approval of REMAC/Medical Director
 - Rapid Sequence Intubation (RSI) with approval of REMAC/Medical Director
- Additional skills/procedures as approved by REMAC

All procedures will be performed in strict accordance with the standards contained within this document as well as regulations, policy and protocol established by the New York State Department of Health.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

1.01 ROUTINE MEDICAL CARE

Page 1 of 1

ALL LEVELS

1. Patient care equipment will always be brought to the patient whenever possible and safe. This includes:
 - a. Oxygen, suction, bag with BP cuff, oxygen masks, BVM, and oropharyngeal airways
 - b. Advanced airway kit (**I/CC/P only**)
 - c. Monitor/defibrillator per technician's level of care
 - d. Medication box and communication equipment (**CC/P only**)
2. Airway management, ventilatory assistance, and oxygen therapy as appropriate.
3. Serial vital signs and patient assessment.
4. Patients experiencing potential cardiac or respiratory complaints should not be walked to the ambulance.
5. Jewelry and other constricting items should be removed from injured extremities.
6. A guideline for scene time on medical calls is 20 minutes or less.

EMT-B/EMT-I STOP _____

EMT-CC/EMT-P

7. Waveform capnography should be available for patients experiencing acute respiratory distress.
8. ECG monitoring for all patients requiring CC/P level care.
9. Contact medical control for consult as necessary or to obtain physician orders.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



1.02 AIRWAY MANAGEMENT

ALL LEVELS

1. Establish patent airway:
 1. Manually open airway prn
 2. Head tilt/chin lift (non-trauma)
 3. Modified jaw thrust (trauma)
2. Use suction as needed
3. Use oropharyngeal/nasopharyngeal airway as needed (should always be used on patients receiving bag-valve mask ventilation if tolerated)
4. Ventilation with BVM and 100% oxygen as needed (use two rescuer BVM technique when possible)

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

5. EMT-I may not utilize endotracheal intubation. EMT-I/EMT-CC/EMT-P may utilize Combitube, KingLT, or other supraglottic device (as approved by REMAC).

EMT-I STOP _____

EMT-CC/EMT-P

6. May attempt orotracheal intubation up to two times per patient on patients requiring definitive airway management.
 - With manual stabilization for trauma
7. Following intubation, ventilate patient with 100% oxygen.
8. Perform primary airway placement check: auscultate for bilateral breath sounds and absence of epigastric sounds; look for chest rise. Use waveform capnography to confirm ETT placement. Continuous use of waveform capnography is required for duration of call event following intubation.
9. A properly functioning supraglottic airway (as demonstrated by capnography, chest rise, and lung sounds) should not be removed for the purpose of further endotracheal intubation attempts.

EMT-CC STOP _____



1.02 AIRWAY MANAGEMENT

EMT-P

10. In the event of an inability to manage airway by any other means (including intubation, rescue airways such as the Combitube, and simple BLS maneuvers such as head tilt/jaw thrust), may perform one of the following:
 1. Needle cricothyrotomy with BVM ventilation (Patient aged < 5)
 2. Needle cricothyrotomy with jet insufflations (Patient aged 5-11)
 3. Surgical cricothyrotomy with placement of ET tube (Patient aged > 12)
11. Medical control must be notified following performance of the procedure.

EMT-P ABSOLUTE ON-LINE

12. May utilize Rapid Sequence Intubation (RSI) protocol if agency and technician are approved. Refer to RSI protocol.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

1.03 OXYGEN THERAPY

Page 1 of 1

ALL LEVELS

1. Administer oxygen via a nonbreathing mask. The flow rate should be sufficient to keep the bag on the mask inflated (10-15 lpm)
2. If patient does not tolerate the mask, use nasal cannula at 6 lpm.
3. Assist respirations as needed. Patients with COPD may require coaching or ventilation assistance. **DO NOT WITHOLD HIGH CONCENTRATIONS OF OXYGEN FROM ANY DYSPNEIC PATIENT, REGARDLESS OF COPD HISTORY.**

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

1. Administer oxygen at high concentrations and assist ventilations as necessary if any of the following criteria are present:
 - Decreased LOC
 - Signs of respiratory distress or cyanosis
 - Signs of shock or inadequate tissue perfusion
 - Mechanism suggests the possibility of toxic substance inhalation (i.e. carbon monoxide, cyanide, etc.)
 - Hypothermia
2. Patients not meeting the criteria should receive oxygen to patients to maintain an oxygen saturation of greater than 95%.
3. Refer to protocols for Airway Management (1.02), CPAP (2.18), and Respiratory Distress (2.31) as needed.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

1.04 VASCULAR ACCESS

Page 1 of 1

ALL LEVELS

1. **ONLY INTERMEDIATE, CRITICAL CARE, AND PARAMEDIC LEVEL TECHNICIANS WITHIN THE FLREMS REGION MAY MONITOR IVs DURING TRANSPORT.** BLS units, however, may transport patients with saline or heparin locks in place.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

2. EMT-Intermediate technicians will only start IVs on patients if one or more of the following conditions is present:
 - The ILS agency is a non-transporting agency awaiting the arrival of a transporting unit which has not arrived.
 - The ILS agency is transporting the patient and the IV can be started enroute.
 - By order of medical control or onscene CC/P
 - At the scene when a prolonged patient extrication (> 20 minutes) is involved.
3. Start IV of normal saline or saline lock on all patients requiring ALS care, unless otherwise specified. The total number of IV attempts should not exceed three.
4. Run at KVO rate (10 mL/hr) unless directed differently by protocol or medical control.

EMT-I STOP _____

EMT-CC/EMT-P

5. For patients requiring urgent fluid or medication administration, may utilize adult intraosseous device in cardiac arrest or if IV access attempts have failed. The intraosseous device may be placed in any location approved for the specific device. The intraosseous device, once placed, may be used to administer any IV medication listed in the FLREMS Standards of Care. The adult intraosseous device is preferred over other alternative access methods listed below.
 - If intraosseous is placed in conscious adult, may administer 30mg lidocaine IO (preservative free) 2% for pain control.
6. May start external jugular in patients if no other access is available.
7. Renal shunts or fistulas* may be used only in the case of cardiac arrest.

EMT-CC/EMT-P ABSOLUTE ON-LINE

8. Access of renal shunt or fistula in non-cardiac arrest situation.
9. Access to Hickman, PICC line, or other indwelling IV catheter*. Specialized indwelling medication ports may require special equipment for access and usage. The provider should use only indwelling ports that do not require any specialty connectors or equipment.

* - The provider must have completed training/competency in use of alternative access routes.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

1.05 SPINAL IMMOBILIZATION

Page 1 of 1

ALL LEVELS

1. Spinal immobilization and fracture management according to New York State BLS protocols should be performed by all levels of providers whenever indicated.
2. Refer to New York State BLS Protocol T-8 revision dated 5/1/2008 regarding selective spinal immobilization procedures.
3. New York State Certified First Responders (CFR) who have completed a training program approved by FLREMS may perform spinal immobilization and fracture management according to NYS BLS protocol.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



1.6 HEMORRHAGE CONTROL

ALL LEVELS

1. Bleeding and hemorrhage control should be performed consistent with New York State BLS protocols by all levels of providers when indicated.
2. Bleeding from an extremity that cannot be controlled by usual means (direct pressure and elevation) may be controlled through the use of a windlass-type tourniquet*.
 - a. Apply the tourniquet 2 inches above the wound.
 - b. Do not apply a tourniquet over a joint.
 - c. Record the time of application of the tourniquet.
 - d. The tourniquet should be left in place until arrival at the hospital.
3. Bleeding from the axilla, groin, neck, or large scalp wounds which cannot be controlled by usual means and where a tourniquet cannot be applied, may be controlled using hemostatic gauze. The gauze must be of a type which will not cause burns or other additional injury to the patient.

*Tourniquets that have a ratchet device are not to be used in the Finger Lakes Region. Should you have any questions regarding the type or use of tourniquet to be used, please contact this office.

ORIGINAL: 11/17/2011

REVISED: 11/17/2011

System Medical Director Approval:

**ADULT
TREATMENT
PROTOCOLS**



2.00 ADRENAL INSUFFICIENCY CRISIS

ALL LEVELS

1. Protocol refers to acute adrenal insufficiency crisis associated with Addison's Disease, adenoma, hypopituitism, or other cause. (Check for presence of medical jewelry or forms).
2. Assess for evidence of adrenal insufficiency crisis:
 - a. Known medical history and prescribed medications (steroids)
 - b. Hypovolemic shock symptoms - orthostatic hypotension
 - c. Nausea/vomiting
 - d. Hypoglycemia

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

3. Treat shock symptoms per Fluid Challenge/Replacement protocol (2.20) and hypoglycemia per Altered Mental Status protocol (2.04).

EMT-I STOP _____

EMT-CC/EMT-P ABSOLUTE ON-LINE

4. Medical control may order administration of:
 - a. methylprednisolone 125mg IV OR
 - b. dexamethasone 4mg IV



2.01 ADULT TRAUMA CARE

ALL LEVELS

1. ***If patient presents with unmanageable airway or cardiac arrest***, transport immediately to the nearest facility with CPR and trauma care as required.
2. Complete spinal immobilization per New York State BLS protocol. May utilize selective spinal immobilization protocol as appropriate.
3. Consult other FLREMS protocols as appropriate.
4. Select destination facility as described below.
5. Evaluate physical findings for the following indications for transport to trauma center:
 - a. Glasgow Coma Score (GCS) < 13
 - b. Respirations < 10 or > 29
 - c. Pulse rate < 50 or > 120
 - d. Systolic BP < 90 mmHg
 - e. Penetrating injuries to head, neck, torso, or proximal extremities
 - f. Two or more suspected proximal long bone fractures
 - g. Suspected flail chest
 - h. Suspected spinal cord injury or limb paralysis
 - i. Amputation (except digits)
 - j. Suspected pelvic fracture
 - k. Open or depressed skull fracture***If one or more finding is present***, rapid transport to trauma center is indicated. **Consider utilization of air medical transport.**
6. Evaluate patient for risk factors which may warrant transport to trauma center:
 - a. Bleeding disorders or patients on anticoagulants (clopidogrel (Plavix), warfarin (Coumadin), aspirin)
 - b. Cardiac/respiratory disease
 - c. Insulin dependent diabetes, cirrhosis, or morbid obesity
 - d. Immunosuppressed patients (HIV, transplant patients, patients receiving chemotherapy)
 - e. Age > 55
 - f. Pregnancy***If one or more risk factor is present***, contact medical control to discuss possible transport to trauma center.
7. If not indicated otherwise, patient should be transported to the nearest hospital.
8. Notify the destination facility. Contact medical control as needed.
9. Do not delay transport to await ALS or air medical service. Begin transport and arrange rendezvous with ALS or air medical service enroute if necessary.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

10. Utilize Fluid Challenge/Replacement protocol as needed. Do not delay transport for placement of IV lines.
11. Establish second IV line.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.02 AIRWAY OBSTRUCTION

ALL LEVELS

1. ***If patient is conscious:***
 - a. Assess air exchange and oxygenation status of patient.
 - i. ***If the patient can cough, speak, and/or breathe*** do not intervene. Encourage coughing, administer oxygen as tolerated, and begin rapid transport.
 - ii. ***If the patient cannot cough, speak, or breathe*** administer continuous abdominal thrusts until the airway is cleared or the patient becomes unresponsive.
2. ***If patient is unconscious:***
 - a. Open airway with manual BLS maneuvers and attempt ventilations
 - b. If ventilations fail, begin CPR using ratio of 30 compressions to 2 breaths (one or two rescuers).
 - c. inspect the mouth and suction/finger sweep as appropriate during each ventilatory cycle
3. If initial efforts to dislodge object are unsuccessful, begin rapid transport and continue efforts enroute.

EMT-B/EMT-I STOP _____

EMT-CC/EMT-P

4. ***If patient remains unconscious,*** attempt direct laryngoscopy and removal of foreign object with Magill forceps.

EMT-CC STOP _____

EMT-P

5. Needle or surgical cricothyrotomy per agency authorization.
 - a. Should be performed only when unable to intubate due to partial or complete airway obstruction and all other means of ventilating the patient (including alternative advanced airway and simple BLS ventilation with head tilt/jaw thrust) have failed.
 - b. Medical control must be notified following performance of the procedure and advised of its results.



2.03A ALLERGIC REACTION (EMT-CC/EMT-P)

EMT-CC/EMT-P

1. Routine medical care (protocol 1.01)
2. ***If signs of severe anaphylaxis (bronchospasm, hypotension, etc.),*** administer epinephrine 1:1000 0.3 mg IM/SQ
3. Diphenhydramine 25-50 mg IM/IV
4. If wheezing present, nebulized albuterol 2.5 mg.
5. IV NS. If systolic BP less than 90 mmHg, refer to Fluid Challenge protocol.
6. Begin transport.

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

7. If hypotension persists, repeat epinephrine 1:1000 0.3 mg IM/SQ q 5 minutes.

EMT-CC ABSOLUTE ON-LINE

8. Medical control may order usage of methylprednisolone 125mg IV.



2.03B ALLERGIC REACTION (EMT-B/EMT-I)

ALL LEVELS

1. Routine medical care (protocol 1.01).
2. If patient has their own epinephrine auto-injector, all EMTs may assist the patient in administering the epinephrine injection.
3. Request ALS intercept.
4. Initiate rapid transport – do not delay transport to the hospital.
5. EMT-B/I personnel working with agencies authorized to carry an epinephrine auto-injector may proceed with steps 6-9.
6. Evaluate the following criteria:
 - a. History of allergic reactions/anaphylaxis
 - b. Recent exposure to allergen
 - c. Patient exhibits respiratory distress and/or shock/hypotension
 - d. Patient has prescription for epinephrine auto-injector (the patient's injector does not have to be available)
 - e. Patient has not yet received dose of epinephrine
7. ***If all criteria in #6 are met***, administer epinephrine auto-injector 0.3 mg IM dosage.

EMT-B/I CONTACT MEDICAL CONTROL

8. If all criteria in #6 are not met, medical control must be contacted prior to the administration of epinephrine by EMT-B/I.
9. Repeat administration of epinephrine by EMT-B/I requires medical control contact.

EMT-B STOP _____

EMT-I

10. Start IV NS. ***If systolic BP less than 90***, refer to Fluid Challenge protocol (2.20).



2.04 ALTERED MENTAL STATUS

ALL LEVELS

1. Routine medical care (protocol 1.01).
2. Assess respirations. Assistance with BVM may be required if any of the following criteria are present:
 - a. Respiratory rate < 12
 - b. Minimal air movement
 - c. Decreasing level of consciousness
 - d. Falling respiratory rate
 - e. Persisting cyanosis
3. Refer to other protocols as indicated including head trauma, seizures, hypoxia, stroke, overdose, and poisoning.
4. Assess blood glucose if authorized. ***If blood glucose < 80 mg/dl AND patient is able to swallow and protect own airway, administer oral glucose gel 15g or 24g (or any other form of sugar).***

EMT-B/I STOP _____

EMT-CC/EMT-P

5. ***If blood glucose < 80 mg/dl, administer dextrose 50% 50mL IV push. Reassess blood glucose and repeat as necessary. If unable to place IV, administer glucagon 1mg IM.***



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

2.05 ANALGESIA

Page 1 of 1

ALL LEVELS

1. Routine medical care (protocol 1.01)

EMT-B/I STOP _____

EMT-CC/EMT-P

2. ***If the pain is due to an isolated extremity fracture/dislocation (this includes hip and shoulder) or burn to an isolated extremity***, may administer morphine 0.05-0.1 mg/kg IV/IM (up to 5 mg), and may repeat once as needed.¹
3. ***If patient develops respiratory depression as a result of any opiate administered***, administer naloxone 0.1 mg/kg (up to 2.0 mg) IV/IM/IN.

EMT-CC/EMT-P ABSOLUTE ON-LINE

4. Medical control must be contacted for additional repeat doses of morphine.
5. For other presentations of pain, medical control may authorize morphine.
6. In addition to or instead of morphine, medical control may authorize fentanyl 25-50mcg and may authorize repeat administrations as needed.²

NOTES:

1. Standing order administration of morphine is to be utilized only by agencies who have approval of their medical director. The agency's medical director is considered the authorizing physician for all administrations of morphine in this situation.
2. Specific agency-level approval for fentanyl use is required by Finger Lakes REMAC and the agency's medical director as well as the New York State Bureau of Emergency Medical Services. This approval must be secured in addition to any existing controlled substance approvals for the agency. Use of fentanyl must be documented according to NYS EMS policy (refer to NYS BEMS policy document 07-02).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.06 BEHAVIORAL EMERGENCIES

ALL LEVELS

1. Do not enter the scene until it is safe to do so.
2. Routine medical care (protocol 1.01)
3. Refer to Altered Mental Status protocol (2.04) as needed.
4. ***If Mental Hygiene Arrest (MHA) authorized by law enforcement***, may physically restrain patient in face up position. Restraints must always be used in a manner that permits continued airway management and other patient care activities.

EMT-B/I STOP _____

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

5. Medical control may authorize haloperidol 5-10 mg IM and diphenhydramine 25-50 IM.
6. Monitor cardiac and respiratory status on all patients receiving sedation.

EMT-CC/EMT-P ABSOLUTE ON-LINE

7. As an alternative to haloperidol, medical control may authorize use of one or more of the following:
 - a. Lorazepam 1 – 2 mg IV/IM
 - b. Midazolam up to 2.5 mg IV/IM
 - c. Ketamine 5mg/kg IV/IM, and if needed atropine 0.5-1mg IV for excessive secretions.¹

1. Specific agency-level approval for ketamine use is required by Finger Lakes REMAC and the agency's medical director as well as the New York State Bureau of Emergency Medical Services. This approval must be secured in addition to any existing controlled substance approvals for the agency. Use of ketamine must be documented according to NYS EMS policy (refer to NYS BEMS policy document 10-04).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
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2.07 BURNS

Page 1 of 1

ALL LEVELS

1. **Thermal burns:**
 - a. Remove constricting clothing and jewelry. Cut around areas burned/stuck to skin- do not pull or remove.
 - b. Do not rupture blisters or apply any ointment, gel, or medication to burns.
 - c. Avoid ice or cold compresses.
 - d. Maintain body temperature (keep patient covered, ensure adequate temperature in ambulance.)
2. **Electrical burns:**
 - a. APPROACH WITH CAUTION. Do not approach downed wires. Remove power at source before touching patient.
 - b. Cover entrance and exit burns with dry sterile dressings.
3. **Chemical burns:**
 - a. **When possible, obtain Material Safety Data Sheet (MSDS) for substance.** Ensure adequate rescuer protection.
 - b. Decontaminate patient as recommended.
 - c. Do not transport contaminated patients. Transport should be delayed until water flushing has been completed.
 - d. Be alert for possibility of hypothermia when large areas of the body are involved and cold water flush is used.
 - e. Do not attempt to neutralize chemicals with specific “antidotes”, buffering agents, etc.
4. Routine medical care (protocol 1.01).
5. **Assess burn severity.** Burns potentially involving the airway should be transported to the nearest facility. Burns meeting the following criteria should be covered with dry, sterile dressings and medical control contacted regarding possible transport to a designated burn center:
 - a. Second degree > 15% body surface area
 - b. Third degree > 5% body surface area
 - c. Facial/airway burns
 - d. Hands, feet, perineum, genitalia
 - e. Circumferential burns
6. Minor burns (less than 5% BSA) should be covered with sterile gauze soaked in saline.

EMT-B/I STOP _____

EMT-I/EMT-CC/EMT-P

7. Establish vascular access using NS at KVO. **If hypotensive**, administer fluid boluses per Fluid Challenge (protocol 2.20). For nonhypotensive patients, contact medical control for fluid administration.

