Greater Miami Valley Emergency Medical Services Council

BASIC

# 2007 Standing Orders Training Manual

Effective January 1, 2007

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# Greater Miami Valley EMS Council

## First Responder/ EMT-Basic Standing Orders Training Manual

## Adult

## 2007

**(Patients Age 16 and Over)**

**Effective January 1, 2007**

## STIPULATIONS

- This protocol is for use by those individuals operating in and under the authority of the Greater Miami Valley EMS Council (GMVEMSC) Drug Bag Exchange Program and certified by the State of Ohio as a(n):
  - First Responder
  - EMT-Basic
- This protocol is to be used in the field only. Communications must be attempted as soon as practical for potentially unstable patients or hospitals that request contact on all patients being transferred to their facility.
- Procedures that are marked with a diamond (♦) are never to be performed without a MCP order. The diamond provides rapid identification of procedures and medications that require on-line MCP authorization.
- No procedures, techniques, or drugs will be used without the proper equipment or beyond the training or capabilities of the prehospital personnel. Nothing in this protocol may be used without specific pre-approval of the Medical Director for the local department or agency.
- Procedures for EMT-Basics include those listed under the First Responder level.
- Items enclosed in braces ({ }) are at the option of the department and its medical director.
- EMS personnel of any level are not authorized to {intubate}, unless they have and can use appropriate confirmation devices ($EtCO_2$ detectors or monitors, and/or Esophageal Detection Devices).
- *Infrequently*, unusual patient situations and multiple complaints with competing priorities may prevent stepwise adherence to a specific section of this protocol. However, at no time should treatment options exceed those authorized here in without direct consultation with medical control. In all such cases, contact with medical control should be considered when logistically feasible.

## ADMINISTRATION

### Non-Initiation of Care

- Resuscitation will not be initiated in the following circumstances:
  - Burned beyond recognition
  - Decapitation
  - Deep, penetrating, cranial injuries
  - Massive truncal wounds
  - DNR Order - present and valid
  - Frozen body
  - Hemicorporectomy (body cut in half)
  - Rigor mortis, tissue decomposition, or severe dependent post-mortem lividity
  - Triage demands
  - Blunt trauma found in cardiac arrest *unless* one of the following conditions are present:
    - Patient can be delivered to an emergency department in 5 minutes.
    - If the arrest is caused by a medical condition.
    - Focused blunt trauma to the chest.
  - Penetrating trauma found in cardiac arrest when the patient cannot be delivered to an emergency department within 15 minutes.
    - Resuscitation will be initiated on victims of penetrating trauma who arrest after they are in EMS care.

Once en route, continue care even if the above time limits cannot be met.

## DNR: Comfort Care / Comfort Care Arrest

### DNR-Comfort Care (CC)

*(Permits any medical treatment to diminish pain or discomfort that is not used to postpone the patient's death.)*
The following treatments are permitted:

- Suctioning
- Oxygen
- Splint/immobilization
- Control bleeding
- Pain control

The following treatments are *not* permitted:

- Chest compressions
- Airway adjuncts
- Resuscitative drugs
- Defibrillation/cardioversion/monitoring
- Respiratory assistance (oxygen, suctioning are permitted)

### DNR-Comfort Care Arrest (CCA)

*(Permits any medical treatment until the patient goes into cardiac or respiratory arrest.)*

- Any appropriate standing orders treatment until cardiac or respiratory arrest/agonal breathing occurs.

  *Note: When a Durable Power of Attorney for Healthcare (DPA-HC) is present and the "Living Will and Qualifying Condition" box is checked, the DPA-HC cannot override the patient's DNR status. A patient may change their DNR status at anytime verbally, in writing or action.*

## Field Termination of Resuscitation Efforts With No Available ALS

**EMT-BASIC**

- ♦When EMS providers **(not** including First Responders) are faced with a patient in Cardiac Arrest, no ALS equipment is available at the scene, and Transport time to a medical facility will exceed 20 minutes, consider contacting a MCP for orders to terminate the resuscitation.
- ♦MCP must be contacted and must speak directly with the EMS provider, and must give consent for the resuscitation effort to cease.
- This section does not normally apply to Paramedics; it may **only** be used when no Paramedics are available, **or** when Paramedics are present, but ALS equipment is not available.
- The intent of this section is to avoid the risks of emergency transport of patients who are almost certainly non-viable.
- **Ensure that the EMS Coordinator of the hospital that authorized the Field Termination receives a copy of the run sheet for his/her records.**

## INITIAL CARE

**FIRST RESPONDER**

- Follow basic life support and airway algorithms as indicated based on current AHA Guidelines.
- Obtain chief complaint (OPQRST), SAMPLE history, vital signs per patient condition.