EMT-CC/EMT-P

8. Refer to Analgesia protocol (2.5) as needed.

ORIGINAL: 11/17/2005

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System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

**2.08 CARDIAC – ACUTE CORONARY SYNDROMES/
CHEST PAIN**

Page 1 of 1

ALL LEVELS

1. Routine medical care (protocol 1.01).
2. If not aspirin allergic, administer four (4) 81mg chewable aspirin PO. (EMT-B and EMT-I providers must complete a NYS and/or FLREMAC approved training module prior to use of aspirin in the field.)
3. **If systolic BP > 120**, may assist patient with administration of prescribed nitroglycerine if available per NYS BLS protocol.
4. Nitroglycerine use should be avoided in patients with recent use of erectile dysfunction medications (Viagra, Cialis, Levitra). Longer acting ED medications may persist in the body for up to 48 hours.
5. Active AMIs may present without appearance of evidence on the ECG. Patients who present with signs and symptoms of ACS should be treated as such, regardless of EKG findings.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

6. **If systolic BP < 100**, refer to Hypotension/Shock protocol (2.24).

EMT-I STOP _____

EMT-CC/EMT-P

7. Acquire 12 lead as soon as possible. Evaluate for evidence of ST elevation MI, as evidenced by:
 - a. Clear tracing with good baseline and minimal artifact, AND
 - b. Computer interpretation of suspected acute myocardial infarction.
8. **If evidence of ST elevation MI**, contact receiving hospital as soon as possible.
9. If HR < 50 or HR > 150, consider rate related chest pain and refer to appropriate protocol as needed.
10. **If systolic BP > 100**, administer nitroglycerine 0.4 mg SL. Repeat every 3-5 minutes up to a total of 3 as long as systolic BP > 100.
11. **If nausea/vomiting develop**, refer to Nausea/Vomiting Protocol (2.25).

EMT-CC CONTACT MEDICAL CONTROL

12. **If systolic BP > 100**, continue to administer nitroglycerine 0.4 mg SL every 3-5 minutes.

EMT-CC/EMT-P ABSOLUTE ON-LINE

13. **If chest pain persists after a total of 3 nitroglycerine tablets**, may administer morphine sulfate IV 2-5 mg, repeated as authorized by medical control.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.09 CARDIAC – BRADYCARDIA

ALL LEVELS

1. Routine medical care (protocol 1.01).

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

2. **Assess for symptomatic bradycardia** as indicated by one or more of the following findings:
 - a. Altered mental status
 - b. Chest pain
 - c. Lightheadedness, dizziness, nausea
 - d. Systolic BP < 90
3. Treatment listed in remainder of protocol to be used only for symptomatic bradycardia.

EMT-I STOP _____

EMT-CC/EMT-P

4. Administer atropine 0.5 mg rapid IV. Repeat as needed if pacemaker is unavailable.
5. Utilize transcutaneous pacemaker if available.

EMT-CC/EMT-P ABSOLUTE ON-LINE

6. Consider sedation for discomfort resulting from transcutaneous pacemaker (dosage determined in consultation with medical control):
 - a. Lorazepam 1-2 mg IV OR
 - b. Midazolam up to 2.5mg IV
7. For bradycardia refractory to other treatments, medical control may order dopamine 5-10 mcg/kg/min or epinephrine 2-10mcg/min IV drip.



2.10 CARDIAC – NARROW COMPLEX TACHYCARDIA

EMT-CC/EMT-P ONLY

1. Protocol to be used only for tachyarrhythmias with cardiac etiology. Consider other causes such as hemorrhage, fever, or sepsis.
2. Routine medical care (protocol 1.01)
3. Assess stability based one or more of the following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
4. ***If patient unstable***, proceed directly to Unstable Tachycardia Protocol (2.12).
5. Attempt vagal maneuvers (Valsalva maneuver, blowing through occluded straw). Do not perform carotid sinus massage.
6. ***If history of Wolff-Parkinson-White (WPW)***, contact medical control prior to any medication administration.
7. ***If presenting rhythm is atrial fibrillation or atrial flutter***, proceed directly to step 10.
8. Administer adenosine 6 mg rapid IV. (Note: adenosine will not be effective in converting SVTs resulting from atrial fibrillation or atrial flutter).
9. If no conversion of arrhythmia, repeat adenosine 12 mg rapid IV.

EMT-CC ABSOLUTE ON-LINE

10. Administer one of the following antiarrhythmics (**Warning:** do not use in combination):
 - a. Metoprolol 5 mg IV. May repeat q 5 minutes up to 15 mg total OR
 - b. Diltiazem 15-20 mg slow IV.

EMT-P ABSOLUTE ON-LINE

11. As an alternative to metoprolol or diltiazem, medical control may order amiodarone 150 mg IV infusion.



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2.11 CARDIAC – WIDE COMPLEX TACHYCARDIA

Page 1 of 1

EMT-CC/EMT-P ONLY

1. Routine medical care (protocol 1.01)
2. Assess stability based on one or more of the following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
3. Pulseless VF/VT should be treated according to VF protocol (2.15).
4. ***If patient unstable***, proceed directly to Unstable Tachycardia Protocol (2.12).
5. Administer lidocaine 0.5-0.75 mg/kg, up to 100 mg.

EMT-P CONTACT MEDICAL CONTROL

EMT-CC ABSOLUTE ON-LINE

6. Repeat lidocaine boluses up to 3 mg/kg.
7. As an alternative to lidocaine, medical control may authorize amiodarone 150 mg IV infusion over 5-10 minutes.
8. Following conversion of arrhythmia, refer to Postconversion of VF/VT protocol (2.16).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.12 CARDIAC – UNSTABLE TACHYCARDIA

EMT-CC/EMT-P ONLY

1. Protocol to be used for unstable tachyarrhythmias with wide or narrow QRS complex based upon one or more of the following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
2. Routine medical care (protocol 1.01)
3. Consider sedation as follows, however **cardioversion should not be delayed for sedation in critical patients:**
 - a. Midazolam 2.5 mg IV OR
 - b. Morphine 0.05-0.1 mg/kg (up to 5 mg) IV OR
 - c. Ketamine 2.5 mg/kg IV (up to 250 mg IV)¹
4. Synchronized cardioversion 100 joules (or equivalent biphasic).
5. If no change, repeat synchronized cardioversion at 200 joules (or equivalent biphasic).
6. If no change, repeat synchronized cardioversion at 300 joules (or equivalent biphasic).
7. If no change, repeat synchronized cardioversion at 360 joules (or equivalent biphasic).

EMT-CC/EMT-P ABSOLUTE ON-LINE

8. Medical control contact is required following sedation and cardioversion.
9. Pharmacological therapy following multiple failed cardioversion attempts as described above based upon Narrow Complex Tachycardia protocol (2.10) and Wide Complex Tachycardia protocol (2.11).

1. Specific agency-level approval for ketamine use is required by Finger Lakes REMAC and the agency's medical director as well as the New York State Bureau of Emergency Medical Services. This approval must be secured in addition to any existing controlled substance approvals for the agency. Use of ketamine must be documented according to NYS EMS policy (refer to NYS BEMS policy document 10-04).

ORIGINAL: 11/17/2005

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System Medical Director Approval:



2.13 CARDIAC ARREST – UNIVERSAL ALGORITHM

ALL LEVELS

1. Immediately initiate CPR using BLS airway management and 100% oxygen.
2. All care should be organized in such a manner as to minimize interruptions of CPR for items such as rhythm check, shock delivery, advanced airway insertion, and vascular access. **CPR should be performed for periods of not less than 2 minutes, and should be interrupted no longer than 30 seconds for patient transfer.**
3. If ALS is not on scene, initiate rapid transport to nearest hospital or plan for ALS intercept.
4. Medical control should be contacted prior to any medication administration in the event of hypothermic cardiac arrest.
5. Advise receiving hospital as soon as possible.
6. All levels can apply and operate automated external defibrillator (AED).
 - a. Refer to current New York State BLS Protocols Automated External Defibrillation Protocol.
7. Resume CPR immediately following defibrillation attempts.

EMT-B STOP _____

EMT-I

1. Alternative airway, Combitube, KingLT, or other supraglottic device (as approved by REMAC) per Airway Management protocol.
2. IV NS KVO. Do not delay transport for placement of IV.

EMT-I STOP _____

EMT-CC/EMT-P

3. Establish IV or intraosseous infusion. *Unless suspected hypovolemia is present*, limit fluid infusion. *For suspected hypovolemia, refer to Fluid Challenge protocol.*
4. Attach monitor defibrillation pads or perform quick look with paddles. Refer to protocols as needed:
 - a. Asystole/PEA (Protocol 2.14)
 - b. Ventricular Fibrillation (2.15)
5. Following return of spontaneous circulation, refer to Post-Return of Spontaneous Circulation protocol.

ORIGINAL: 11/17/2005

REVISED: 11/17/2011

System Medical Director Approval:



2.14 CARDIAC ARREST – ASYSTOLE/PEA

EMT-CC/EMT-P ONLY

1. Continue CPR and coordinate care to limit interruptions of CPR.
2. Establish vascular access.
3. Intubate per airway management protocol and confirm tube placement using primary/secondary methods.
4. Confirm asystole in multiple leads – consider possibility of fine VF.
5. Administer epinephrine 1:10000 1 mg IV; repeat q 3-5 minutes for duration of arrest event.
6. Vasopressin 40 units may be substituted for the first or second dose of epinephrine.
7. Identify and treat cause of asystole:
 - a. **Hypovolemia** – administer fluid challenge (refer to Fluid Challenge protocol)
 - b. **Hypoxia** – intubate and ventilate with 100% oxygen
 - c. **Hydrogen ion (acidosis)** – ventilate at adequate rate. If patient is intubated and downtime > 15 minutes, contact medical control as directed below for administration of sodium bicarbonate.
 - d. **Hyperkalemia** – consider possibility in renal failure patients. Contact medical control.
 - e. **Hypokalemia** – in patients with extensive diuretic usage and recent dialysis. Contact medical control.
 - f. **Hypothermia** – passive rewarming and rapid transport.
 - g. **Tablets** – poisoning and drug overdose. Refer to Poisoning/Overdose protocol.
 - h. **Tamponade** – cardiac tamponade. Rapid transport to nearest facility.
 - i. **Tension pneumothorax** – perform thoracentesis per protocol (2.17).
 - j. **Thrombosis** – coronary or pulmonary. Rapid transport to the nearest facility.

EMT-CC/EMT-P ABSOLUTE ON-LINE

8. Medical control may authorize external pacing for bradycardic PEA.
9. Medical control may order administration of sodium bicarbonate for suspected acidosis or toxidromes.
10. Medical control may order calcium chloride or calcium gluconate for suspected hyperkalemia.
11. Consider termination of efforts – refer to Field Termination of Resuscitation protocol.

ORIGINAL: 11/17/2005

REVISED: 03/08/2010

System Medical Director Approval:



2.15 CARDIAC ARREST – VF/PULSELESS VT

EMT-CC/EMT-P ONLY

1. Utilize this protocol only for the duration of ventricular fibrillation/pulseless ventricular tachycardia. Proceed immediately to appropriate protocol once VF/VT is successfully terminated.
2. Continue CPR until defibrillator is available.
3. Defibrillate once at 360 joules (or equivalent biphasic). Resume CPR immediately (no pulse check following defibrillation attempt).
4. Continue CPR and coordinate care to limit interruptions of CPR. Standard pattern of treatment is drug-shock, drug-shock. **CPR should be provided for a minimum of two minutes between shocks; drugs may be given during CPR.**
5. Establish vascular access.
6. Intubate per airway management protocol and confirm tube placement using primary/secondary methods.
7. Administer epinephrine 1:10000 1 mg IV; repeat q 3-5 minutes for duration of arrest event.
8. Vasopressin 40 units may be substituted for the first or second dose of epinephrine.
9. Reattempt defibrillation at 360 joules. Resume CPR immediately (no pulse check following defibrillation attempt).
10. Administer amiodarone 300 mg IV. May repeat amiodarone 150 mg IV once in 3-5 minutes
11. Reattempt defibrillation at 360 joules. Resume CPR immediately (no pulse check following defibrillation attempt).
12. ***If torsades de pointes noted***, administer magnesium sulfate 1 – 2 grams IV.
13. Reattempt defibrillation at 360 joules. Resume CPR immediately (no pulse check following defibrillation attempt).

EMT-CC/EMT-P ABSOLUTE ON-LINE

14. Medical control may order administration of sodium bicarbonate for suspected acidosis or toxidromes.
15. Medical control may order calcium chloride or calcium gluconate for suspected hyperkalemia.

ORIGINAL: 11/17/2005

REVISED: 11/17/2011

System Medical Director Approval:



**2.16 CARDIAC – POSTCONVERSION OF VF/VT
RETURN OF SPONTANEOUS CIRCULATION**

ALL LEVELS

1. Protocol for use following successful conversion of VF/VT and/or return of spontaneous circulation in cardiac arrest.
2. Ensure presence of pulse.
3. Assure continued ventilation at rate of 10-12/minute. Avoid hyperventilation of patient.

EMT-B/I STOP _____

EMT-CC/EMT-P

4. If capnography (ETCO₂) available, titrate ventilation to 35-40 mmHg.
5. ***If ECG bradycardic or showing ventricular escape rhythm***, refer to Cardiac – Bradycardia protocol (2.9).
6. Refer to Hypotension/Shock protocol as needed.
7. Consider other treatable causes:
 - a. Hypoglycemia – refer to Altered Mental Status protocol
 - b. Poisoning/Overdose – refer to Poisoning/Overdose protocol
8. ***Evaluate level of consciousness. If patient unable to follow commands***, initiate therapeutic hypothermia if available:
 - a. Begin infusion of up to 2000mL normal saline chilled to < 4^o C.
 - b. Apply cold packs to groin, axilla, and neck (change every 10-15 minutes)
 - c. ***If core temperature monitoring available***, maintain core temperature no lower than 34^oC.

EMT-P ABSOLUTE ON-LINE

9. ***If no amiodarone was given during cardiac arrest***, medical control may order amiodarone 150 mg IVP.

ORIGINAL: 11/17/2005

REVISED: 11/17/2011

System Medical Director Approval:



2.17 CHEST TRAUMA

ALL LEVELS

1. Trauma care per protocol 2.01.
2. Stabilize and do not remove penetrating objects.
3. Use occlusive dressing to seal open wounds.
4. Stabilize flail segments with bulky dressings.
5. Rapid transport to appropriate facility as outlined in trauma protocol.
6. Assess for signs/symptoms of tension pneumothorax:
 - a. Severe respiratory distress
 - b. Absent breath sounds unilaterally
 - c. Jugular venous distension
 - d. Hyperresonance
 - e. Tachycardia and hypotension
 - f. Tracheal deviation (late sign)
 - g. Subcutaneous emphysema

EMT-B/I STOP _____

EMT-CC/EMT-P

7. *If multiple criteria for tension pneumothorax present*, perform needle decompression on affected side.



2.18 CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

EMT-CC/EMT-P ONLY

EMT-CC must complete appropriate training/competency in CPAP prior to field use.

CPAP is not to be used in the presence of decreased level of consciousness or other indicators of ineffective respiration as described below. Proceed to more aggressive ventilatory support measures including BVM ventilation and intubation (see appropriate protocols).

1. Assess indications for CPAP:
 - a. Respiratory distress or impending respiratory failure due to cardiogenic pulmonary edema or decompensated obstructive pulmonary disease
 - b. Patient does not improve following use of nonrebreather mask.
2. Assess effectiveness of respirations:
 - a. Minimal air movement
 - b. Decreasing level of consciousness
 - c. Falling respiratory rate
 - d. Developing cyanosis
 - e. Falling SpO₂
3. ***If respirations ineffective***, do not attempt use of CPAP. Proceed to more aggressive ventilatory support measures including BVM ventilation and intubation (see appropriate protocols).
4. Apply CPAP to patient at 5 cm H₂O PEEP.
5. ***If no improvement***, may increase PEEP to maximum of 10 cm H₂O.



2.19 DIABETIC EMERGENCIES

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Assess signs and symptoms; determine last medication usage and last meal eaten.
3. Assess blood glucose.
4. Assess for symptoms of hypoglycemia:
 - a. Sudden onset of symptoms
 - b. Altered mental status – stupor, combativeness, semi-consciousness, lethargy
 - c. Pale moist skin
 - d. Blood glucose \leq 80 mg/dl
5. ***If hypoglycemia present, and patient able to protect airway***, administer oral sugar in any of the following forms: oral glucose gel or tablets, non-diet soda, orange juice, or granulated sugar. EMT-CC/P may skip this step and proceed directly with intravenous glucose as prescribed below.
6. If blood glucose levels are unavailable and doubt exists as to whether or not hypoglycemia is present, the patient should be treated for hypoglycemia.
7. A patient whose level of consciousness does not improve following administration of sugar should be treated according to the Altered Mental Status protocol (2.04).

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

8. Establish IV access.
9. ***If blood glucose > 300 mg/dl and signs of CHF absent***, begin NS fluid infusion at 500mL/hour.

EMT-I STOP _____

EMT-CC/EMT-P

10. ***If blood glucose < 80 mg/dl***, administer dextrose 50% 50 mL slow IV bolus.
11. Reassess blood glucose and repeat dextrose prn.
12. ***If unable to establish IV access***, administer glucagon 1 mg IM. **IV access and administration of 50% dextrose is preferred over glucagon usage.**
13. Patients whose signs/symptoms fully resolve following treatment for hypoglycemia may be permitted to sign off without transport only if the following criteria are met:
 - a. The patient did not receive glucagon injection.
 - b. A blood glucose reading is available which is within normal limits (greater than 80 mg/dl).
 - c. The patient will not be left alone.
 - d. The patient should be advised to contact their physician.
 - e. The patient should be advised to follow immediately with a meal of complex carbohydrates/proteins to avoid the return of symptoms.
 - f. In the event of any question, medical control should be contacted.
 - g. Document all findings and obtain patient signature on the refusal form.



2.20 FLUID CHALLENGE

EMT-I/EMT-CC/EMT-P ONLY

1. Protocol to be used only for patients meeting the following criteria:
 - a. ***Absent signs/symptoms of CHF*** (known history, pulmonary edema, dependent edema, hypertension, hepatomegaly)
 - b. ***Systolic BP < 90 mmHg***
2. Start IV of NS using largest bore needle possible (14 or 16 gauge preferred) and standard administration set, or blood administration set. If unable to establish vascular access, utilize intraosseous device per Vascular Access protocol.
3. Infuse 250 mL rapidly and reassess vital signs.
4. ***If systolic BP remains < 90 mmHg and absent CHF signs/symptoms***, repeat 250 mL boluses and reassess vital signs up to 1000 mL total given.
5. ***If suspected hemorrhage (internal/external) present***, fluid infusion should be regulated to target systolic BP of 90-110 mm/Hg. Contact medical control as soon as possible.



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2.21 HEAD TRAUMA

Page 1 of 1

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Administer 100% oxygen by NRBM; assure airway patency
3. All patients should receive spinal immobilization.
4. Monitor vital signs and level of consciousness; reassess pupils and Glasgow Coma Scale (GCS) on an ongoing basis.
5. Refer to Seizures protocol (2.32) and Altered Mental Status protocol (2.04) as needed
6. Consider possibility of other trauma and need for trauma care/trauma center – refer to Trauma protocol (2.01)
7. ***If evidence of inadequate respirations (based on ventilatory rate, depth, and/or quality)***, initiate ventilations with BVM and 100% oxygen. Perform additional airway management up to level of training per airway management protocol (intubation preferred with appropriate spinal precautions).
8. Ventilate at 12 breaths per minute. Assess for signs of herniation – GCS < 8 or active seizures AND one or more of the following:
 - a. Fixed pupils
 - b. Posturing
 - c. Hypertension with bradycardia
 - d. Intermittent apnea
9. ***If signs of herniation present***, hyperventilate at rate of 20 breaths per minute.
10. In patients with suspected rising intracranial pressure:
 - a. Consider elevation of head of gurney or backboard 30 degrees.
 - b. Minimize auditory and visual stimulation during transport as much as possible.
 - c. Maintain body temperature and blood pressure as well as SpO₂.
11. Conscious patients with a confirmed history of loss of consciousness following the injury should never be permitted to refuse transport. Contact medical control for assistance as needed.