**EMT-BASIC**

- Utilize monitoring device {pulse oximeter, etc.} as appropriate.
- ♦ In a patient with an existing IV pump who is experiencing an allergic reaction, the pump may only be discontinued after receiving approval from MCP. Otherwise, the IV pump must be maintained. Exception: hypoglycemic diabetic patients with an insulin pump (see "Maintenance of Existing Medication Pumps" section for details)

- Bring the patient's medications, or a list of the medications, to the hospital and include the dose, and frequency of administration.

  *NOTE: For patient with an insulin pump: take extra tubing and medication packet(s) to receiving facility with patient, if available.*

# AIRWAY MAINTENANCE

**FIRST RESPONDER**

- **$O_2$** as needed. Use the following rates as guidelines:
  - **2 LPM by NC** for patient with COPD.
  - **4 - 6 LPM by NC** for other patients.
  - **12 - 15 LPM by NRB** for severe trauma patients, distressed cardiac patients, patients with respiratory distress, and other patients who appear to need high flow **$O_2$**.

  *NOTE: COPD patients in severe respiratory distress or with chest pain need the same $O_2$ devices and flow rates as any other patient in such condition.*

- Ventilate patients who are symptomatic with an insufficient respiratory rate or depth.
- Consider if airway compromise or insufficient ventilations are present.

**EMT-BASIC**

- {Intubate} patient if pulseless and apenic
- Confirm correct placement of advanced airway with clinical assessment and devices.

**Assessment Methods:**

- Physical assessment including auscultation of the epigastrium, anterior chest, midaxillary areas, then the epigastrium again.
- Repeat visualization of the tube between the vocal cords.
- Condensation in the tube.
- Keeping an oral endotracheal tube at the 20-22 cm mark at the teeth will prevent inserting the ETT too far, greatly reduces the chances of a right mainstem bronchus intubations. Don't confuse right mainstem intubation for a pneumothorax.

**Confirmation Devices:**

- {$EtCO_2$ Monitor}
- {$EtCO_2$ with waveform}
- {Esophageal Detection Device (EDD)}

## Electronic End Tidal $CO_2$ ($EtCO_2$) Monitors - Capnography

These devices measure the amount of carbon dioxide in the exhaled ventilations of patients. They can use mainstream sensors, which are located directly on the endotracheal tube, or sidestream sensors, which samples the ventilation more remotely from the patient. Capnography can be used with patients who are not intubated. In-line $EtCO_2$ monitors can be used on patient with or without adequate perfusion. Electronic monitors are more sensitive therefore changes can be seen in real-time.

## Esophageal Detector Device (EDD)

These devices confirm tube placement mechanically. It is based on the principle that the esophagus is a collapsible tube, while the trachea is rigid. An EDD looks like a bulb syringe. Collapse the bulb first and then place the device on the end of the ETT prior to first ventilation. As the bulb tries to refill with air, it creates suction. If the tube is in the esophagus, the soft tissues will collapse around the holes in the ETT preventing expansion of the bulb. When the bulb does not refill (or refills very slowly), the tube is presumed to be in the

esophagus. If the tube is in the trachea, there is nothing to occlude the movement of air. The bulb will rapidly refill, indicating that the ETT is properly placed.

**Limitations:**

- A large amount of gastric air (i.e. caused by carbonated beverage, aggressive ventilations, misplacement of ETT) and late term pregnancy can give a false positive finding
- A cold device may give a false negative result. (If the rubber bulb is stiff from the cold, it will fail to fill with air. The ETT will seem to be in the esophagus, when it is actually in the trachea).
- Cannot be used continuously. It must be removed after confirmation, though you may reuse it after patient movement.
- May only be used on pediatric patients who are older than 5 years of age and weigh at least 20kg/44 pounds.

**Indications for Various Intubation Confirmation Devices**

| | **Oral ETT** | **Pulseless Pt.** | **Apneic Patient** |
|---|---|---|---|
| **Electronic Waveform $EtCO_2$** | Useful | Useful | Useful |
| **EDD** | Useful | Useful | Useful |

*NOTE: {Intubation} is not permitted unless at least one of the above devices is utilized and the Medical Director authorizes EMT-Basics to perform the procedure.*

- Always secure the ET tube in place as effectively as possible, preferably with a commercial tube-securing device.
- Cervical collar is effective in maintaining patient's head in a neutral position.
- Re-assess ET tube placement every time the patient is moved.
- {Digital Intubation and Lighted Stylet Intubation} may be utilized.
- {Dual Lumen Airways (i.e., Combitube or Pharyngotracheal Lumen Airway (PtL), or a Laryngeal Mask Airway (LMA)}, are acceptable rescue airway devices. Use of these devices is limited to patients who need an artificial airway, and are in cardiac arrest.
- If routine ventilation procedures are unsuccessful, try to visualize obstruction with laryngoscope. If foreign body is seen, attempt to remove it using suction, and/or Magill Forceps, if possible.

## Maintenance of Existing IV Pumps

Do not stop the flow of medication unless you receive direct orders from MCP. There are some drugs, such as Flolan that could kill the patient if stopped. If you think the patient is experiencing an allergic reaction, call MCP. A possible reason for MCP to have you shut off the pump would be a patient having an allergic reaction who is receiving a new antibiotic being administered IV with the pump.

♦*NOTE: The exception is a diabetic patient with an Insulin Pump who is hypoglycemic as confirmed by a blood glucose monitor. If you are NOT familiar with the device, disconnect the tubing from the pump (first choice) or remove needle assembly from the patient (second choice). Do NOT turn off the pump. You may hit the wrong button and, inadvertently bolus the patient with a large amount of Insulin. If you are familiar with the device it is permissible to "Suspend" the administration of Insulin.*

# CARDIOVASCULAR EMERGENCIES

## General Considerations:

- CPR should not be interrupted for more than 10 seconds until spontaneous pulse is established.

### CARDIAC ARREST: Basic Life Support

**FIRST RESPONDER / EMT- BASIC**

- Assess patient for respiratory and cardiac arrest
- Initiate CPR and {AED/Defibrillator} using most current American Heart Association Guidelines.
- Ratio of compressions to breaths of 30:2 at a rate of about 100 compressions per minute
- Transport patient as appropriate
- Consider treatable causes

*NOTE: Current AEDs may not be programmed to the current AHA Guidelines. Utilize AED as it is programmed.*

### Suspected Cardiac Chest Pain

**EMT-BASIC**

- Ask male and female patients if they are taking Viagra, Revatio, or similar medications within the last 24 hours. Do not administer Nitroglycerin if taking above medications.
- ♦Give **Aspirin, 324 mg** to every patient with symptoms of ACS. Patient MUST CHEW the Aspirin. (Basics *must have an order to access the drug bag*). May assist with patients own aspirin without an order.
- ♦If prescribed, SBP >100, and the patient is at least 25 years of age administer **NTG, 0.4 mg SL every 5 minutes x 3** with vital signs between doses. Basics may assist patients with their own initial dose of their prescribed NTG, subsequent doses require MCP.

*NOTE: Revatio is a drug approved for treatment of pulmonary arterial hypertension (same disease that may be treated with Flolan at end stage). The drug improves exercise ability and contains* Sildenafil *which is Viagra. For this reason, organic nitrates are contraindicated with Revatio as they are with Viagra. One major difference with Revatio is that it is indicated for both men and women. Fortunately, a history of pulmonary hypertension is more likely to be shared than one of erectile dysfunction. Providers should query patients, particularly PAH patients, about Revatio before giving nitro.*

# CARDIAC DYSRHYTHMIAS

### Bradycardia

**EMT-BASIC**

- Transport immediately unless ALS intercept is < 5 minutes

### Tachycardia

**EMT-BASIC**

- Transport immediately unless ALS intercept is < 5 minutes.