EMT-B/EMT-I STOP _____

EMT-CC/EMT-P

12. If hypotensive, refer to Hypotension/Shock protocol (2.24).
13. Utilize capnography (ETCO₂) to titrate the ventilatory rate:
 - a. For normal ventilation, goal is 35-40 mmHg.
 - b. For hyperventilation, goal is 30 mmHg.
14. Management of nausea/vomiting as specified by Nausea/Vomiting protocol (2.25)

EMT-CC STOP _____

EMT-P ABSOLUTE ON-LINE

15. Refer to Rapid Sequence Intubation (2.30) protocol if the agency is authorized for this procedure.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.22 HYPERTHERMIA

ALL LEVELS

1. Assess for severe hyperthermia, as evidenced by history suggestive of hyperthermia, core temperature equal to or greater than 104⁰ F (40⁰ C) and/or one or more of the following:
 - a. Flushed, hot to touch skin
 - b. Nausea/vomiting
 - c. Altered mental status
2. Tympanic thermometers are not reliable indicators of core body temperature.
3. Routine medical care (protocol 1.01)
4. Consider non-environmental causes for hyperthermia, such as sepsis or stroke.
5. Cool patient using whatever means immediately available (be alert for vomiting which may be caused by rapid cooling):
 - a. Icepacks at groin and axillary sites
 - b. Air conditioned ambulance
 - c. Spraying/misting with cool water to wet skin
 - d. Remove excess clothing
6. **CAUTION:**
 - a. Wet sheets without good air circulation will retain heat rather than dissipate it.
 - b. Ensure patient does not develop shivering which will generate more heat.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

7. Establish IV NS (2 lines preferred) and infuse fluid at 1000mL/hour. *If signs of CHF present (known history, pulmonary edema, dependent edema, hypertension, hepatomegaly), contact medical control for infusion rate.*
8. Refer to Nausea/Vomiting protocol (2.25), Altered Mental Status protocol (2.04), or Seizures protocol (2.32) as needed.



2.23 HYPOTHERMIA

ALL LEVELS

1. Hypothermia defined as core temperature less than 95^o F or 35^o C.
2. Routine medical care (protocol 1.01)
3. Tympanic thermometers are an unreliable indicator of core body temperature.
4. Move out of cold environment. Gently remove wet clothing, cover with blankets and otherwise protect from further heat loss.
5. Assure airway patency and administer oxygen per protocol (with warm moist air if possible).
6. Maintain horizontal position
7. Avoid rough handling during patient movement.
8. Timely transport (goal of <15 minute scene time).
9. Monitor temperature; assess cardiopulmonary status, and presence of other factors such as trauma, drug usage, etc. Heart rates should be assessed for at least 1 full minute.
10. If temp is 30-35°C (86 - 95°F), gentle active rewarming measures may be instituted (heated ambulance, wrapped heat packs to axillary area/groin).
11. Refer to Altered Mental Status protocol (2.04) as needed.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

12. *If active rewarming being performed* as specified above, utilize warmed IV fluids.



2.24 HYPOTENSION/SHOCK/SEPSIS

ALL LEVELS

1. Assess signs/symptoms of hypotensive state: systolic BP < 90 and one or more of the following:
 - a. Tachycardia
 - b. Delayed capillary refill
 - c. Pallor, diaphoresis, cyanosis
 - d. Nausea, dizziness/lightheadedness, vomiting
 - e. Altered mental status/confusion
2. Routine medical care (protocol 1.01) and/or trauma care (protocol 2.01) as appropriate.
3. Consider treatable causes:
 - a. Anaphylaxis
 - b. Hypoglycemia
 - c. Dysrhythmia
 - d. Trauma
 - e. Bleeding
 - f. Hypovolemia
4. Administer 100% oxygen by nonrebreather mask.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

5. Establish IV access.
6. **Assess core temperature, if available. If temperature exceeds 101^o F (38.3^o C),** infuse 1000cc NS over 30 minutes.
7. **If afebrile,** infuse fluid as specified in Fluid Challenge protocol (2.20).

EMT-I STOP _____

EMT-CC/EMT-P

8. Treat cardiac dysrhythmias as specified in appropriate protocols.

EMT-CC/EMT-P ABSOLUTE ON-LINE

9. **If hypotension persists and patient normovolemic,** initiate dopamine infusion 5-20 mcg/kg/minute. A flow rate limiting device (i.e. Dial-a-Drip or equivalent) or IV pump must be used to regulate the infusion rate.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

2.25 NAUSEA/VOMITING

Page 1 of 1

Protocol for use in uncontrolled nausea and vomiting (continuous vomiting or episodes of vomiting occurring more than every 10 minutes).

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Place in position of comfort, remove offending odors, ensure comfortable environmental temperature.

EMT-B/I STOP _____

EMT-CC/EMT-P

3. Administer ondansetron 4 mg IV/IM.
OR
4. ***If no evidence of head injury***, may administer 6.25 – 12.5 mg promethazine IM. Monitor for dystonic reaction (torticollis, back spasm, nuchal rigidity, agitation). Administer diphenhydramine 25-50 mg IV if signs develop.

EMT-CC/EMT-P ABSOLUTE ON-LINE

Medical control contact is required prior to administration of promethazine on any patient with head injury/stroke symptoms.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.26 NEAR DROWNING

ALL LEVELS

1. Routine medical care (protocol 1.01) or trauma care (protocol 2.01) as appropriate.
2. Initiate BLS resuscitation measures and contact medical control.
3. Assess risk of spinal trauma:
 - a. Diving accidents
 - b. Boating accidents
 - c. Accompanying head injury
4. ***If risk of spinal trauma***, perform spinal immobilization using standard procedures.
5. Refer to Hypothermia protocol (2.23) as needed.
6. Manage cardiac arrest as specified in appropriate protocols.
7. Transport all patients. Onset of severe symptoms may be delayed.



2.27 OB/GYN EMERGENCIES

ALL LEVELS

1. Obtain history:
 - a. Prenatal care
 - b. Estimated date of confinement (due date)
 - c. Bleeding
 - d. Edema of face/extremities
 - e. Known problems with pregnancy
 - f. Prior number of pregnancies (gravid)
 - g. Prior number of live births (para)
 - h. Possibility of multiple fetuses
2. Routine medical care (protocol 1.01)
3. Refer to Hypotension/Shock protocol (2.24 as needed).
4. Position patient on left side, or if not possible with right buttock/hip slightly elevated.
5. Assess for high risk delivery:
 - a. Previous cesarean section
 - b. Abnormal presentations
 - c. Placenta previa
 - d. Excessive bleeding
6. **If high risk delivery**, begin immediate rapid transport.
7. **If delivering:**
 - a. Allow baby to deliver spontaneously. Support infant, but do not attempt to retard or hasten delivery.
 - b. Assess infant and proceed with Neonatal Resuscitation protocol (3.30) prn.
 - c. Clamp cord in two places 8-10" from infant and cut cord.
 - d. Dry baby and wrap in clean/sterile blanket. Protect from hypothermia.
 - e. Uterine massage and Hypotension/Shock protocol (2.24) as needed.
 - f. Do not wait for or attempt to deliver placenta. If it delivers spontaneously, bring to hospital in plastic bag.
8. **If abnormal presentation:**
 - a. Begin immediate, rapid transport if not already in progress.
 - b. **If breech presentation:**
 - i. If delivering, allow to deliver spontaneously.
 - ii. If head delivers spontaneously, proceed as with normal delivery.
 - iii. If head does not deliver in 4-6 minutes, insert sterile gloved hand into vagina and create airway for baby. Do not remove hand until relieved by hospital staff.
 - c. **If prolapsed cord**, insert sterile gloved hand into vagina and gently push baby's head off cord. Begin rapid transport to hospital. Do not remove hand until relieved by hospital staff.
 - d. Administer high flow oxygen to mother.



2.28 POISONING/OVERDOSE

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Determine substance(s) and quantity.
3. Transport medication bottle(s) to hospital.
4. Determine route of poisoning and manage appropriately as listed below.
5. **Inhalation:**
 - a. Ensure rescuer safety. Do not enter potentially dangerous atmospheres without proper protective equipment.
 - b. Administer high flow oxygen (10-15 lpm NRBM).
 - c. Additional airway and ventilatory assistance as needed per Airway Management protocol (1.02).
 - d. Transport ALL patients. Development of life threatening symptoms may be delayed.
6. **Skin Absorption:**
 - a. Ensure patient is properly decontaminated prior to initiation of treatment and transport.
7. **Injection:**
 - a. Refer to Allergic Reaction (protocol 2.03A/B) as needed
 - b. In the event of animal or insect envenomation, obtain description of organism if possible.
 - c. Do not apply tourniquets or cold packs near injection sites.
8. **Ingestion:**
 - a. Give nothing by mouth unless ordered by medical control. Initiate transport with attention to protection of airway.
9. Refer to Protocol 2.28A Poisoning/Overdose – Specific Situations for additional treatment based upon substance involved.

ALL LEVELS ABSOLUTE ON-LINE

10. Contact medical control for instructions. Medical control only may order use of sorbitol-free activated charcoal 50 grams PO.



2.28A POISONING/OVERDOSE (SPECIFIC SITUATIONS)

EMT-CC/EMT-P ONLY

1. Begin with the primary Poisoning/Overdose protocol (2.28).
2. Evaluate potential substance involved and utilize specific treatments as listed below.
3. ***Opiates (ingested or injected):***
 - a. Specific symptoms:
 - i. Decreased level of consciousness
 - ii. Respiratory depression
 - iii. Constricted pupils
 - iv. Needle marks on extremities (for injected poisons)
 - b. Administer naloxone 0.4 - 2 mg IV/IM/Intranasal (titrate to respiratory response)
4. ***Organophosphate insecticides/cholinesterase inhibitors (ingested, absorbed, or inhaled):***
 - a. Specific symptoms:
 - i. Salivation
 - ii. Lacrimation
 - iii. Urination
 - iv. Defecation
 - v. Emesis
 - vi. Muscle twitching/contractions
 - vii. Bradycardia
 - b. Administer atropine 0.02 – 0.05 mg/kg IV, titrated to response.

EMT-CC/EMT-P ABSOLUTE ON-LINE

5. ***Tricyclic Antidepressants (ingested):***
 - a. Specific symptoms:
 - i. Widening QRS complex
 - ii. Seizures
 - b. Medical control may order sodium bicarbonate 1mEq/kg IV
6. ***Calcium channel blockers (ingested):***
 - a. Specific symptoms:
 - i. Bradycardia
 - ii. Hypotension
 - b. Medical control may order calcium chloride 1 gram IV or calcium gluconate 1 gram IV
7. ***Beta blockers (ingested):***
 - a. Specific symptoms:
 - i. Bradycardia
 - ii. Hypotension
 - b. Medical control may order glucagon 2mg IV/IM.

ORIGINAL: 11/17/2005

REVISED: 12/07/2011

System Medical Director Approval:



2.29 PULMONARY EDEMA/ACUTE CHF

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Assess effectiveness of respirations, including lung sounds and SpO₂.
3. ***If ineffective respirations (minimal air movement, decreasing LOC, falling respiratory rate, developing cyanosis, falling SpO₂), begin assisting ventilations with bag valve mask.***

EMT-B/I STOP _____

EMT-CC/EMT-P

4. Nitroglycerine 0.4 mg SL q 5 minutes, ***as long as systolic BP remains > 100.***
5. As an alternative to sublingual nitroglycerine, transdermal nitroglycerine paste 1” may be applied once.
6. Consider CPAP (protocol 2.18).
7. ***If continued ventilation required and gag reflex absent,*** consider intubation.

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

8. ***If blood pressure remains above 100,*** medical control may order additional application of transdermal nitroglycerine paste.
9. ***If wheezing with accompanying history of COPD is present,*** can consider nebulized albuterol 2.5 mg.

EMT-CC/EMT-P ABSOLUTE ON-LINE

10. Furosemide 40-80 mg IV. Placement of IV for furosemide administration should not delay initial nitrate and CPAP usage.
11. If systolic BP < 100, dopamine 5-10mcg/kg/min. A flow rate limiting device (i.e. Dial-a-Drip or equivalent) or IV pump must be used to regulate the infusion rate

EMT-CC STOP _____

EMT-P ABSOLUTE ON-LINE

12. ***If continued ventilation required and patient not yet intubated,*** consider initiation of rapid sequence intubation if authorized by medical director/FLREMAC. (protocol 2.30).



**2.30 RAPID SEQUENCE AIRWAY
(EMT-P ABSOLUTE ON-LINE MEDICAL CONTROL)**

- Protocol for EMT-P providers only.
- Provider agency must have specific approval by Finger Lakes REMAC for use of this protocol.
- Agencies must submit to REMAC:
 - Agency specific training plan
 - Approval of agency medical director
 - Agency specific quality assurance program

EMT-P PROTOCOL

Indications:

1. Control of the airway in patients with potential or actual airway compromise
2. Patient with decreased sensorium (GCS of 8 or less)
3. Combativeness that threatens airway or spinal cord stability
4. Smoke inhalation with tracheal/airway compromise
5. Facilitation of therapeutic ventilations in the patient with acute pulmonary edema or acute obstructive airway disease

Contraindications:

1. Obvious facial, neck, and/or spinal deformity that would prevent establishing an airway
2. Full or significant partial thickness burns greater than 48 hours
3. Recent paralysis from spine injury (> 48 hours)
4. Degenerative neurological diseases (ALS, muscular dystrophy, myasthenia gravis, etc) (contraindication to NMB use)
5. End-stage renal disease requiring dialysis (relative)
6. Patient age < 16 years of age.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.30 RAPID SEQUENCE AIRWAY (EMT-P ABSOLUTE ON-LINE MEDICAL CONTROL)

Required equipment immediately available:

- Operational suction unit with rigid catheter attached and ready
- Appropriately sized ET tube. Stylette is optional.
- Patent IV or IO line
- Laryngoscope with blade(s) and functioning light
- Cardiac monitor in place
- Pulse oximeter in place
- Waveform capnography monitor prepared
- Bag valve mask with reservoir connected to 100% oxygen
- Oropharyngeal and/or nasal airways
- Backup advanced airway such as Combitube, LMA, or KingLT
- Surgical airway kit
- Required medications prepared
- Commercial tube holder device and continuous waveform capnography monitor

EMT-P ABSOLUTE ON-LINE

1. Prepare required equipment. RSI may not be performed unless all required equipment is available and ready.
2. Preoxygenate patient using nonrebreather mask (for spontaneous respirations and adequate air movement) or bag-valve-mask with 100% oxygen (for apnea or inadequately breathing patient) for one minute.
3. ***If elevated intracranial pressure is suspected (i.e. head injury or stroke)***, premedicate with 1.0-1.5 mg/kg lidocaine IV.
4. ***If a preexisting bradycardia exists***, premedicate with 0.5 mg atropine IV.
5. Administer sedation:
 - a. etomidate 0.2-0.4 mg/kg IV (20-40 mg IV)OR
 - b. Ketamine 2.5 mg/kg IV (up to 250 mg IV) ¹
6. Apply cricoid pressure (Sellick maneuver) and maintain for duration of intubation attempts.
7. Administer paralysis: succinylcholine 1-2 mg/kg IV (100-200 mg IV).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



**2.30 RAPID SEQUENCE AIRWAY
(EMT-P ABSOLUTE ON-LINE MEDICAL CONTROL)**

8. Pass the tube:
 - a. Up to two attempts at intubation. Consider immediate placement of backup advanced airway if intubation is difficult and patient oxygenation status is deteriorating.
 - b. Consider using gum elastic bougie if available
 - c. Closely monitor oximetry and heart rate; reoxygenate if necessary
 - d. Confirm tube placement using both primary (including waveform capnography) and secondary methods
 - e. Secure with commercial tube holder.
9. ***If unable to place endotracheal tube***, utilize one or more of the following measures:
 - a. Placement of backup advanced airway (supraglottic airway)
 - b. BLS ventilations using nasopharyngeal and oropharyngeal airway
 - c. Surgical cricothyrotomy
 - d. Failure of all other measures constitutes a failed airway requiring immediate transport to the closest facility.
10. Maintain sedation:
 - a. Midazolam 2-4 mg IV (caution if systolic BP < 90)
OR
 - b. Ketamine 2 mg/kg IV push prn¹
11. Consider analgesia:
 - a. Morphine 5 mg IV (caution if systolic BP < 90)
or
 - b. Fentanyl 50 mcg IV
 - c. Repeat analgesia as needed per medical control order
12. ***If ventilation is compromised by patient respiratory effort (bucking, coughing, etc.):***
 - a. Ensure adequate sedation/analgesia as noted above
 - b. Maintain paralysis: vecuronium 0.1 mg/kg IV (up to 10 mg)
or
 - c. Rocuronium 0.6 mg/kg IV (up to 60 mg)
 - d. **Paralyzed patient must be kept under adequate sedation.**
13. Continue ventilations at rate sufficient to maintain end tidal CO₂ readings at 35-40 mm/Hg, unless specified by other protocol.
14. Continue transport to appropriate facility.

NOTES:

1. Specific agency-level approval for ketamine use is required by Finger Lakes REMAC and the agency's medical director as well as the New York State Bureau of Emergency Medical Services. This approval must be secured in addition to any existing controlled substance approvals for the agency. Use of ketamine must be documented according to NYS EMS policy (refer to NYS BEMS policy document 10-04).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.31A RESPIRATORY DISTRESS - ALS

EMT-CC/EMT-P ONLY

1. Routine medical care (protocol 1.01)
2. Assess history
3. Assess signs/symptoms and hemodynamic status
 - a. Vital signs
 - b. Patient's ability to speak in complete sentences
 - c. Accessory muscle usage
 - d. Wheezing
 - e. Patient self assessment of severity
4. Administer oxygen per protocol 1.03 Oxygen Therapy.
5. Rapid transport.
6. **Assess effectiveness of respirations. If evidence of ineffective respirations (minimal air movement, decreasing level of consciousness, falling respiratory rate, developing cyanosis, falling SpO₂):**
 - a. Assist ventilations with bag valve mask.
 - b. Albuterol/ipratropium may be given as specified in this protocol under pressure with the BVM, as necessary.
 - c. Consider intubation. EMT-P can consider rapid sequence intubation per protocol 2.30.
7. **If bronchoconstriction present**, administer albuterol 2.5 mg by oxygen powered nebulizer. Albuterol may be combined with 0.5 mg ipratropium.
8. Repeat albuterol 2.5 mg as needed.
9. Consider utilization of CPAP (protocol 2.18).

EMT-P CONTACT MEDICAL CONTROL

EMT-CC ABSOLUTE ON-LINE

10. **If field assessment suggests inflammatory cause of respiratory distress**, consider methylprednisolone 125 mg IV.
11. **For refractory bronchoconstriction associated with asthma**, consider magnesium sulfate 2 grams IV infusion over 20 minutes. Magnesium sulfate should not be used in patients with hypotension or renal failure.

EMT-P ABSOLUTE ON-LINE

12. **If bronchoconstriction persists or worsens**, medical control may order epinephrine SQ/IM. Specific contraindications for epinephrine include:
 - a. Cardiac history
 - b. Tachycardia/hypotension
 - c. Age > 40 years

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.31B RESPIRATORY DISTRESS - BLS

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Assess history
3. Assess signs/symptoms and hemodynamic status
 - a. Vital signs
 - b. Patient's ability to speak in complete sentences
 - c. Accessory muscle usage
 - d. Wheezing
 - e. Patient self assessment of severity
4. Administer oxygen per protocol 1.03 Oxygen Therapy.
5. Rapid transport.
6. ***Assess effectiveness of respirations. If evidence of ineffective respirations (minimal air movement, decreasing level of consciousness, falling respiratory rate, developing cyanosis, falling SpO2):***
 - a. Assist ventilations with bag valve mask.

The remainder of this protocol is to be used only by providers at agencies specifically authorized for EMT-B/I usage of nebulized albuterol.

7. ***If patient meets the following criteria:***
 - a. ***Age between 1 and 65 years of age***
 - b. ***experiencing exacerbation of previously diagnosed asthma***
 - c. ***has no history/current symptoms of angina, myocardial infarction, arrhythmia, or CHF***administer albuterol 2.5 mg by oxygen powered nebulizer. Do not delay transport to complete treatment.
8. Albuterol 2.5 mg may be repeated once as needed.