### Stroke

**FIRST RESPONDER**

- Complete GMVEMSC Prehospital Suspected CVA/TIA Checklist.
- Be prepared to ventilate at a rate of 20 respirations per minute and/or assist ventilations with oral or nasal airway and BVM or {FROPVD}.

**EMT-BASIC**

- {If signs of cerebral herniation are present and quantitative (i.e., numeric) End Tidal $CO_2$ ($EtCO_2$) readings are available, ventilate at a rate to maintain $EtCO_2$ readings at approximately 30 mmHg (30 torr)}.

- Re-evaluate patient condition, contact MCP to advise you are en route with a stroke patient, and transport to hospital.
- If glucose <60, or there is strong suspicion of hypoglycemia despite glucometer readings
  - **Oral Glucose**

**Symptoms Mimicking Stroke**

- Seizures
- Subdural hematoma
- Brain tumor
- Syncope
- Toxic or metabolic disorders (i.e., hypoglycemia)

# TRAUMA EMERGENCIES

**General Considerations**

- Minor trauma patients may be transported to non-Trauma Centers.
- Major trauma patients are to be transported as soon as possible to the nearest appropriate facility, per destination protocols.
- Scene size-up, with rapid assessment and recognition of major trauma/multiple system trauma, and effective evaluation of the mechanism of injury are essential to the subsequent treatment.
- Document Glasgow Coma Scale including the individual components.
- Hypothermia is a significant and frequent problem in shock and major trauma patients. Maintain patient's body temperature.
- If patient condition changes, notify hospital.
- When patient is transported by helicopter, the EMS run sheet should be faxed to receiving Trauma Center.
- The *only* procedures that should take precedence to transport of Major Trauma patients are:
  1. Extrication
  2. Airway Management
  3. Stabilization of neck/back or obvious femur and pelvic fractures on a backboard
  4. Exsanguinating Hemorrhage Control

## Exsanguinating Hemorrhage

- Control external bleeding with direct pressure, elevation, pressure points, etc.
- Treat for hypovolemic shock as indicated.

## Triage and Transport Guidelines

**Concepts**

- After the trauma patient's extrication, the on-scene time should be limited to 10 minutes or less, except when there are extenuating circumstances.
- Trauma Patients, as identified in the document, should be transported to the nearest appropriate trauma center.
- Use of on-line, active MCP for medical direction in the field, particularly for difficult cases, is encouraged in compliance with regional standing orders.
- *Pre-arrival notification of the receiving facility is essential!* Give Mechanism of Injury, Injuries, Vital Signs, Treatment (MIVT) and ETA.
- List in the EMS Run Report which of the State Trauma Triage Criteria was met by the patient.

**Trauma Center/Facility Capabilities**

- Level I and II Trauma Centers can care for the same trauma patients.

- Level III Trauma Centers offer services, based on individual hospital resources that provide for initial assessment, resuscitation, stabilization, and treatment for the trauma patient.
- In areas of the region where the Level III Trauma Center is the only verified trauma facility, (within 30 minutes ground transport time), this hospital may act as the primary receiving facility for the critically injured patient.
- In areas where the trauma patient is in close proximity to a Level III trauma center and a Level I or Level II trauma center is still within the 30 minute transport guidelines established in this document, the EMS Provider should exercise professional judgment as to whether the patient would benefit more from an immediate evaluation, stabilization treatment at the proximate Level III trauma center or from direct transport by EMS Provider to the Level I or Level II trauma center.
- Regional Trauma Centers
    - Level I Miami Valley Hospital Fax # 937-208-2521
    - Level II Children's Medical Center Fax # 937-641-6176
    - Level III Greene Memorial Hospital N/A Helicopter will take trauma Pt. to Level I
    - Level III Middletown Regional Hosp. N/A Helicopter will take trauma Pt. to Level I
- In areas of the region where there are no verified Trauma Centers (within 30 minutes ground transport time), the acute care hospital may act as the primary receiving facility for the critically injured trauma patients. EMS Provider may arrange for air medical transport from the scene.
- If a pediatric patient meets the trauma triage guidelines, then they are taken to a pediatric trauma center. If transportation time is > 30 minutes to a pediatric trauma center, then transport to the nearest acute care hospital for stabilization and transfer. EMS Provider may arrange for air medical transport from the scene.
- All pregnant trauma patients should be transported to the nearest adult Trauma Center, unless transport time > 30 minutes.