2.32 SEIZURES

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Consider possibility of pregnancy. Refer to Toxemia of Pregnancy protocol (2.35) as needed.
3. Protect patient from injury and maintain airway.
4. For recurrent seizures or status epilepticus, transport immediately.
5. Assess blood glucose if authorized.

EMT-B/I STOP _____

EMT-CC/EMT-P

6. ***If blood glucose <80 mg/dl***, administer 25 gm dextrose 50% IV.
7. ***If continued seizure activity***, administer:
 - a. lorazepam 0.1 mg/kg IV/IM (up to 2 mg)

OR

 - b. midazolam 0.1 mg/kg IV (up to 4 mg)

EMT-CC/EMT-P ABSOLUTE ON-LINE

8. Repeat dosages of lorazepam or midazolam as ordered by medical control.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE

2.33 STROKE/CVA

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ALL LEVELS

1. Routine medical care (protocol 1.01).
2. Patients whose condition warrants transport to the nearest facility (cardiac or respiratory arrest, unmanageable airway) should be taken to the nearest facility regardless of other findings.
3. Determine time of onset of symptoms.
4. Assess symptoms using Cincinnati Prehospital Stroke Scale:
 - a. Facial droop: have patient show teeth, smile, or puff cheeks
 - b. Arm drift: patient holds both arms straight out for 10 seconds with eyes closed
 - c. Abnormal speech: patient repeats a simple phrase
5. ***If positive stroke scale findings AND expected arrival at hospital is less than 2 hours from onset of symptoms***, transport patient to designated New York State Department of Health Stroke Center.
6. Consider other treatable causes of neurologic compromise. Refer to Altered Mental Status protocol (2.04), Poisoning/Overdose protocol (2.28), and Head Trauma protocol (2.21) as needed.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



2.34 SURGICAL AIRWAY

EMT-P PROVIDER ONLY

1. Provider agency must have specific approval by Finger Lakes REMAC for use of this protocol. Agencies must submit to REMAC:
 - a. Agency-specific training plan
 - b. Approval of agency medical director
 - c. Agency-specific quality assurance program
2. Surgical cricothyrotomy is indicated for any patient with an airway that cannot be opened or secured/managed by any other means, including BLS head tilt/jaw thrust, chest thrusts, suction, oral/nasal airway, combitube and/or supraglottic airway, and intubation.
3. The following equipment should be immediately available:
 - a. Operational suction unit with rigid catheter attached and ready
 - b. Bag valve mask with reservoir connected to 100% oxygen
 - c. Surgical airway kit with appropriate accessories (specific requirements will vary depending on the type of surgical airway kit used.)
 - d. Pulse oximetry and end-tidal CO₂ detector/capnography
4. Perform procedure as specified by Airway Management protocol (1.02) and Airway Obstruction protocol (2.02)
5. Medical control contact is required following performance of the procedure.



2.35 TOXEMIA OF PREGNANCY

ALL LEVELS

1. Routine medical care (protocol 1.01)
2. Serial assessment of vital signs
3. Obtain careful history of patient
 - a. Due date
 - b. Prior pregnancies/deliveries
 - c. Known problems with this or prior pregnancies
 - d. Prenatal care
 - e. Possibility of multiple fetuses
4. Position patient on left side
5. Administer oxygen 10-15 lpm NRBM
6. Immediate transport- avoid flashing lights.

EMT-B/I STOP _____

EMT-CC/EMT-P ABSOLUTE ON-LINE

7. ***If seizure activity is occurring***, medical control may order magnesium sulfate infusion 1 – 2 grams.
8. ***If adverse effects from magnesium sulfate develop (i.e. hypotension, respiratory depression, stupor)***, medical control may order calcium gluconate 1 gram IV.
9. ***If seizure activity persists***, refer to Seizure protocol (2.32).

**PEDRIATIC
TREATMENT
PROTOCOLS**



3.00 ROUTINE MEDICAL CARE - PEDIATRIC

The following definition for age ranges are used throughout the protocols:

Neonate – newborn through 1 month old

Infant – 1 month – 1 year old

Toddler – 1 - 3 years old

Child – 3 – 16 years old

ALL LEVELS

1. Pediatric care equipment will always be brought to the patient. This includes:
 - a. Oxygen, suction, bag with BP cuff, oxygen masks, BVM, and oropharyngeal airways
 - b. Advanced airway kit (I/CC/P only)
 - c. Monitor/defibrillator per technician's level of care
 - d. Medication box and communication equipment (CC/P only)
2. Ensure adequate oxygenation. Administer high flow oxygen to any patient who needs it. Assist ventilations and suction prn. Consider blow-by oxygen to very young children who will not tolerate mask.
3. Serial vital signs and patient assessment.
4. Avoid separation from parents when possible (may further aggravate distress)
5. Airway and oxygenation are the primary management tools; medications and vascular access are secondary.
6. Pediatric patients are more vulnerable to hypothermia. Assure warm environment.
7. Patients experiencing potential cardiac or respiratory complaints should not be walked to the ambulance.
8. Do not forget communication with parents.
9. A guideline for scene time on medical calls is 20 minutes or less.
10. If patient requires CC/P level of care, begin transport and attempt intercept enroute. BLS units should NOT delay transport to await either CC/P or air ambulance; arrange a rendezvous as necessary.

EMT-CC/EMT-P

11. ECG monitoring for all patients requiring CC/P level care.
12. Use length-based tape (i.e. Broselow Tape) for weight estimation, drug dosages, and equipment size selection whenever possible.



3.01 PEDIATRIC NORMAL WEIGHTS/VITAL SIGNS

Age	Weight (kg)	Normal Systolic BP	Heart Rate	Resp Rate
Birth	3.5	60-80	80-160	30-60
6 months	7	70-100	100-120	30-50
1 year	10	80-85	100-120	25-35
2 years	13	80-85	80-100	20-30
3 years	15	80-85	80-100	20-30
4 years	17	80-85	80-100	20-30
5 years	19	80-85	80-100	20-30
6 years	22	80-85	80-100	20-30
7 years	25	80-85	70-90	15-25
8 years	28	80-85	70-90	15-25
9-10 years	30	90-130	70-90	10-20
11-12 years	37	90-135	70-90	10-20

Rapid determination of hypotension status in pediatric patients:

Age < 1 month: Systolic BP < 60
1 month – 1 year: Systolic BP < 70
Age > 1 year: Systolic BP < 70 + (2 * age)



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE – PEDIATRIC

3.02 AIRWAY MANAGEMENT – EQUIPMENT SIZES

Use length-based tape to assist in determination of sizes whenever possible

Age	Laryngoscope Blade	ETT	Suction catheter
Preemi	Miller 0	2.5 – 3.0 uncuffed	6 Fr
Term infant	Miller 0-1	3.0 – 3.5 uncuffed	6 Fr
6 months	Miller 0-1	3.5 – 4.0 uncuffed	8 Fr
1 year	Miller 1	4.0 – 4.5 uncuffed	8 Fr
2 years	Miller 2	4.5 uncuffed	8 Fr
4 years	Miller 2	5.0 uncuffed/cuffed	10 Fr
6 years	Miller 2	5.5 uncuffed/cuffed	10 Fr
8 years	Miller 2, Mac 2	6.0 cuffed	10 Fr
10 years	Miller 2, Mac 2	6.5 cuffed	12 Fr
12 years	Miller 3, Mac 3	7.0 cuffed	12 Fr
Adolescent	Miller 3, Mac 3	7.0 – 8.0 cuffed	12 Fr



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE - PEDIATRIC

3.03 APGAR SCORES

Perform 1 minute and 5 minutes after birth

Points Category	0	1	2
Appearance (skin color)	Blue/Pale	Body Pink/ Extremities Blue	Completely Pink
Pulse (heart rate)	Absent	< 100	> 100
Grimace (irritability)	No response	Grimaces	Cries
Activity (muscle tone)	Limp	Some flexion of extremities	Active motion
Respiratory (effort)	Absent	Slow/irregular	Strong cry

Score: 7-10 active/vigorous neonate
4-6 moderately depressed neonate
< 4 severely depressed neonate



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE - PEDIATRIC

3.04 DRUG DOSAGE TABLE

Medication	Dosage	Minimum Dose	Maximum single dose	Administration Route(s)
Adenosine	0.1-0.2 mg/kg		12 mg	IV/IO
Albuterol	1.25 – 2.5 mg	1.25 mg	2.5 mg	Nebulizer
Amiodarone	5 mg/kg bolus		150 mg	IV/IO
Atropine	0.02 mg/kg	0.1 mg	1.0 mg	IV/IO
Dexamethasone	0.5mg/kg		10 mg	IV/IO/IM
Diphenhydramine	1-2 mg/kg		50 mg	IV/IO
Epinephrine 1:1000			See below	
Epinephrine 1:10000	0.01 mg/kg		1 mg	IV/IO
Glucagon	0.1 mg/kg	0.1 mg	1 mg	IM
Lidocaine	1 mg/kg		1.5 mg/kg	IV/IO
Lorazepam	0.1 mg/kg		2 mg	IV/IO/PR
Methylprednisolone	1 mg/kg		125 mg	IV/IO
Midazolam	0.05 mg/kg		2.5 mg	IV/IO/PR
Morphine	0.1 mg/kg		5 mg	IV/IO
Naloxone	0.1 mg		2 mg	IV/IO
Sodium Bicarbonate	1 mEq/kg		50 mEq	IV/IO

Note: Use of ETT administration route for medications is not routinely recommended. Use intraosseous route when IV cannot be established.

EPINEPHRINE 1:1000

Acute anaphylaxis/asthma: 0.01 mg/kg up to 0.3 mg IM
Croup/respiratory distress: 0.5mg/kg up to 5 mg nebulized (mix with 3 mL saline)



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE - PEDIATRIC

3.05 AIRWAY MANAGEMENT

Page 1 of 1

ALL LEVELS

1. Establish patent airway
 - a. Manually open airway as needed
 - i. Head tilt/chin lift (non-trauma)
 - ii. Modified jaw thrust (trauma)
2. Suction as needed
3. Oropharyngeal/nasopharyngeal airway as needed
4. Ventilation with BVM and 100% oxygen as needed. Utilize cricoid pressure on unresponsive patients to minimize gastric insufflation.

EMT-B/EMT-I STOP _____

EMT-CC/EMT-P

5. May attempt orotracheal intubation (with manual stabilization for trauma) up to two times per patient on patients meeting the following criteria:
 - a. Adequate oxygenation not maintainable by other means
 - b. Suspected thick meconium aspiration in newborn with distress
6. Uncuffed tubes should only be used in patients under age 8. All equipment should be selected using a Broselow tape or other definitive length-based mechanism.
7. Following intubation, ventilate patient with BVM and 100% oxygen, assuring that the pop-off valves, if present, are disengaged.
8. Perform primary airway placement check: auscultate for bilateral breath sounds and absence of epigastric sounds, look for chest rise and condensation of tube with exhalation.
9. **Mandatory requirement:** utilize waveform capnography to verify ETT placement. Continuous use of waveform capnography is required for duration of call event following intubation.
10. **Caution:** particularly for suspected epiglottitis, status asthmaticus, conscious patients, and severe facial trauma, medical control should be contacted prior to attempting intubation on non-arrest patients. BLS methods are often as effective as intubation at maintaining oxygenation and should be attempted first.

EMT-CC STOP _____

EMT-P

11. In the event of an inability to manage airway by any other means (including intubation and simple BLS maneuvers such as head tilt/jaw thrust), may perform one of the following:
 - a. Needle cricothyrotomy with jet insufflation (age 10 and under)
 - b. Surgical cricothyrotomy with placement of ET tube (age > 10 only)
12. Refer to Airway Obstruction protocol. Medical control must be notified following performance of the procedure.

ORIGINAL: 03/16/2006

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System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
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3.06 OXYGEN THERAPY

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ALL LEVELS

1. Administer oxygen via an appropriately sized nonbreathing mask. The flow rate should be sufficient to keep the bag on the mask inflated (10-15 lpm)
2. If patient does not tolerate the mask, use a stream of oxygen blown as close to the face as possible.

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System Medical Director Approval:



3.07 AIRWAY OBSTRUCTION

ALL LEVELS

1. ***If patient is conscious:***
 - a. ***If patient exhibits signs of inadequate air exchange (cannot cough, speak, or breathe):***
 - i. ***Age < 1 year:*** administer 5 back blows with head lower than body, followed by 5 chest thrusts.
 - ii. ***Age 1 year and older:*** administer 5 abdominal thrusts.
 - iii. Inspect mouth, suction, and remove visible obstruction. Do not perform blind finger sweeps.
 - iv. Repeat until airway is cleared or patient becomes unresponsive.
 - b. ***If patient has adequate air exchange (able to cough, speak, or breathe):***
 - i. Encourage coughing
 - ii. Rapid transport
 - iii. Oxygen as tolerated
2. ***If patient is unconscious:***
 - a. Begin CPR at ratio of 30 compressions to 2 breaths (one rescuer) or 15 compressions to 2 breaths (2 rescuers)
 - b. Inspect mouth and suction/finger sweep as needed during each ventilation cycle.
3. If initial efforts to dislodge object are unsuccessful, begin rapid transport and continue efforts enroute.

EMT-B/I STOP _____

EMT-CC/EMT-P

4. Attempt direct laryngoscopy and removal of foreign object with Magill forceps.

EMT-CC STOP _____

EMT-P

5. Perform needle/surgical cricothyrtomy as follows:
 - a. ***Age 10 and under:*** perform needle cricothyrotomy. Surgical cricothyrotomy is contraindicated.
 - b. ***Age over 10:*** perform surgical cricothyrotomy.
6. Surgical airway maneuvers should be performed only when unable to intubate due to partial or complete airway obstruction, and all other means of ventilating the patient (including simple BLS ventilation with head tilt/jaw thrust) have failed. Medical control must be notified following performance of the procedure and its results.



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3.08 VASCULAR ACCESS

Page 1 of 1

EMT-I/EMT-CC/EMT-P ONLY

1. Always ensure adequate oxygenation and patent airway prior to attempting vascular access.
2. Vascular access should be obtained only where expressly called for by specific protocols.
3. IV placement may be difficult. Excessive time should not be spent establishing an IV in any situation (no more than 5 minutes).
4. Use readily accessible veins (in hand or antecubital area)
5. Normal saline is primary fluid of choice unless otherwise specified.
6. Run at KVO rate (10 mL/hour) or use saline lock, unless directed differently by protocol or medical control.

EMT-B/I STOP _____

EMT-CC/EMT-P

7. Use intraosseous technique for establishing vascular access in situations where it is rapidly required.
 - a. **Patient age > 1 month and less than 6 years:** use appropriate regionally accepted device designed for age range/body size.
 - b. **Patient age equal to or greater than 6:** use approved adult intraosseous device if body size meets specifications for device.

EMT-CC/EMT-P ABSOLUTE ON-LINE

8. Access of renal shunt or fistula* in non-cardiac arrest situation.

EMT-CC STOP _____

EMT-P ABSOLUTE ON-LINE

9. Access to Hickman, PICC line, or other indwelling IV catheter*. Specialized indwelling ports may require special equipment for access and usage. The EMT-P should use only indwelling ports that do not require any specialty connectors or equipment, after contacting medical control.

* - The provider must have completed training/competency in use of alternative access routes.

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3.09 FLUID CHALLENGE/REPLACEMENT

EMT-I CONTACT MEDICAL CONTROL

EMT-CC/EMT-P

1. Confirm indications for fluid challenge:
 - a. Tachycardia with evidence of poor peripheral perfusion
 - b. Absent peripheral pulses
 - c. Altered mental status
 - d. Cold extremities
 - e. Capillary refill exceeding 2 seconds
 - f. Hypotension
 - g. Cardiac disease/CHF absent. In pediatric patients, generally this is due to a congenital or infectious process. Signs of CHF include:
 - i. Pulmonary edema
 - ii. Hepatomegaly
 - iii. Peripheral edema
2. Establish vascular access per Vascular Access protocol (3.8)
3. Administer 20 mL/kg NS IV/IO.
4. Reevaluate patient and give second bolus of 20mL/kg if indicated.
5. If potential cardiogenic shock or other significant cardiac disease, limit fluid administration to 5-10 mL/kg IV/IO unless directed otherwise by medical control.



3.10 PEDIATRIC TRAUMA CARE

ALL LEVELS

1. ***If patient presents with unmanageable airway or cardiac arrest***, transport immediately to the nearest facility with CPR and trauma care as required. An “unmanageable airway” is a situation in which adequate ventilation (adequate breath sounds, adequate SpO₂, adequate rate, etc.) cannot be maintained after all means available have been exhausted, including BLS maneuvers, intubation/RSI, combitube, and surgical airway.
2. Complete spinal immobilization per New York State BLS protocol. May utilize selective spinal immobilization protocol as appropriate.
3. Consult other FLREMS protocols as appropriate.
4. Select destination facility as described below.
5. Evaluate physical findings for the following indications for transport to trauma center:
 - a. Glasgow Coma Score (GCS) < 13 or loss of consciousness > 5 minutes
 - b. Respirations < 10 or > 28
 - c. Systolic BP < 90 mmHg
 - d. Penetrating injuries to head, neck, torso, or proximal extremities
 - e. Two or more suspected proximal long bone fractures
 - f. Suspected flail chest
 - g. Suspected spinal cord injury or limb paralysis
 - h. Amputation
 - i. Suspected pelvic fracture
 - j. Open or depressed skull fracture
 - k. 2°/3° burns > 15% body surface area
 - l. Any burn involving face, airway, hands, feet, or genitalia***If one or more finding is present***, rapid transport to trauma center is indicated. Consider utilization of air medical transport.
6. Evaluate patient for risk factors which may warrant transport to trauma center:
 - a. Bleeding disorders or patients on anticoagulants (aspirin)
 - b. Major chronic illness (Cardiac/respiratory disease, diabetes, etc.)
 - c. Immunosuppressed patients (HIV, transplant patients, patients receiving chemotherapy)***If one or more risk factor is present***, contact medical control to discuss possible transport to trauma center.
7. If not indicated otherwise, patient should be transported to the nearest hospital.
8. Notify the destination facility. Contact medical control as needed.
9. ALS should be utilized for patients being transported to trauma center.
10. Do not delay transport to await ALS or air medical service. Begin transport and arrange rendezvous with ALS or air medical service enroute if necessary.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

11. Utilize Fluid Challenge/Replacement protocol as needed. Do not delay transport for placement of IV lines.
12. Consider second IV line.

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System Medical Director Approval:



3.11 ADRENAL INSUFFICIENCY CRISIS

ALL LEVELS

1. Protocol refers to acute adrenal insufficiency crisis associated with Addison's Disease, adenoma, hypopituitism, or other cause. (Check for presence of medical jewelry or forms).
2. Assess for evidence of adrenal insufficiency crisis:
 - a. Known medical history and prescribed medications (steroids)
 - b. Hypovolemic shock symptoms - orthostatic hypotension, tachycardia
 - c. Nausea/vomiting
 - d. Hypoglycemia

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

3. Treat shock symptoms per Fluid Challenge/Replacement protocol (3.09) and hypoglycemia per Altered Mental Status protocol (3.12).

EMT-I STOP _____

EMT-CC/EMT-P ABSOLUTE ON-LINE

4. Medical control may order administration of:
 - a. methylprednisolone 1 mg/kg (up to 125 mg) IV OR
 - b. dexamethasone 0.3 mg/kg (up to 4 mg) IV



3.12 ALTERED MENTAL STATUS

ALL LEVELS

1. Routine medical care (protocol 3.00).
2. Assure adequate oxygenation and administer high flow oxygen. Hypoxia is a common cause of decreased level of consciousness in children.
3. Consider other causes for altered mental status including head trauma, postictal state after seizures, hypoxia, stroke, overdose, and poisoning.
4. Assess respirations. Assist with BVM if any of the following criteria are present:
 - a. Respiratory rate < 12
 - b. Minimal air movement
 - c. Decreasing level of consciousness
 - d. Falling respiratory rate
 - e. Persisting cyanosis
5. Assess blood glucose if authorized. ***If blood glucose < 80 mg/dl AND patient is able to swallow and protect own airway***, administer oral glucose gel 15g or 24g (or any other form of sugar).
6. Request ALS intercept and begin rapid transport.

EMT-B/I STOP _____

EMT-CC/EMT-P

7. ***If blood glucose < 80 mg/dl***, establish vascular access and administer intravenous dextrose as follows:
 - a. ***Age < 1 month***: administer dextrose 12.5% 4 mL/kg
 - b. ***Age 1 month or greater, and less than 6 yo***: administer dextrose 25% 2mL/kg
 - c. ***Age 6 yo or greater***: administer dextrose 50% 1mL/kg
 - d. ***If unable to place IV***, administer glucagon 0.1mg/kg IM up to 1 mg.
8. Assess for signs or history of opiate overdose:
 - a. Respiratory depression
 - b. Constricted pupils (pinpoint)
 - c. Needle marks on extremities
 - d. Prescription bottles (oxycodone, hydrocodone, morphine, meperidine, etc.)***If signs of opiate overdose are present***, administer naloxone 0.1 mg/kg up to 2 mg IV/IM.

Note: Dextrose 25% may be made by diluting 50% dextrose 1:1 with sterile water.
Dextrose 12.5% may be made by diluting 25% dextrose 1:1 with sterile water.

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FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
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3.13 ANALGESIA

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ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Identify and treat the underlying cause of the pain, if possible.

EMT-B/I STOP _____

EMT-CC/EMT-P

3. *If the pain is due to an isolated extremity fracture/dislocation (this includes hip and shoulder) or burn to an isolated extremity*, may administer morphine 0.1 mg/kg up to 5 mg IV/IM, and may repeat once as needed.¹
4. *If patient develops adverse reactions to any opiate administered*, administer naloxone 0.1 mg/kg (up to 2.0 mg) IV/IM.

EMT-CC/EMT-P ABSOLUTE ON-LINE

5. Medical control must be contacted for additional repeat doses of morphine.
6. For other presentations of pain, medical control may authorize morphine, and may authorize repeat administrations as needed.
7. In addition to or instead of morphine, medical control may authorize fentanyl, and may authorize repeat administrations as needed.²

NOTES:

1. Standing order administration of morphine is to be utilized only by agencies who have approval of their medical director. The agency's medical director is considered the authorizing physician for all administrations of morphine in this situation.
2. Specific agency-level approval for fentanyl use is required by both Finger Lakes REMAC and the agency's medical director as well as the New York State Bureau of Emergency Medical Services. This approval must be secured in addition to any existing controlled substance approvals for the agency. Use of fentanyl must be documented according to NYS EMS policy (refer to NYS BEMS policy document 07-02).

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3.14A ALLERGIC REACTION (EMT-CC/EMT-P)

EMT-CC/EMT-P

1. Routine medical care (protocol 3.00)
2. ***If signs of severe anaphylaxis (bronchospasm, hypotension, etc.),*** administer epinephrine 1:1000 0.01 mg/kg IM/SQ (up to 0.3 mg)
3. Diphenhydramine 1 mg/kg IM/IV (up to 50 mg)
4. ***If wheezing present,*** can administer nebulized albuterol as follows:
 - a. ***Age less than 1 yo:*** 1.25 mg
 - b. ***Age 1 yo or greater:*** 2.5 mg
5. Establish vascular access. ***If hypotensive,*** refer to Fluid Challenge protocol.
6. Begin transport.

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

7. ***If hypotension persists,*** repeat epinephrine 1:1000 0.01 mg/kg IM/SQ up to 0.3 mg.

EMT-CC STOP

8. Medical control may order usage of methylprednisolone 1 mg/kg IV up to 125mg.



3.14B ALLERGIC REACTION (EMT-B/EMT-I)

ALL LEVELS

1. Routine medical care (protocol 3.00).
2. If patient has their own epinephrine auto-injector, all EMTs may assist the patient in administering the epinephrine injection.
3. Request ALS intercept.
4. Initiate rapid transport – do not delay transport to the hospital.
5. EMT-B/I personnel working with agencies authorized to carry an epinephrine auto-injector may proceed with steps 6-9.
6. Evaluate the following criteria:
 - a. History of allergic reactions/anaphylaxis
 - b. Recent exposure to allergen
 - c. Patient exhibits respiratory distress and/or shock/hypotension
 - d. Patient has prescription for epinephrine auto-injector (the patient's injector does not have to be available)
 - e. Patient has not yet received dose of epinephrine
7. ***If all criteria in #6 are met***, administer epinephrine auto-injector as follows:
 - a. ***Age less than 5 years***: 0.15 mg auto-injector.
 - b. ***Age 5 years or older***: 0.30 mg auto-injector.

EMT-B/I CONTACT MEDICAL CONTROL

8. If all criteria in #6 are not met, medical control must be contacted prior to the administration of epinephrine by EMT-B/I.
9. Repeat administration of epinephrine by EMT-B/I requires medical control contact.

EMT-B STOP _____

EMT-I

10. ***If hypotensive***, establish vascular access and refer to Fluid Challenge protocol.



3.15 BURNS

ALL LEVELS

1. **Thermal burns:**
 - a. Remove constricting clothing and jewelry. Cut around areas burned/stuck to skin- do not pull or remove.
 - b. Do not rupture blisters or apply any ointment, gel, or medication to burns.
 - c. Avoid ice or cold compresses.
 - d. Maintain body temperature (keep patient covered, ensure adequate temperature in ambulance.)
2. **Electrical burns:**
 - a. APPROACH WITH CAUTION. Do not approach downed wires. Remove power at source before touching patient.
 - b. Cover entrance and exit burns with dry sterile dressings.
3. **Chemical burns:**
 - a. **When possible, obtain Material Safety Data Sheet (MSDS) for substance.** Ensure adequate rescuer protection.
 - b. Decontaminate patient as recommended.
 - c. Do not transport contaminated patients. Transport should be delayed until water flushing has been completed.
 - d. Be alert for possibility of hypothermia when large areas of the body are involved and cold water flush is used.
 - e. Do not attempt to neutralize chemicals with specific “antidotes”, buffering agents, etc.
4. Routine medical care (protocol 3.0).
5. **Assess burn severity.** Burns potentially involving the airway should be transported to the nearest facility. Burns meeting the following criteria should be covered with dry, sterile dressings and medical control contacted regarding possible transport to a designated burn center:
 - a. Second degree > 15% body surface area
 - b. Third degree > 5% body surface area
 - c. Facial/airway burns
 - d. Hands, feet, perineum, genitalia
 - e. Circumferential burns
6. Minor burns should be covered with sterile gauze soaked in saline.
7. Consider the possibility of child abuse. Indications include:
 - a. Story of injury mechanism not consistent with injury.
 - b. Parent resists separation from child or is evasive about mechanism
 - c. Multiple injuries in varied stages of healing

EMT-B/I STOP _____

EMT-I/EMT-CC/EMT-P

7. Establish vascular access using NS at KVO. **If hypotensive**, administer fluid boluses per Fluid Challenge (protocol 3.09). For nonhypotensive patients, contact medical control for fluid administration.

EMT-CC/EMT-P

8. Refer to Analgesia protocol (3.13) as needed.

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3.16 CARDIAC - BRADYCARDIA

ALL LEVELS

1. Routine medical care (protocol 3.00). In pediatric patients, bradycardia is almost always the result of hypoxia and/or decompensated shock. Hypotension suggests late and severe shock.
2. Airway, oxygenation, and ventilation are the primary management tools; medications and vascular access/fluids are secondary.
3. Administer high flow oxygen and assist ventilations as needed
4. For newborns, refer to newborn resuscitation protocol (3.30)
5. Begin rapid transport.
6. **Assess for hemodynamic significance of bradycardia** as indicated by one or more of the following findings:
 - a. Altered mental status
 - b. Delayed capillary refill
 - c. Hypotension
 - d. Respiratory distress
7. **If continued hemodynamically significant bradycardia**, begin CPR with continued ventilations using 100% oxygen.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

8. Establish vascular access and administer fluid challenge per protocol (3.9).

EMT-I STOP _____

EMT-CC/EMT-P

9. Administer epinephrine 0.01 mg/kg IV/IO. Repeat q3-5 minutes.
10. **If increased vagal tone, primary AV block, or cholinesterase inhibitor poisoning suspected**, administer atropine 0.02 mg/kg IV/IO, repeat as needed.
11. Utilize transcutaneous pacemaker if available.
12. Identify and treat causes as listed in PEA algorithm (3.21)

EMT-CC/EMT-P ABSOLUTE ON-LINE

13. Consider sedation for discomfort resulting from TCP:
 - a. Midazolam OR
 - b. Lorazepam



3.17 CARDIAC – NARROW COMPLEX TACHYCARDIA

EMT-CC/EMT-P ONLY

1. Remember that children and infants have inherently faster heart rates. Consider SVT only at rates above 200. Protocol to be used only for tachyarrhythmias with cardiac etiology. Consider other causes such as hemorrhage, fever, or sepsis.
2. Routine medical care (protocol 3.00)
3. Administer high flow oxygen and assure airway patency.
4. Wide complex SVT is very uncommon in the pediatric patient; treat wide complex tachycardias as VT.
5. Assess stability based on following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
 - d. Poor peripheral pulses
 - e. Delayed capillary refill
 - f. Cool, mottled, cyanotic extremities
6. ***If patient unstable***, proceed directly to Unstable Tachycardia Protocol (3.19).
7. Attempt vagal maneuvers (Valsalva maneuver, blowing through occluded straw, ice bag to face). Do not perform carotid sinus massage.

EMT-CC/P CONTACT MEDICAL CONTROL

8. Administer adenosine 0.1 mg/kg (max. 6 mg) rapid IV.
9. If no conversion of arrhythmia within 1-2 minutes, repeat adenosine 0.2 mg/kg (max. 12 mg) rapid IV.



3.18 CARDIAC – WIDE COMPLEX TACHYCARDIA

EMT-CC/EMT-P ONLY

1. Routine medical care (protocol 3.00)
2. Administer high flow oxygen and assure airway patency.
3. In the absence of congenital heart defects, pediatric ventricular dysrhythmias are frequently due to electrolyte deficiencies or hypoxia.
4. Pulseless VF/VT should be treated according to VF protocol.
5. Assess stability based on one or more of the following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
 - d. Poor peripheral pulses
 - e. Delayed capillary refill
 - f. Cool, mottled, cyanotic extremities
6. ***If patient unstable***, proceed directly to Unstable Tachycardia Protocol (3.19).

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

7. Medical control may authorize administration of amiodarone 5mg/kg over 20 minutes.



3.19 CARDIAC – UNSTABLE TACHYCARDIA

EMT-CC/EMT-P ONLY

1. Protocol to be used for unstable tachyarrhythmias with wide or narrow QRS complex based upon the following findings:
 - a. Hypotension
 - b. Chest pain
 - c. Altered mental status
 - d. Poor peripheral pulses
 - e. Delayed capillary refill
 - f. Cool, mottled, cyanotic extremities
2. Routine medical care (protocol 3.00)
3. Consider medical control contact for sedation as noted below, however **cardioversion should not be delayed for medical control contact and sedation in critical patients.**
4. Synchronized cardioversion 0.5 j/kg.
5. If no change, repeat synchronized cardioversion at 1 j/kg.
6. If no change, repeat synchronized cardioversion at 2 j/kg.
7. If no change, repeat synchronized cardioversion at 4 j/kg.
8. Use anterior/posterior placement of pads if chest area is small.

EMT-CC/EMT-P ABSOLUTE ON-LINE

9. Medical control may order sedation prior to cardioversion as follows:
 - a. Midazolam 0.05 mg/kg IV OR
 - b. Lorazepam 0.05 mg/kg IV
10. Medical control should be contacted prior to any additional antiarrhythmic therapy.



3.20 CARDIAC ARREST – UNIVERSAL ALGORITHM

ALL LEVELS

1. Immediately initiate CPR (ratio of 30 compressions to 2 breaths) using BLS airway management and 100% oxygen.
2. Pediatric cardiac arrest is usually the end result of unchecked hypoxia or shock. It rarely results from a primary cardiac event, except in the presence of a congenital defect. The treatment plan must keep this in mind.
3. All care should be organized in such a manner as to minimize interruptions of CPR for items such as rhythm check, shock delivery, advanced airway insertion, and vascular access. CPR should be interrupted no longer than 30 seconds for patient transfer.
4. If ALS is not on scene, initiate rapid transport to nearest hospital or plan for ALS intercept.
5. Medical control should be contacted prior to any medication administration in the event of hypothermic cardiac arrest.
6. Advise receiving hospital as soon as possible.
7. All levels can apply and operate automated external defibrillator (AED).
 - a. Refer to 2006 Revised New York State BLS Protocols Automated External Defibrillation Protocol.
 - b. **If patient weight <35 kg (80 lbs)**, a pediatric capable AED must be used.
8. Initiate CPR immediately following defibrillation attempts.

EMT-B STOP _____

EMT-I

9. Use alternative airway per Airway Management protocol. Following placement of advanced airway, perform continuous chest compressions at a rate of 100/minute and ventilate at 8-10 breaths per minute).
10. IV NS KVO. Do not delay transport for placement of IV.

EMT-I STOP _____

EMT-CC/EMT-P

11. Intubation per airway management protocol.
12. Establish IV or intraosseous infusion.
13. Attach monitor defibrillation pads or perform quick look with paddles. Refer to protocols as needed:
 - a. Asystole/PEA (Protocol 3.21)
 - b. Ventricular Fibrillation (3.22)



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3.21 CARDIAC ARREST – ASYSTOLE/PEA

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EMT-CC/EMT-P ONLY

1. Continue CPR and coordinate care to limit interruptions of CPR.
2. Establish vascular access.
3. Intubate per airway management protocol and confirm tube placement using primary/secondary methods.
4. Confirm asystole in multiple leads – consider possibility of fine VF.
5. Administer epinephrine 1:10000 0.01 mg/kg IV/IO; repeat q 3-5 minutes for duration of arrest event.
6. Identify and treat cause of asystole:
 - a. **Hypovolemia** – administer fluid challenge (refer to Fluid Challenge protocol 3.09)
 - b. **Hypoxia** – intubate and ventilate with 100% oxygen
 - c. **Hydrogen ion (acidosis)** – ventilate at adequate rate. If patient is intubated and downtime > 15 minutes, contact medical control as directed below for administration of sodium bicarbonate.
 - d. **Hyperkalemia** – consider possibility in renal failure patients. Contact medical control.
 - e. **Hypokalemia** – in patients with extensive diuretic usage and recent dialysis. Contact medical control.
 - f. **Hypothermia** – passive rewarming and rapid transport.
 - g. **Hypoglycemia** – refer to Altered Mental Status protocol (3.12).
 - h. **Tablets** – poisoning and drug overdose. Refer to Poisoning/Overdose protocol (3.31/3.31A).
 - i. **Tamponade** – cardiac tamponade. Rapid transport to nearest facility.
 - j. **Tension pneumothorax** – perform thoracentesis per protocol (3.23).
 - k. **Thrombosis** – coronary or pulmonary. Rapid transport to the nearest facility.
 - l. **Trauma**

EMT-CC/EMT-P ABSOLUTE ON-LINE

7. Medical control may order administration of sodium bicarbonate 1 mEq/kg IV/IO for suspected acidosis or toxidromes.
8. Transport all patients.

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3.22 CARDIAC ARREST – VF/PULSELESS VT

EMT-CC/EMT-P ONLY

1. Utilize this protocol only for the duration of ventricular fibrillation/pulseless ventricular tachycardia. Proceed immediately to appropriate protocol once VF/VT is successfully terminated.
2. Continue CPR until defibrillator is available. At least 2 min of CPR should be done prior to defibrillation for an unwitnessed cardiac arrest patient.
3. Defibrillate once at 2 joules/kg (or equivalent biphasic). Resume CPR immediately (no pulse check following defibrillation attempt).
4. Continue CPR and coordinate care to limit interruptions of CPR. Standard pattern of treatment is drug-shock, drug-shock. CPR should be provided for a minimum of two minutes between shocks; drugs may be given during CPR.
5. Establish vascular access.
6. Intubate per airway management protocol and confirm tube placement using primary/secondary methods.
7. Administer epinephrine 1:10,000 0.01 mg/kg IV/IO; repeat q 3-5 minutes for duration of arrest event.
8. Reattempt defibrillation at 4 joules/kg. Resume CPR immediately (no pulse check following defibrillation attempt).
9. Administer antiarrhythmics:
 - a. Amiodarone 5 mg/kg IV/IO OR
 - b. Lidocaine 1 – 1.5 mg/kg IV/IO
10. Reattempt defibrillation at 4 joules/kg. Resume CPR immediately (no pulse check following defibrillation attempt).
11. For refractory VF/VT or torsades de pointes, administer magnesium sulfate 25-50 mg/kg IV/IO.
12. Reattempt defibrillation at 4 joules/kg. Resume CPR immediately (no pulse check following defibrillation attempt).
13. In the event of hypothermic cardiac arrest, limit the total number of shocks to three (3) and contact medical control.

EMT-CC/EMT-P ABSOLUTE ON-LINE

14. Medical control may order administration of sodium bicarbonate 1 mEq/kg IV/IO for suspected acidosis or toxidromes.



3.23 CHEST TRAUMA

ALL LEVELS

1. Trauma care per protocol 3.10.
2. Stabilize and do not remove penetrating objects.
3. Use occlusive dressing to seal open wounds.
4. Stabilize flail segments with bulky dressings.
5. Rapid transport to appropriate facility as outlined in trauma protocol.
6. ***Assess for signs/symptoms of tension pneumothorax:***
 - a. Severe respiratory distress
 - b. Absent breath sounds unilaterally
 - c. Jugular venous distension
 - d. Hyperresonance
 - e. Tachycardia and hypotension
 - f. Tracheal deviation (late sign)
 - g. Subcutaneous emphysema

EMT-B/I STOP _____

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

7. ***If multiple criteria for tension pneumothorax present***, perform needle decompression on affected side.



3.24 DIABETIC EMERGENCIES

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Assess signs and symptoms; determine last medication usage and last meal eaten.
3. Assess blood glucose.
4. Assess for symptoms of hypoglycemia:
 - a. Sudden onset of symptoms
 - b. Altered mental status – stupor, combativeness, semi-consciousness, lethargy
 - c. Pale moist skin
 - d. Blood glucose \leq 80 mg/dl
5. ***If hypoglycemia present, and patient able to protect airway***, administer oral sugar in any of the following forms: oral glucose gel or tablets, non-diet soda, orange juice, or granulated sugar. EMT-CC/P may skip this step and proceed directly with intravenous glucose as prescribed below.
6. If blood glucose levels are unavailable and if doubt exists as to whether or not hypoglycemia is present, the patient should be treated for hypoglycemia.
7. A patient whose level of consciousness does not improve following administration of sugar should be treated according to the Altered Mental Status protocol (3.12).
8. Transport all patients.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

9. Establish IV access.
10. ***If blood glucose > 300 mg/dl and shock symptoms present***, administer fluid challenge per pediatric protocol (3.09).

EMT-I STOP _____

EMT-CC/EMT-P

11. ***If blood glucose < 80 mg/dl***, administer dextrose according to following dosing schedule:
 - a. Age < 1 month: administer dextrose 12.5% 4 mL/kg.
 - b. Age \geq 1 month and less than 6 yo: administer dextrose 25% 2mL/kg
 - c. Age \geq 6 years old: administer dextrose 50% 1 mL/kg, maximum 50 mL.
12. Reassess blood glucose and repeat dextrose prn.
13. ***If unable to establish IV access***, administer glucagon 0.1 mg/kg IM, up to 1 mg.

Note: Dextrose 25% may be made by diluting 50% dextrose 1:1 with sterile water.
Dextrose 12.5% may be made by diluting 25% dextrose 1:1 with sterile water.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE - PEDIATRIC

3.25 HEAD TRAUMA

Page 1 of 1

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Administer 100% oxygen by NRBM; assure airway patency
3. All patients should receive spinal immobilization.
4. Monitor vital signs and level of consciousness; reassess pupils and Glasgow Coma Scale (GCS) on an ongoing basis.
5. Refer to Pediatric Seizures protocol (3.34) as needed
6. Consider possibility of other trauma and need for trauma care/trauma center – refer to Trauma protocol (3.10)
7. ***If evidence of inadequate respirations (based on ventilatory rate, depth, and/or quality)***, initiate ventilations with BVM and 100% oxygen. Perform additional airway management up to level of training per airway management protocol (intubation preferred with appropriate spinal precautions).
8. Ventilate at 12-20 breaths per minute. Assess for signs of herniation – GCS < 8 or active seizures AND one or more of the following:
 - a. Fixed pupils
 - b. Posturing
 - c. Hypertension with bradycardia
 - d. Intermittent apnea
9. ***If signs of herniation present***, hyperventilate at rate of 25 breaths per minute.
10. In patients with suspected rising intracranial pressure:
 - a. Consider elevation of head of gurney or backboard 30 degrees.
 - b. Minimize auditory and visual stimulation during transport as much as possible.
 - c. Maintain body temperature and blood pressure as well as SpO₂.
11. Conscious patients with a confirmed history of loss of consciousness following the injury should never be permitted to refuse transport. Contact medical control for assistance as needed.
12. Consider the possibility of child abuse in any child with head injury.

EMT-B/EMT-I STOP _____

EMT-CC/EMT-P

13. If hypotensive, refer to Hypotension/Shock protocol.
14. Utilize capnography (ETCO₂) to titrate the ventilatory rate:
 - a. For normal ventilation, goal is 35-40 mmHg.
 - b. For hyperventilation, goal is 30 mmHg.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
STANDARDS OF CARE - PEDIATRIC

3.26 HYPERTHERMIA

Page 1 of 1

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Tympanic thermometers are not reliable indicators of core body temperature.
3. Consider nonenvironmental causes for hyperthermia, such as sepsis.
4. Cool patient using whatever means immediately available (be alert for vomiting which may be caused by rapid cooling):
 - a. Icepacks at groin and axillary sites
 - b. Air conditioned ambulance
 - c. Spraying with cool water to keep skin moist
5. **CAUTION:** wet sheets without good air circulation will retain heat rather than dissipate it.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

6. Fluid replacement per Pediatric Fluid Challenge protocol (3.09).

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



3.27 HYPOTENSION/SHOCK

ALL LEVELS

1. Assess signs/symptoms of hypotensive state- one or more of the following:
 - a. Delayed capillary refill
 - b. Absent/weak peripheral pulses
 - c. Pallor, diaphoresis, cyanosis
 - d. Mottled or cyanotic extremities
 - e. Altered mental status/confusion
 - f. Note that decreased blood pressure is a very late sign of shock in pediatric patients. The presence of hypotension suggests severe and decompensated shock. Look carefully for the early signs of shock as described above.
2. Routine medical care (protocol 3.00) and/or trauma care (protocol 3.10) as appropriate.
3. Consider treatable causes:
 - a. Anaphylaxis
 - b. Hypoglycemia
 - c. Dysrhythmia
 - d. Trauma
 - e. Bleeding
 - f. Hypovolemia
4. Administer 100% oxygen by nonrebreather mask.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

5. Establish IV and infuse fluid as specified in Fluid Challenge protocol (3.09).

EMT-I STOP _____

EMT-CC/EMT-P ABSOLUTE ON-LINE

6. ***If hypotension persists and patient normovolemic***, initiate dopamine infusion 5-20 mcg/kg/minute. A flow rate limiting device (i.e. Dial-a-Drip or equivalent) or IV pump must be used to regulate the infusion rate.



3.28 HYPOTHERMIA

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Tympanic thermometers are an unreliable indicator of core body temperature.
3. Move out of cold environment. Gently remove wet clothing, cover with blankets and otherwise protect from further heat loss.
4. Assure airway patency and administer oxygen per protocol (with warm moist air if possible).
5. Maintain horizontal position
6. Avoid rough handling during patient movement.
7. Timely transport (goal of <15 minute scene time).
8. Monitor temperature; assess cardiopulmonary status, and presence of other factors such as trauma, drug usage, etc. Heart rates should be assessed for at least 1 full minute.
9. If temp is 30-35°C (86 - 95°F), gentle active rewarming measures may be instituted (heated ambulance, wrapped heat packs to axillary area/groin).
10. Refer to Altered Mental Status protocol (3.11) as needed.

EMT-B STOP _____

EMT-I/EMT-CC/EMT-P

11. *If active rewarming being performed* as specified above, utilize warmed IV fluids.



3.29 NEAR DROWNING

ALL LEVELS

1. Routine medical care (protocol 3.00) or trauma care (protocol 3.10) as appropriate.
2. Initiate BLS resuscitation measures and contact medical control.
3. Assess risk of spinal trauma:
 - a. Diving accidents
 - b. Boating accidents
 - c. Accompanying head injury
4. ***If risk of spinal trauma***, perform spinal immobilization using standard procedures.
5. Refer to Hypothermia protocol (3.28) as needed.
6. Manage cardiac arrest as specified in appropriate protocols.
7. Transport all patients. Onset of severe symptoms may be delayed.



3.30 NEONATAL RESUSCITATION

ALL LEVELS

1. Suction mouth and nose as soon as head is visible. Do not put bulb syringe into throat.
2. ***If thick meconium AND neonatal distress is present, as evidenced by poor muscle tone, central cyanosis, and heart rate < 100:***
 - a. Ensure oropharynx is cleared of all material
 - b. EMT-CC/P should perform immediate ET intubation/tracheal suctioning as noted below
3. Keep baby at the level of the vagina until the umbilical cord is cut. The cord should be clamped and cut 30-45 seconds after birth.
4. Dry baby thoroughly, wrap in blankets, and provide tactile stimulation.
5. Keep room/ambulance temperature warmer than normal.
6. Initiate BLS resuscitation measures and contact medical control.
7. Assess infant oxygenation status:
 - a. Activity/muscle tone – flexion/movement
 - b. Pulse > 100
 - c. Grimace – cough, facial movement
 - d. Appearance – no central cyanosis
 - e. Respirations – rapid, crying
8. ***If oxygenation status adequate:***
 - a. Maintain body temperature
 - b. Administer high flow oxygen (blow-by) if any measures beyond basic suctioning, drying, and warming were required.
 - c. Reassess frequently and continue measures as needed
 - d. Continue transport.
9. ***If oxygenation status inadequate:***
 - a. Administer 100% oxygen and repeat suctioning
 - b. Begin rapid transport
 - c. ***Reassess, if continued distress noted,*** initiate ventilations at rate of 40-60 using neonatal BVM and 100% oxygen.
 - d. ***Assess pulse, if pulse rate < 60:*** begin chest compressions at 100-120/minute.

EMT-B/I STOP _____

EMT-CC/EMT-P

10. ***If thick meconium and neonatal distress*** as noted in #2 above, perform immediate ET intubation and tracheal suctioning.

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

11. If continued heart rate < 60 after BLS maneuvers as noted above, establish IV or place ETT and administer epinephrine 0.01 mg/kg IV/ETT.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



3.31 POISONING/OVERDOSE

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Determine substance(s) and quantity.
3. Transport medication bottle(s) to hospital.
4. Determine route of poisoning and manage appropriately as listed below.
5. **Inhalation:**
 - a. Ensure rescuer safety. Do not enter potentially dangerous atmospheres without proper protective equipment.
 - b. Administer high flow oxygen (10-15 lpm NRBM).
 - c. Additional airway and ventilatory assistance as needed per Airway Management protocol (3.5).
 - d. Transport ALL patients. Development of life threatening symptoms may be delayed.
6. **Skin Absorption:**
 - a. Ensure patient is properly decontaminated prior to initiation of treatment and transport.
7. **Injection:**
 - a. Refer to Allergic Reaction (protocol 3.14) as needed
 - b. In the event of animal or insect envenomation, obtain description of organism if possible.
 - c. Do not apply tourniquets or cold packs near injection sites.
8. **Ingestion:**
 - a. Give nothing by mouth unless directed by medical control. Initiate transport with attention to protection of airway.
9. Refer to protocol 3.31A Poisoning/Overdose – Specific Situations for additional treatments based on substance involved.

ALL LEVELS ABSOLUTE ON-LINE

10. For ingested poisons, contact medical control or national Poison Control Center (1-800-222-1222) for information. Medical control only may order use of activated charcoal 1 gram/kg PO.



3.31A POISONING/OVERDOSE (SPECIFIC SITUATIONS)

EMT-CC/EMT-P ONLY

1. Begin with the primary Poisoning/Overdose protocol (3.32).
2. Evaluate potential substance involved and utilize specific treatments as listed below.
3. **Opiates (ingested or injected):**
 - a. Specific symptoms:
 - i. Decreased level of consciousness
 - ii. Respiratory depression
 - iii. Constricted pupils
 - iv. Needle marks on extremities (for injected poisons)
 - b. Administer naloxone 0.1 mg/kg IV/IM (maximum 2 mg titrated to respiratory effort)
4. **Organophosphate insecticides/cholinesterase inhibitors (ingested, absorbed, or inhaled):**
 - a. Specific symptoms:
 - i. Salivation
 - ii. Lacrimation
 - iii. Urination
 - iv. Defecation
 - v. Emesis
 - vi. Muscle twitching/contractions
 - vii. Bradycardia
 - b. Administer atropine 0.02 – 0.05 mg/kg, titrated to response (minimum dose 0.1 mg)

EMT-CC/EMT-P ABSOLUTE ON-LINE

5. **Tricyclic Antidepressants (ingested):**
 - a. Specific symptoms:
 - i. Widening QRS complex
 - ii. Seizures
 - b. Administer sodium bicarbonate 1mEq/kg IV
6. **Calcium channel blockers (ingested):**
 - a. Specific symptoms:
 - i. Bradycardia
 - ii. Hypotension
 - b. Administer calcium chloride or calcium gluconate 20mg/kg IV, up to 1 gram maximum.
7. **Beta blockers (ingested):**
 - a. Specific symptoms:
 - i. Bradycardia
 - ii. Hypotension
 - b. Medical control may order glucagon 0.1 mg/kg IV/IM, up to 2 mg maximum.

ORIGINAL: 11/17/2005

REVISED: 10/05/2010

System Medical Director Approval:



3.32A RESPIRATORY DISTRESS - ALS

EMT-CC/EMT-P ONLY

1. Routine medical care (protocol 3.00)
2. Assess history
3. Ensure airway patency and adequate oxygenation – administer high flow oxygen (10-15 lpm by NRBM).
4. ***If possibility of epiglottitis (hoarseness, stridor, drooling, fever), do not stimulate or examine airway.*** Do not lie patient down.
5. Consider possible foreign body obstruction- refer to pediatric Airway Obstruction protocol (3.07).
6. Avoid unnecessarily agitating child. Transport with parent.
7. IV will agitate child and should be deferred unless needed for medication or fluid challenge.
8. Rapid transport.
9. ***Assess effectiveness of respirations. If evidence of ineffective respirations (minimal air movement, decreasing level of consciousness, falling respiratory rate, developing cyanosis, falling SpO₂):***
 - a. Assist ventilations with bag valve mask.
 - b. Albuterol may be given as specified in this protocol under pressure with the BVM, as necessary.
 - c. Consider intubation.
10. ***If bronchoconstriction present,*** administer albuterol by oxygen powered nebulizer based on following dosages:
 - a. Age < 1 yo: 1.25 mg
 - b. Age ≥ 1 yo: 2.5 mg
11. Repeat albuterol at appropriate dose as needed.

EMT-CC/EMT-P CONTACT MEDICAL CONTROL

12. ***If field assessment suggests inflammatory cause of respiratory distress,*** consider methylprednisolone 1 mg/kg IV.
13. ***For refractory bronchoconstriction associated with asthma,*** consider magnesium sulfate 25-50mg/kg IV infusion (up to 2 grams) over 20 minutes. Magnesium sulfate should not be used in patients with hypotension or renal failure.
14. ***If bronchoconstriction persists or worsens,*** medical control may order epinephrine 0.3 mg SQ. Specific contraindications for epinephrine include:
 - a. Cardiac history
 - b. Tachycardia/hypotension



3.32B RESPIRATORY DISTRESS - BLS

ALL LEVELS

1. Routine medical care (protocol 3.00)
2. Assess history
3. Ensure airway patency and adequate oxygenation – administer high flow oxygen (10-15 lpm by NRBM).
4. ***If possibility of epiglottitis (hoarseness, stridor, drooling, fever), do not stimulate or examine airway.*** Do not lie patient down.
5. Consider possible foreign body obstruction- refer to pediatric Airway Obstruction protocol (3.7).
6. Avoid unnecessarily agitating child. Transport with parent.
7. (EMT-I) IV will agitate child and should be deferred unless needed for medication or fluid challenge.
8. Rapid transport.
9. ***Assess effectiveness of respirations. If evidence of ineffective respirations (minimal air movement, decreasing level of consciousness, falling respiratory rate, developing cyanosis, falling SpO₂):***
 - a. Assist ventilations with bag valve mask.
 - b. Albuterol may be given as specified in this protocol under pressure with the BVM, as necessary.

The remainder of this protocol is to be used only by providers at agencies specifically authorized for EMT-B/I usage of nebulized albuterol.

10. ***If patient is experiencing exacerbation of previously diagnosed asthma and age 1 year or older,*** administer albuterol 2.5 mg by oxygen powered nebulizer. Do not delay transport to complete treatment.
11. Albuterol 2.5 mg may be repeated once as needed.



3.33 SEIZURES

ALL LEVELS

1. Routine medical care (protocol 3.00). Assure airway patency and administer high flow oxygen.
2. ***If status epilepticus***, begin rapid transport.
3. Consider febrile seizures – if fever present, remove clothing.
4. Consider possible toxic ingestion – refer to poisoning/overdose protocol (3.31).
5. Consider possible head injury – refer to head trauma protocol.
6. Assess blood glucose if authorized.

EMT-B/I STOP _____

EMT-CC/EMT-P

1. ***If blood glucose < 80 mg/dl***, administer dextrose according to following dosing schedule:
 - a. Age < 1 month: administer dextrose 12.5% 4 mL/kg.
 - b. Age ≥ 1 month and less than 6 yo: administer dextrose 25% 2mL/kg
 - c. Age ≥ 6 years old: administer dextrose 50% 1 mL/kg, maximum 50 mL.
2. ***If continued seizure activity***, administer:
 - a. Midazolam 0.15 mg/kg PR/IV/IO OR
 - b. Lorazepam 0.05 mg/kg PR/IV/IO

EMT-CC/EMT-P ABSOLUTE ON-LINE

3. Repeat dosages of lorazepam and/or midazolam as ordered by medical control.

Note: Dextrose 25% may be made by diluting 50% dextrose 1:1 with sterile water.
Dextrose 12.5% may be made by diluting 25% dextrose 1:1 with sterile water.

POLICIES



4.00 INITIATION/TERMINATION OF RESUSCITATION

INITIATION OF RESUSCITATION

All providers, regardless of level of certification, are required to initiate cardiopulmonary resuscitation (CPR) in any victim who is apneic, pulseless, and/or demonstrating signs of inadequate perfusion, unless the criteria described below are a factor.

WITHOLDING RESUSCITATION

- Resuscitation should be withheld in the following circumstances:
- Interfacility transfer for which the sending facility has provided a written order not to resuscitate the patient.
- When presented with a Medical Order for Life Sustaining Treatment (MOLST) or non-hospital DNR order on the standard Department of Health form.
- When the standard DNR bracelet is found on the patient's body.
- In cases of obvious death such as decapitation or similar mortal injuries, or where rigor mortis, tissue decomposition, or extreme lividity is present.
- Frozen state.
- Incineration.

NOTE: A health care proxy or living will is not sufficient for withholding or terminating CPR. Normal treatment protocols should be followed and the receiving hospital should be notified of the existence of the proxy or living will.

TERMINATION OF RESUSCITATION

Once CPR is initiated, it must be continued until one of the following occurs:

- Effective spontaneous circulation has been restored
- Resuscitation efforts have been transferred to appropriately trained individual who continues the same level of care
- A physician assumes responsibility for the patient in an Emergency Department, or on-scene if the appropriate card has been signed (see policy 4.4).
- Care of the patient is transferred to hospital staff assigned responsibilities for emergency care.
- Valid non-hospital DNR is discovered.
- The rescuer is exhausted and physically unable to continue resuscitation.
- A medical control physician (on-scene, or by radio, telephone, or other means) orders the in-field termination of resuscitation according to the Termination of Resuscitation Procedure (4.1)



4.01 TERMINATION OF RESUSCITATION

TERMINATION OF RESUSCITATION

CRITERIA

Patients must meet all of the following requirements for in-field termination of resuscitation:

- Adult (> 18 year old) patient who is non-traumatic, normothermic, and does not have a reversible cause of arrest
- ECG is asystolic, or has a pulseless idioventricular rhythm with a rate of < 10 beats per minute
- There has been no return of a perfusing cardiac rhythm at any time during the resuscitation
- Patient's cardiac arrest did not occur in a public place
- Full ACLS guidelines have been followed for at least 25 minutes, including successful intubation, IV access, adequate CPR, and appropriate pharmacologic therapy
- Issues of family notification have been addressed with medical control or other appropriate individuals, such as law enforcement.

PROCEDURE

- Follow ACLS guidelines for at least 25 minutes
- Assure all the above criteria have been met
- Obtain on-line authorization from Medical Control to terminate resuscitative efforts
- Request Law Enforcement Officer, Medical Examiner, or Coroner to scene

Transport to the hospital should be initiated if any of the above criteria are not met, or if the family or the patient's private physician (if contacted) disagree with the termination of efforts at the scene.



4.02 AIR MEDICAL UTILIZATION GUIDELINES

ON SCENE HELICOPTER UTILIZATION GUIDELINES

STANDING ORDERS

Air medical services should be considered for the following:

1. Patients who meet the vital signs or injury criteria for trauma care when ground transport time is greater than 15 minutes to a trauma center.
2. A multiple casualty incident
3. A remote/wilderness area, difficult terrain, or any other time when a ground ambulance is unable to access the patient in a reasonable time frame.
4. Any unstable patient when ground transport to the nearest hospital exceeds 15 minutes.
5. Airway management and advanced formulary for sedation in appropriate patients.

A request for air medical services standby or flight should be made by on-scene emergency services personnel.

RULES

1. Air medical service enroute can be cancelled only by the highest level currently certified EMT on scene.
2. Patient transport should not be delayed while awaiting a helicopter. Begin transport and rendezvous with the helicopter enroute whenever possible.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
SYSTEM POLICY

4.03 MEDICAL CONTROL

MEDICAL CONTROL

A Medical Control Base Station provides on-line medical control and serves as a resource to EMTs engaged in treatment activities. To receive medical control, the EMT must ask to speak to the emergency physician. Ideally, medical control should be obtained from the facility that will receive the patient. In cases where the receiving hospital is elsewhere, the medical control physician should attempt to communicate patient care information to the receiving hospital.


When on-line medical control is not needed, hospitals in the Monroe-Livingston Region (MLREMS) should be notified of any unstable or critical patient's condition and expected time of arrival. All other hospitals (including the Finger Lakes Region) should be notified of all patients, their condition, and the expected time of arrival.

For on-line medical control, cellular phones should be utilized whenever possible. VHF radio communications is an alternative.

<i>Hospital</i>	<i>Region</i>	<i>Disposition Code</i>	<i>Primary VHF Frequency</i>	<i>Telephone</i>
Arnott Ogden	STREMS	071	155.340	607-737-4194
Auburn Memorial	CNYEMS	053	155.355 ¹	315-255-7276
Cayuga Medical Ctr	CNYEMS	541	155.340 ²	607-274-4411
Clifton Springs	FLREMS	341	155.340	315-462-7816
FF Thompson	FLREMS	342	155.175	585-394-3511
Geneva General	FLREMS	343	155.340	315-789-4795
Highland Hospital	MLREMS	272	155.340	585-341-6444
Newark-Wayne	FLREMS	584	155.340	585-331-1971
Noyes Memorial	MLREMS	251	155.340	585-335-4240
Oswego Hospital	CNYEMS	372	155.340 ²	
Park Ridge	MLREMS	275	155.340	
Rochester General	MLREMS	276	155.340	585-338-3367
Schuyler County	STREMS	481	155.340	607-535-9482
Soldiers and Sailors	FLREMS	612	155.340	315-531-2500
Strong Memorial	MLREMS	278	155.340	585-271-2769 Adult 585-756-3430 Peds
Upstate Med Ctr	CNYEMS	336	155.340 ²	315-464-5700

NOTES

1. There is no need to use DTMF tones when calling this facility.
2. Contact Onondaga County Fire Control for connection to these facilities

ORIGINAL: 05/18/2006	REVISED: 12/07/2011	System Medical Director Approval: 
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4.04 ON-SCENE MEDICAL PERSONNEL

ON SCENE MEDICAL PERSONNEL

In the event that a physician, registered nurse, or physician's assistant comes to the scene and wants to assist, the following procedure(s) should be utilized:

ON-SCENE PHYSICIAN

1. The EMT/AEMT should present the following information card to the physician:

<p style="text-align: center;">Finger Lakes Regional Emergency Medical Services Council, Inc. (FLREMSC) ON-SCENE PHYSICIAN INFORMATION</p> <p>Dear Doctor:</p> <p>Thank you for your offer of assistance. Please be advised that we are certified by the NYS Department of Health and are working under Medical Control of physicians at a Resource Hospital. We are not permitted to relinquish Medical Control to a physician on the scene without approval from Medical Control at the Resource Hospital.</p> <p>You may assist the EMS provider, but if you wish to take charge of this patient's medical care, you must:</p> <ol style="list-style-type: none">1. Be currently licensed in New York State as a physician2. Request to speak with the Resource Hospital physician3. Assume all responsibility for this patient4. Accompany this patient to the hospital5. Document your interventions and orders on the PCR6. I agree to the above stipulations _____ (initials) <p style="text-align: center;">Per MD Physician Medical Director Chair, Finger Lakes Regional Emergency Medical Advisory Committee</p>

2. The on scene physician should be put in touch with a Medical Control Base Station by radio or telephone to consult with the Medical Control physician. If communications with a Medical Control physician cannot be established, then the EMT is to adhere to these protocols and take NO medical orders from the on-scene physician.
3. The Medical Control physician may:
 - Refuse to release the patient, in which case the EMT will proceed as per usual under the direction of Medical Control.



4.04 ON-SCENE MEDICAL PERSONNEL

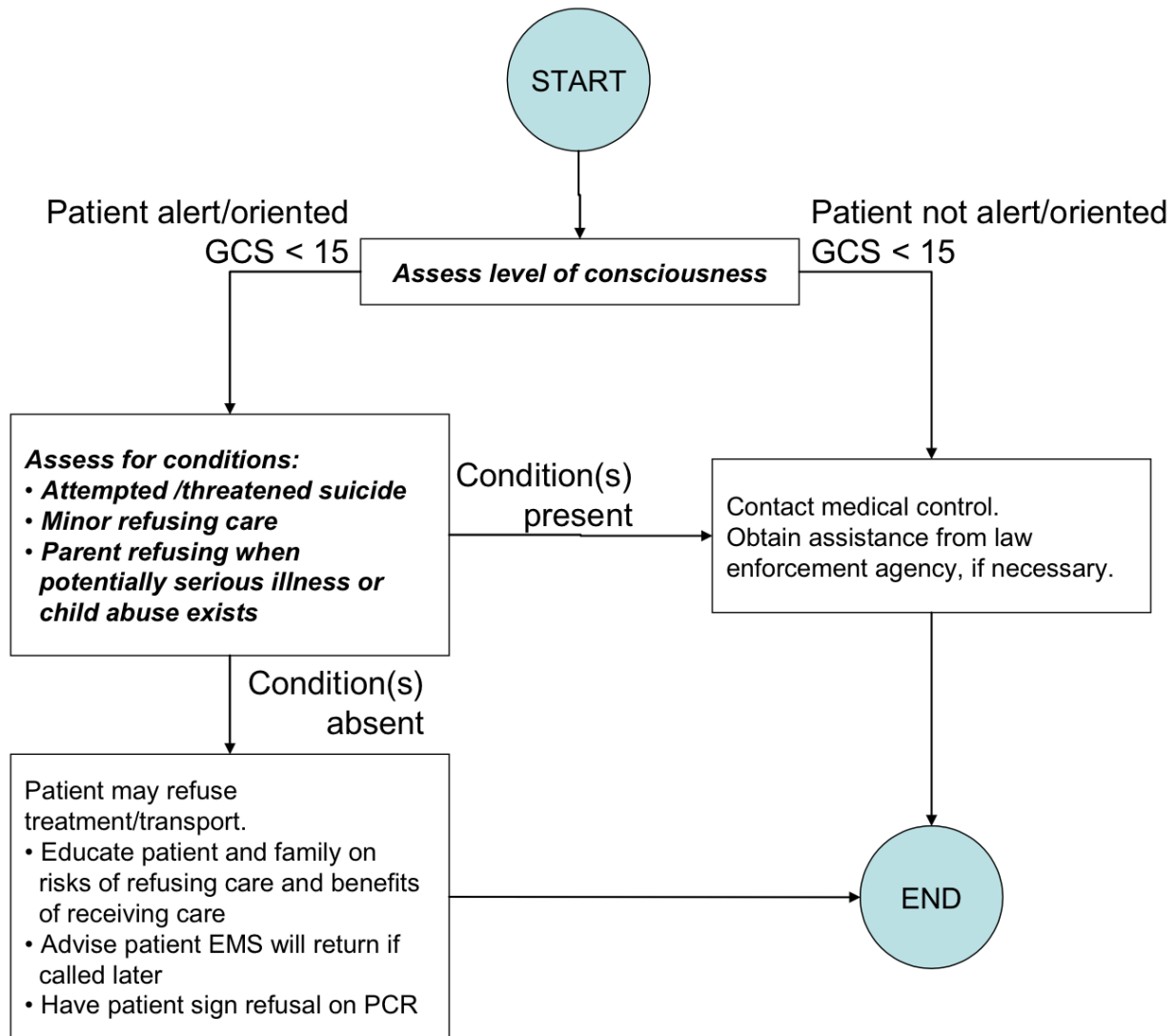
- Release the patient to the on-scene physician. If so, the on-scene physician must:
 - Produce their valid NYS Certificate of practice medicine
 - Write orders for the EMT (only to the level at which the EMT is trained)
 - Sign for their actions on the patient management form
 - Accompany the patient to the hospital
- In the event that a physician gives an order which is contrary to these 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 must respectfully question the order, then decline the order
- If the on-scene physician initials the information card, it should be attached to the agency copy of the PCR

NON-PHYSICIAN MEDICAL PERSONNEL (REGISTERED/LICENSED PRACTICAL NURSE, PHYSICIANS ASSISTANT, ETC.)

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



4.05 PATIENT REFUSALS



NOTES/RULES:

1. Always talk with patient and attempt to convince him/her of the need for treatment/transport.
2. Talk with family and friends in an attempt to convince patient of the need for treatment/transport.
3. Offer to call Medical Control and have patient speak with physician.
4. **Under no circumstances should field personnel allow themselves to be placed in danger. If this potential exists, go to a safe area and call for assistance.**



4.06 RADIO/PHONE FAILURE

POLICY

Situations may occur where communications with medical control cannot be established due to one or more of the following reasons:

- The crew is not within radio/cellular range due to distance from radio tower, terrain, or radio dead spots
- The crew is not within their home cellular service area
- The radio or cellphone is malfunctioning, making communications impossible
- No telephones are available at the scene
- No physician is available at the Medical Control Base Station

In the event of this situation, all protocols listed in this document become standing orders for use by the EMT/AEMT as appropriate, with the exception of orders enclosed in red boxes.

Orders enclosed in red boxes are ABSOLUTE ON-LINE PROCEDURES and may only be done by direct verbal order from a base station physician. They may not be done by protocol or standing order.

In the event that a protocol workup is performed, thorough documentation is required describing the type of communication problem which occurred, the number of attempts made, and base stations attempted. The ALS Chief of the provider service is responsible for compliance with system QA requirements.



4.07 TRANSPORTATION DESTINATIONS

POLICY

This policy should serve as a guideline for use by EMTs in determining the receiving facility for their patient(s). In order of importance, the following elements should be taken into consideration:

1. Whenever appropriate, patients should be transported to the facility of their choice. In the case of the incompetent patient, the family's choice should be respected. This applies only to stable patients whose condition does not require transport to a specific facility (i.e. trauma center, stroke center, etc.)
2. Decisions to transport the patient to another facility should (in order of importance) be based on:
 - a. The urgent clinical need of the patient to be seen immediately by a physician in the nearest emergency department (i.e. cardiac arrest, unmanageable airway, etc.)
 - b. Protocol specific destinations for patients with certain conditions as described in the FLREMS Standards of Care.
 - c. The decision of an emergency care provider in conjunction with direct on-line medical control, that transport to another facility is more appropriate to the patient's treatment plan.

It is the intent of the Finger Lakes Regional Emergency Medical Services Council to endorse the action of any EMT based upon these guidelines.



4.08 UNIVERSAL PRECAUTIONS

POLICY

Universal precautions should be used for all patient contacts if the health care provider may be exposed to blood and certain other body fluids that appear to be contaminated with blood. Universal precautions assume that all patients are carriers of infectious, contagious diseases.

EMS providers should follow the policies and procedures of their agency. General recommendations are as follows:

- Gloves should be worn when handling blood, bodily fluids, mucous membranes, non-intact skin, and body tissues. New gloves should be worn for each patient contact. Hands must be washed after glove removal and between patient contacts.
- If a splash of blood or body fluid is possible, a full face shield or goggles and face mask should be used.
- If emergency ventilatory support is necessary, a resuscitation mask should be used.
- Do not recap needles. Promptly place needles in a designated puncture-resistant container.
- Place all soiled linen in a clear, plastic bag before sending it to the laundry.
- Use a solution of 1 part household bleach to 10 parts water to clean equipment, clean up spills, and decontaminate walls and other objects soiled with blood and body fluids.
- If your skin has a break, cut, abrasion, or dermatitis, use gloves and avoid contact with blood and body fluids.
- Be vaccinated against hepatitis B.

Since there is no reliable, immediate means to identify infected patients, it is recommended that prehospital care providers be equally cautious when caring for ALL patients.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES SYSTEM POLICY

4.09 ALS RELEASE TO BLS CARE

Page 1 of 1

POLICY

An ALS-level unit (i.e. an ambulance or first response unit staffed by an EMT-CC or EMT-P technician) may transfer care of a patient to a BLS-level unit according to the following procedure.

1. The ALS technician will complete a full assessment on the patient. This will include:
 - a. Full subjective assessment including history of the problem
 - b. Complete medical history including current medications, allergies, and recent hospitalizations.
 - c. Head to toe assessment of all pertinent systems.
 - d. A complete set of vital signs including blood pressure, pulse, respirations, level of consciousness, pupils, and skin color/temperature.
2. The ALS technician will assure that the patient's condition does not, and will not in the reasonably near future, warrant prehospital ALS-level care.
3. The ALS technician will assure through verbal conference with the BLS crew that they are comfortable assuming care of the patient.
4. The ALS technician will complete a PCR which includes full documentation of the assessment performed, physical findings, pertinent negatives, and vital signs.

RULES

1. The ALS technician is never relieved from responsibility for the patient, even after transport by the BLS unit has begun. The ALS technician retains responsibility until care has been transferred to the receiving hospital.
2. A BLS unit may assume care from an ALS unit only if:
 - a. The BLS unit is a transporting ambulance
 - b. The BLS unit is staffed by a minimum of a basic EMT
3. The ALS technician must accompany the patient to the hospital if the BLS crew expresses any discomfort with assuming care for the patient. This is regardless of whether or not the ALS technician believes any ALS procedures are warranted.
4. The following patient situations may not be released to BLS care:
 - a. Patients who have received medication of any kind (other than oxygen).
 - b. Patients over age 55 with:
 - i. confirmed syncopal episode
 - ii. nonspecific nausea and jaw/neck pain
 - c. Suspected stroke with new onset/active symptoms
 - d. Head trauma patients with confirmed loss of consciousness
 - e. Suspected overdose patients
 - f. Patient under age 8 with respiratory distress
5. A normal 3 or 12 lead EKG does not rule out the presence of myocardial infarction or other cardiac emergency. Acquisition of an EKG should not be used as a determining factor for whether a patient may be released to BLS care.
6. Medical control must be contacted if any question as to the appropriateness of the release to BLS exists.

ORIGINAL: 05/18/2006

REVISED: 05/18/2006

System Medical Director Approval:



4.10 SCENE MANAGEMENT

SCENE MANAGEMENT/MASS CASUALTY INCIDENT (MCI) GUIDELINES

Pursuant to Article 3004-A of the Public Health Law, the Finger Lakes REMAC has developed this policy for mass casualty incident management. A mass casualty incident is any situation that requires more service or services than may be immediately available. When faced with an MCI, coordination of efforts becomes vital. Several different circumstances may exist at an MCI or disaster that will tax the skills of the advanced technicians. For this reason, several parameters have been set to augment the activities of the technicians. Those areas not covered are assumed to be handled per the protocols within this document without deviation.

The National Interagency Incident Management System (NIIMS) will serve as the standard command and control system for emergency operations.

ORDER OF RESPONSIBILITY

On a multiple agency response involving the fire service and law enforcement, it is understood that responsibility for overall scene command may lie with an individual who is not an emergency care provider. This individual has overall responsibility for the safety of all responders at a scene. In some cases it may be appropriate for certified EMS personnel to provide medical direction to others engaged in technical activities such as extrication or rescue.

The highest level EMT/AEMT of the first toned agency on the scene becomes the ALS/Scene Coordinator and will coordinate the activities of all other EMS personnel arriving at the scene. He/she is also responsible for maintaining accurate records of these activities.

The highest level of EMT/AEMT directly caring for a patient bears direct responsibility for decisions made concerning the care of a specific patient, including treatment given and transport destination.

SPECIFIC POLICIES

- 1) All patients will be treated per the New York Statewide BLS Protocols and Finger Lakes Regional BLS/ALS protocols unless otherwise stipulated here.
- 2) Additional specialized resources may be requested by EMS providers by utilizing appropriate channels through the established scene commander.
- 3) In a non-MCI situation, transport destinations will be determined according to the Transport and Destination Policy (4.8). In an MCI situation, transport destination will be determined by the EMS Scene Coordinator or designated Transport Officer by consulting the Transport and Destination Protocol as well as direct coordination with receiving hospitals.
- 4) If a patient has been administered IV fluids and is to be transported by a BLS crew, the IV must either be discontinued or replaced with a saline lock.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
SYSTEM POLICY

4.10 SCENE MANAGEMENT

Page 2 of 2

- 5) A medical control physician may authorize a patient who has been administered medication to be transported with an EMT-Basic in attendance along with a list of medications and dosages given.
- 6) An AEMT, when treating more than one patient, should treat those patients in close proximity to each other so that they may monitor each patient. Patients should be brought to a holding area or staging area where they may receive treatment.
- 7) Whenever possible, the ALS/Scene coordinator should be an EMT-CC or EMT-P.
- 8) All individual responders should display visual identification at an emergency scene.
- 9) Patient care and transport will be documented.
- 10) Medical control is provided by regional facilities as noted in the Medical Control Policy (4.4).

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4.11 SPECIAL PROGRAMS

SPECIAL PROGRAMS

Selected practices, procedures, and medications described throughout the Finger Lakes Regional EMS Standards of Care may be used only by agency(ies) specially approved by the Finger Lakes Regional Emergency Medical Advisory Committee (REMAC). Services wishing to participate in one or more of the following programs must submit a request in writing to the System Medical Director and the Finger Lakes REMAC. The request will contain the following:

1. An outline of the content for the training plan to be used for the initial startup of the program, as well as a training plan for maintenance, verification, and update of necessary skills.
2. A description of the quality assurance program(s) used by the agency to ensure appropriate review of the program and continued competency.
3. Endorsement by and continued involvement of the agency's Medical Director.

In certain cases the agency may elect to utilize training developed and administered by the Finger Lakes Regional EMS Council when it is available.

The following programs require approval by the REMAC:

1. Rapid Sequence Intubation (RSI)
2. Surgical airway procedures (either needle and/or surgical cricothyrotomy)
3. Blood glucose assessment by EMT-Basic technicians.
4. Epinephrine administration by EMT-Basic and Intermediate technicians.
5. Albuterol administration by EMT-Basic and Intermediate technicians.
6. Controlled substance possession and administration by EMT-CC/P technicians.



FINGER LAKES REGIONAL EMERGENCY MEDICAL SERVICES
SYSTEM POLICY

4.12 LAW ENFORCEMENT REQUEST FOR BLOOD SAMPLE

Page 1 of 1

POLICY

Field providers may be requested to draw evidentiary blood samples at the request of law enforcement. Such requests can be respectfully declined and referred to the receiving hospital if the provider feels they are not properly trained to perform this request in a way that will maintain the continuity of the evidence.

ORIGINAL: 05/18/2006

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System Medical Director Approval:



4.13 ALS INTERCEPT UTILIZATION

POLICY

BLS transport units operating within the Finger Lakes EMS Region will utilize ALS intercept services. The following guidelines will be adhered to in utilizing ALS intercept services:






1. BLS units shall deliver their patients who will benefit from ALS care to this higher level of care as soon as possible. This may be accomplished either by intercepting with an ALS unit (Ground or Air depending on patients condition, distance from appropriate receiving facility and/or weather conditions) or by transport to an appropriate (based on State and Regional Policies) hospital, which ever can be effected more quickly.
2. A system of ALS intercept (when available within a given area) shall be pre-arranged. Formal written agreements for the request of ALS should be developed in advance by those agencies not able to provide ALS.
3. BLS services should identify ALS services in advance which are staffed and readily available to provide ALS intercept. More than one service may need to be identified. Dispatch entities should monitor actual staffing and operational status of ALS resources to insure their availability at the time of the call and minimize any potential delay. The use of the "closest unit" concept is appropriate to dispatch ALS units.
4. ALS (Ground or Air) will be requested at the time of dispatch for emergency calls meeting the criteria outlined in protocol 1.1
5. Requests for ALS will also be made as noted in specific FLREMS as well as New York State BLS protocols.
6. The BLS unit will assess the patient, determine the need for and request ALS (if not already dispatched), package and begin patient transport. The BLS unit shall not wait on the scene for the ALS unit's arrival. The request for ALS should be made as soon as the patient's condition is recognized as needing ALS.
7. Once the ALS unit arrives on scene, responsibility for all aspects of patient care, including treatments and transport destination, rest with the ALS technician in charge. It is expected that BLS personnel will continue to assist with patient care duties under the direction of the ALS technician.
8. No patient should have ALS delayed if a Ground ALS or Air Medical Provider is in service and can reach the patient more quickly and safely than the pre-arranged service.






FORMULARY



5.0 MEDICATION FORMULARY

Medications for the EMT-CC identified with a “+” in the Levels of Care boxes require that the EMT-CC have completed additional training beyond the standard New York State EMT-CC curriculum prior to use. This training must be approved by the REMAC. Each agency utilizing EMT-CC personnel is responsible for assuring these personnel have completed and documented appropriate training in this area.






ACTIVATED CHARCOAL		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
		X	X	X
	Classification:	Cathartic/GI adsorbent		
	Indications:	Ingested poisons/overdose		
	Contraindications:	Altered mental status, inability to protect airway. Ineffective for alkali poisonings, cyanide, ethanol, iron, lithium, methanol, mineral acids, and organic solvents.		
	Adverse effects:	Stool discoloration, diarrhea		
	Dosage/Route:	Adult: 50 grams PO Pediatric: 1g/kg up to 50 grams PO		






ADENOSINE (Adenocard)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Endogenous nucleoside		
	Indications:	Supraventricular tachycardia		
	Contraindications:	Ineffective for atrial fibrillation/flutter but may be useful in identifying these conditions. Inhibited by methylxanthines (theophylline, caffeine)		
	Adverse effects:	Transient arrhythmias, chest pain, dizziness/light headedness.		
	Dosage/Route:	Adult: 6 mg initial RAPID IV push; repeat doses 12 mg IVP Pediatric: 0.1 mg/kg up to 6 mg; repeat doses 0.2mg/kg up to 12 mg IVP		

ORIGINAL: 11/17/2005	REVISED: 10/05/2010	System Medical Director Approval: 
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5.0 MEDICATION FORMULARY






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
ALBUTEROL (Proventil, Ventolin)		X*	X	X
	Classification:	Beta-2 sympathomimetic/adrenergic agonist		
	Indications:	Bronchoconstriction related to obstructive pulmonary disease or lower respiratory infection		
	Contraindications:	Ineffective ventilation requiring bag-valve-mask assistance, unless the nebulizer can be placed in the BVM circuit without interference		
	Adverse effects:	Tremor/anxiety, tachycardia		
	Dosage/Route:	Adult: 2.5 – 5 mg nebulized Pediatric: 1.25 – 2.5 mg nebulized		
* - use by EMT-B/I units requires REMAC approval and completion of FLREMS regional training program.				


		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
AMIODARONE (Cordarone)			X+	X
	Classification:	Antiarrhythmic (Class III - potassium channel blocker)		
	Indications:	Ventricular arrhythmias		
	Contraindications:	Cardiogenic shock, bradycardia, hypotension, 2 ^o /3 ^o heart block, ventricular escape/idioventricular rhythms		
	Adverse effects:	Hypotension, bradycardia, heart block, dizziness		
	Dosage/Route:	Cardiac arrest – Adult: 300mg diluted in 20mL NS, IV push Cardiac arrest – Pediatric: 5 mg/kg up to 300 mg diluted in 20mL NS IV push Other uses – Adult: 150 mg diluted in 50-100 mL NS or D5W, infused over 15 minutes. Monitor for side effects. Other uses – Pediatric: 5 mg/kg up to 150 mg diluted in 50-100 mL NS or D5W, infused over 15 minutes. Monitor for side effects.		



5.0 MEDICATION FORMULARY






ASPIRIN	FLREMS LEVELS OF CARE		
	EMT-B/I	EMT-CC	EMT-P
	X	X	X
 Classification:	NSAID/anticoagulant		
 Indications:	Acute coronary syndromes		
 Contraindications:	Allergy/hypersensitivity; active bleeding		
 Adverse effects:	Nausea, GI discomfort		
 Dosage/Route:	Adult: 324 mg PO (chewed)		
Completion of an approved NYS-DOH or FLREMS training program is required prior to the use of aspirin by EMT-B and EMT-I personnel.			






ATROPINE	FLREMS LEVELS OF CARE		
	EMT-B/I	EMT-CC	EMT-P
		X	X
 Classification:	Parasympatholytic/anticholinergic		
 Indications:	Hemodynamically significant bradycardia, asystole, cholinesterase inhibitor poisoning (nerve agents, organophosphate insecticides)		
 Contraindications:	Glaucoma, benign prostate hypertrophy (BPH), atrial fibrillation/atrial flutter, active MI (relative contraindication)		
 Adverse effects:	Tachycardia, dilated pupils, drying of mucus membranes, flushing of skin		
 Dosage/Route:	Bradycardia – adult: 0.5 mg rapid IV push (max dose 0.04mg/kg or 3mg) Asystole or PEA with HR<60 – adult: 1 mg IV push Bradycardia or PEA with HR<60 – pediatric: 0.02 mg/kg (up to 1 mg) IV push (minimum dose 0.1 mg) Cholinesterase inhibitor poisoning – adult/pediatric: 1 mg IV repeated until signs of atropinization appear (dryness of mucus membranes, skin flushing, papillary dilation, tachycardia)		






ORIGINAL: 11/17/2005	REVISED: 10/05/2010	System Medical Director Approval: 
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5.0 MEDICATION FORMULARY

<i>CALCIUM CHLORIDE/GLUCONATE</i>		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Electrolyte		
	Indications:	Suspected hyperkalemia, hypocalcemia, calcium channel blocker overdose		
	Contraindications:	Digitalis usage		
	Adverse effects:	Bradycardia, syncope. WARNING: do not administer together with sodium bicarbonate, will produce insoluble precipitate.		
	Dosage/Route:	Adult: 1 gram slow IV push Pediatric: 20 mg/kg up to 1 gram slow IV push		






<i>DEXAMETHASONE</i>		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Steroid		
	Indications:	Adrenal insufficiency		
	Contraindications:	Systemic infections		
	Adverse effects:	Steroid psychosis		
	Dosage/Route:	Adult: 4 mg IV push Pediatric: 0.3 mg/kg up to 4 mg IV push		






<i>DEXTROSE 12.5%, 25%, 50%</i>		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Hyperglycemic		
	Indications:	Hypoglycemia		
	Contraindications:	None		
	Adverse effects:	Tissue necrosis in the event of extravasation.		
	Dosage/Route:	Adult: 50mL 50% solution slow IV push Pediatric: age < 1 month – 4 mL/kg 12.5% solution Age 1 month or greater and less than 6 years – 2 mL/kg 25% sln Age 6 years or greater – 1mL/kg 50% soln (up to 50 mL)		






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5.0 MEDICATION FORMULARY

		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
<i>DILTIAZEM (Cardizem)</i>			X+	X
	Classification:	Antiarrhythmic (Class IV – calcium channel blocker)		
	Indications:	Supraventricular tachycardias		
	Contraindications:	Hypotension, 2 ^o /3 ^o heart block, bradycardia, heart failure, Wolff-Parkinson White with atrial fibrillation, cardiogenic shock		
	Adverse effects:	Hypotension, AV heart block, bradycardia		
	Dosage/Route:	Adult: 15-20 mg slow IV push		






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
<i>DIPHENHYDRAMINE (Benadryl)</i>			X+	X
	Classification:	Antihistamine (H1 antagonist)		
	Indications:	Allergic reactions, anaphylactic shock, medication-related dystonia		
	Contraindications:	None		
	Adverse effects:	Drowsiness, paradoxical excitement in children, drying/thickening of bronchial secretions		
	Dosage/Route:	Adult: 50 mg IM/IV push Pediatric: 1mg/kg up to 50 mg IM/IV push		






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
<i>DOPAMINE (Intropin)</i>			X	X
	Classification:	Sympathomimetic/adrenergic agonist		
	Indications:	Non-hypovolemic hypotension, hemodynamically significant bradycardia		
	Contraindications:	Tachycardia, hypertension, hypovolemic shock, acute myocardial infarction (relative)		
	Adverse effects:	Tachycardia, hypertension, chest pain, increased myocardial oxygen requirements		
	Dosage/Route:	Adult/pediatric: 5-20 mcg/kg IV infusion titrated to effect.		
The use of an IV flow regulating/limiting device (i.e. Dial-a-Drip) is required for the administration of dopamine.				

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5.0 MEDICATION FORMULARY






EPINEPHRINE		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Sympathomimetic/adrenergic agonist		
	Indications:	Cardiac arrest, anaphylactic shock, hemodynamically significant bradycardia, bronchoconstriction		
	Contraindications:	None in cardiac arrest/anaphylactic shock. Do not give through same IV as bicarbonate (alkaline solutions inactivate catecholamines)		
	Adverse effects:	Tachycardia, hypertension, chest pain, anxiety/tremor, increased myocardial oxygen requirements.		
	Dosage/Route:	Cardiac arrest – adult: 1 mg 1:10,000 IV push Cardiac arrest – pediatric: 0.01 mg/kg 1:10,000 (up to 1 mg) IV push Anaphylactic shock – adult: 0.3 mg 1:1,000 IM Anaphylactic shock – pediatric: 0.01 mg/kg 1:1,000 (up to 0.3 mg) IM Bradycardia – adult: 2-10mcg IV infusion titrated to effect Bronchoconstriction – adult: 0.3 mg 1:1,000 SQ Bronchoconstriction – pediatric: 0.01 mg 1:1,000 (up to 0.3 mg) SQ		






EPINEPHRINE AUTO-INJECTOR (Epi-pen)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
		X*	X	X
	Classification:	Sympathomimetic/adrenergic agonist		
	Indications:	Anaphylactic shock with respiratory/circulatory symptoms		
	Contraindications:	None		
	Adverse effects:	Tachycardia, hypertension, chest pain, anxiety/tremor, increased myocardial oxygen requirements		
	Dosage/Route:	Adult: 0.3 mg IM Pediatric: 0.15 mg IM (use Epi-pen Junior)		
* - EMT-B/I services must notify REMAC of intent to possess/utilize auto-injector.				



5.0 MEDICATION FORMULARY

		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
ETOMIDATE (Amidate)				X*
	Classification:	Hypnotic/sedative		
	Indications:	Sedation for rapid sequence intubation (RSI)		
	Contraindications:	Adrenal insufficiency		
	Adverse effects:	Adrenal insufficiency, hypotension		
	Dosage/Route:	Adult: 0.3 mg/kg (up to 40 mg) IV push		
* - EMT-P agencies must have REMAC approval to utilize RSI protocol and comply with all system stipulations regarding continuing medical education and QA.				

		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
FENTANYL Ⓢ			X+*	X*
	Classification:	Opiate analgesic		
	Indications:	Moderate to severe pain		
	Contraindications:	Respiratory depression		
	Adverse effects:	Respiratory depression, sedation		
	Dosage/Route:	Adult: 25-50 mcg IV push Pediatric: 1 mcg/kg up to 25 mcg IV push		
* - Agencies utilizing fentanyl must comply with NYS Bureau of EMS policies regarding possession and use of fentanyl, including REMAC approval.				

		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
FUROSEMIDE (Lasix)			X	X
	Classification:	Loop diuretic		
	Indications:	Acute pulmonary edema		
	Contraindications:	Allergy to sulfa drugs, pregnancy, dehydration, hypovolemia, hypokalemia		
	Adverse effects:	Hypotension, hypokalemia		
	Dosage/Route:	Adult: 20-80 mg IV push		

ORIGINAL: 11/17/2005






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System Medical Director Approval:










5.0 MEDICATION FORMULARY






GLUCAGON		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Endogenous hormone		
	Indications:	Hypoglycemia without IV access, beta blocker overdose		
	Contraindications:	Hypersensitivity. Ineffective in states of starvation/absent glycogen stores in liver.		
	Adverse effects:	Nausea, vomiting, tachycardia, hypertension		
	Dosage/Route:	Adult: 1 mg IM Pediatric: 0.1 mg/kg up to 1 mg IM		






GLUCOSE GEL/TABLETS (<i>Instant Glucose</i>)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
		X	X	X
	Classification:	Hyperglycemic		
	Indications:	Hypoglycemia		
	Contraindications:	Altered mental status with inability to protect airway		
	Adverse effects:	None		
	Dosage/Route:	Adult/Pediatric: 15 grams buccal or sublingual		

HALOPERIDOL (<i>Haldol</i>)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Neuroleptic/antipsychotic		
	Indications:	Combativeness associated with behavioral emergencies/psychosis		
	Contraindications:	CNS depression, non-psychosis related dementia, Parkinson's disease		
	Adverse effects:	Dystonia/extrapyramidal reaction, drowsiness		
	Dosage/Route:	Adult: 2.5-10 mg IV		
Dystonia/extrapyramidal reactions should be treated with diphenhydramine (medical control may order diphenhydramine prophylactically)				



5.0 MEDICATION FORMULARY






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
<i>IPRATROPIUM (Atrovent)</i>			X+	X
	Classification:	Parasympatholytic/anticholinergic		
	Indications:	Bronchoconstriction		
	Contraindications:	Glaucoma, tachycardia, benign prostate hypertrophy.		
	Adverse effects:	Tachycardia, dry mouth, blurred vision		
	Dosage/Route:	Adult: 0.5 mg (must be used in combination with albuterol)		






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
<i>KETAMINE (Ketalar) ©</i>			X+*	X*
	Classification:	Hypnotic/sedative		
	Indications:	Procedural sedation, behavioral/psychiatric emergencies		
	Contraindications:	Hypertension, stroke, head trauma		
	Adverse effects:	Hypotension, bradycardia, dystonia/extrapyramidal reactions		
	Dosage/Route:	Adult: 5 mg/kg IV		
* - Agencies utilizing ketamine must comply with NYS Bureau of EMS policies regarding possession and use of ketamine, including REMAC approval.				

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5.0 MEDICATION FORMULARY

LIDOCAINE (Xylocaine)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Antiarrhythmic (Class Ib – sodium channel blockers)		
	Indications:	Ventricular arrhythmias (VF/VT); postconversion of VF/VT		
	Contraindications:	Hypotension, 2 ^o /3 ^o degree heart block, idioventricular rhythm, ventricular escape rhythm, bradycardia		
	Adverse effects:	Seizures, paresthesias, decreased heart rate		
	Dosage/Route:	Cardiac arrest – adult/pediatric: 1 – 1.5 mg/kg IVP Premedication for RSI with head injury – adult: 1 mg/kg IVP Other situations – adult/pediatric: 0.5 – 0.75 mg/kg IVP. Follow with maintenance drip 1 – 4 mg/min IV infusion as specified by medical control.		

LORAZEPAM (Ativan) [Ⓢ]		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Benzodiazepine		
	Indications:	Seizures, procedural sedation, behavioral/psychiatric emergencies		
	Contraindications:	Respiratory depression, alcohol intoxication		
	Adverse effects:	Respiratory depression		
	Dosage/Route:	Adult: 1-2 mg IV/IM Pediatric: 0.1 mg (up to 2 mg) IV/IM		

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
System Medical Director Approval:










5.0 MEDICATION FORMULARY

MAGNESIUM SULFATE		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Smooth muscle relaxant, electrolyte		
	Indications:	Refractory VF/VT, torsades de pointes, toxemia/eclamptic seizures, bronchoconstriction due to asthma		
	Contraindications:	Hypotension, renal disease		
	Adverse effects:	Hypotension, CNS depression		
	Dosage/Route:	Cardiac arrest – adult: 1-2 grams IV push Cardiac arrest – pediatric 25-50mg/kg Other – adult: 1 – 2 grams diluted in 50-100 mL NS, infused over 15-20 minutes Other – pediatric: 25-50mg/kg (maximum 2 grams) infused over 15-20 minutes		

METHYLPREDNISOLONE (Solu-Medrol)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Corticosteroid		
	Indications:	Status asthmaticus, severe anaphylactic shock, adrenal insufficiency		
	Contraindications:	Known hypersensitivity		
	Adverse effects:	Nausea, vomiting, hyperglycemia		
	Dosage/Route:	Adult: 125 mg IV Pediatric: 1 mg/kg up to 125 mg IV		

METOPROLOL (Lopressor)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Sympatholytic/beta antagonist		
	Indications:	SVT		
	Contraindications:	Congestive heart failure, 2 ^o /3 ^o heart block, cardiogenic shock, hypotension, bradycardia, suspected recent cocaine use, asthma		
	Adverse effects:	Hypotension, bradycardia, bronchospasm		
	Dosage/Route:	Adult: 5 mg slow IV; repeat q 5 minutes to 15 mg max PRN		

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5.0 MEDICATION FORMULARY






MIDAZOLAM (Versed) [Ⓐ]		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Benzodiazepine		
	Indications:	Seizures, procedural sedation, behavioral/psychiatric emergencies		
	Contraindications:	Respiratory depression, hypotension, alcohol intoxication		
	Adverse effects:	Respiratory depression, hypotension		
	Dosage/Route:	Adult/Pediatric: 0.1 mg/kg up to 4 mg		






MORPHINE SULFATE [Ⓒ]		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Opiate analgesic		
	Indications:	Pain		
	Contraindications:	Hypotension, respiratory depression, head injury		
	Adverse effects:	Hypotension, respiratory depression, nausea/vomiting		
	Dosage/Route:	Adult: 1 – 5 mg IV/IM; repeat PRN Pediatric: 0.1 mg/kg up to 5 mg IV/IM		



5.0 MEDICATION FORMULARY






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
NALOXONE (Narcan)			X	X
	Classification:	Opiate antagonist		
	Indications:	Actual or suspected opiate overdose		
	Contraindications:	Opiate habituation (relative)		
	Adverse effects:	Nausea/vomiting, opiate withdrawal		
	Dosage/Route:	Adult: 0.4 – 2 mg IV/IM/Intranasal Pediatric: 0.1 mg/kg up to 2 mg IV/IM		






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
NITROGLYCERINE (Nitrostat, Nitro-Bid)			X	X
	Classification:	Nitrate		
	Indications:	Acute coronary syndromes/chest pain, acute CHF		
	Contraindications:	Hypotension, head injury, right-sided MI (relative), bradycardia (HR < 50), use of phosphodiesterase inhibitors (erectile dysfunction medications) in last 48 hours		
	Adverse effects:	Headache, flushing, hypotension		
	Dosage/Route:	Adult: 0.4 mg SL 1-2" paste using applicator		
BLS providers may assist patients with taking their own nitroglycerine per FLREMS/NYS protocol.				






		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
ONDANSETRON (Zofran)			X+	X
	Classification:	Antiemetic		
	Indications:	Nausea/vomiting		
	Contraindications:	Hypersensitivity; not for use in pediatric patients < 40 kg		
	Adverse effects:	Respiratory depression, hypotension		
	Dosage/Route:	Adult: 4 mg		



5.0 MEDICATION FORMULARY

OXYGEN		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
		X	X	X
	Classification:	Elemental gas		
	Indications:	Respiratory distress, actual or suspected tissue hypoxia, shock, ACS, CVA/stroke		
	Contraindications:	None		
	Adverse effects:	Respiratory depression in COPD patients		
	Dosage/Route:	Adults: 2 – 6 lpm nasal cannula 10-15 lpm nonrebreather mask Pediatric: 10-15 lpm nonrebreather mask or blow-by		






PROMETHAZINE (Phenergan)		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Antiemetic, antihistamine (H1 antagonist)		
	Indications:	Nausea/vomiting		
	Contraindications:	Patients < 2 years, caution in head injury		
	Adverse effects:	Altered mental status, respiratory depression, tissue necrosis (dilute in 20 mL NS)		
	Dosage/Route:	Adult: 6.25 – 12.5 mg IV		






SODIUM BICARBONATE		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X	X
	Classification:	Alkalinizing agent		
	Indications:	Metabolic acidosis, selected drug overdose, suspected hyperkalemia		
	Contraindications:	Respiratory acidosis/inability to ventilate		
	Adverse effects:	Iatrogenic metabolic alkalosis. Do not administer through same IV as epinephrine/dopamine (inactivates catecholamines). WARNING: do not administer together with calcium chloride, will produce insoluble precipitate.		
	Dosage/Route:	Adult/pediatric: 1 mEq/kg IV		

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
5.0 MEDICATION FORMULARY

<i>SUCCINYLCHOLINE (Anectine, Quelecin)</i>		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
				X*
	Classification:	Depolarizing neuromuscular blocking agent		
	Indications:	Induction of paralysis for rapid sequence intubation (RSI)		
	Contraindications:	Hyperkalemia, renal failure, burn/crush injury older than 24 hours, degenerative neuromuscular disease, obvious facial/neck deformities which indicate inability to intubate		
	Adverse effects:	Hyperkalemia, malignant hyperthermia		
	Dosage/Route:	Adult: 1-2 mg/kg		
* - EMT-P agencies must have REMAC approval to utilize RSI protocol and comply with all system stipulations regarding continuing medical education and QA.				

<i>VASOPRESSIN</i>		FLREMS LEVELS OF CARE		
		EMT-B/I	EMT-CC	EMT-P
			X+	X
	Classification:	Endogenous hormone		
	Indications:	Cardiac arrest		
	Contraindications:	None		
	Adverse effects:	Hypertension, fluid retention		
	Dosage/Route:	Adult: 40 units		



5.0 MEDICATION FORMULARY

VECURONIUM	FLREMS LEVELS OF CARE		
	EMT-B/I	EMT-CC	EMT-P
			X*
 Classification:	Nondepolarizing neuromuscular blocking agent		
 Indications:	Maintenance of paralysis following rapid sequence intubation		
 Contraindications:	Airway not secured with intubation/supraglottic airway		
 Adverse effects:	Hypersensitivity		
 Dosage/Route:	Adult: 0.1 mg/kg up to 10 mg IV		
* - EMT-P agencies must have REMAC approval to utilize RSI protocol and comply with all system stipulations regarding continuing medical education and QA.			

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