**Air Medical Transportation**

- Pre-arrival notification of the receiving facility is essential.
- Prolonged delays at the scene waiting for air medical transport should be avoided.
- Traumatic cardiac arrest due to blunt trauma is *not* appropriate for air transport.
- In the rural environment, direct transfer of trauma patients by air medical transport may be appropriate and should be encouraged.

**Exceptions to Triage and Transportation Guidelines**

- It is medically necessary to transport the victim to another hospital for initial assessment and stabilization before transfer to an adult or pediatric trauma center.
- It is unsafe or medically inappropriate to transport the victim directly to an adult or pediatric trauma center due to adverse weather or ground conditions or excessive transport time.
- Transporting the victim to an adult or pediatric trauma center would cause a shortage of local emergency medical services resources.
- No appropriate trauma center is able to receive and provide trauma care to the victim without undue delay.
- Before transport of a patient begins, the patient requests to be taken to a particular hospital that is not a trauma center or, if the patient is less than 18 years of age or is not able to communicate, and such a request is made by an adult member of the patient's family or legal representative of the patient.

## Pre-hospital Field Adult Triage

- Utilize for persons 16 and above
- Patients to be taken to nearest hospital:
    - Unstable airway
    - Blunt trauma arrest, no pulse or respirations
- All pregnant trauma patients should be transported to the nearest adult Trauma Center, unless transport time >30 minutes.

**Anatomy of Injury**

- All penetrating trauma to head, neck, torso, and extremities proximal to elbow and knee
- Abdominal injury with tenderness, distention, or seat belt sign
- Chest injury: Flail chest and/or tension pneumothorax
- Two or more proximal long bone fractures
- Evidence of pelvic fracture (exception: isolated hip fracture)
- Spinal cord injury with signs and symptoms of paralysis
- Burns greater than 10% Total BSA or other significant burns involving the face, feet, hands, genitals or airway
- Amputation proximal to wrist and/or ankle
- Evidence of serious injury of 2 or more body systems
- Crush injury to head, neck, torso, or extremities proximal to knee or elbow

| YES = To Trauma Center | NO – Assess Physiologic |
|---|---|
| **Alert Trauma Team** | |

**Physiological**

- Glasgow Coma Scale (GCS) less than or equal to 13, loss of consciousness at any time greater than five minutes or alteration in level of consciousness with evidence of head injury at time of exam or thereafter, or fails to localize pain.
- Respirations < 10 or >29 or {intubation} or relief tension pneumothorax
- Pulse >120 in combination with any other physiologic criteria
- SBP < 90 or absent radial pulse with carotid pulse present

| YES = To Trauma Center | NO = Evaluate Mechanism of Injury if high energy impact |
|---|---|
| **Alert Trauma Team** | |

**Mechanism of Injury**

- Auto-pedestrian/auto-bicycle injury with significant (> 5 mph) impact
- Death in same passenger compartment
- Ejection from motor vehicle
- Extrication time > 20 minutes
- Falls > 20 feet
- High Speed Auto Crash
    - Initial speed > 40 mph
    - Intrusion into passenger compartment > 12 inches
    - Major auto deformity > 20 inches
- Open motor vehicle crash > 20 mph or with separation of rider from vehicle
- Pedestrian thrown or run over
- Unrestrained rollover

| YES = Consider Trauma Center | NO = Check Special Situations |
|---|---|
| | |

**Special Situations**

- Age > 55
- Pre-existing cardiac and/or respiratory disease
- Insulin dependent diabetes, cirrhosis, morbid obesity, seizure
- Patient with bleeding disorder or on anticoagulants

- Immuno-suppressed patients (renal dialysis, transplant, cancer, HIV)
- All pregnant trauma patients should go to the nearest adult trauma center, if within 30 minutes transport time.

| YES = To Trauma Center | NO = To Local Hospital |
|---|---|
| | |

## Multiple Trauma

Patients meeting criteria for transport to a Trauma Center are considered "Load and Go".

- Place the patient in correct position to maintain the airway.
- Open pneumothorax: cover with an occlusive dressing, tape three sides down.
- Tension pneumothorax:
  - Lift one side of any occlusive dressing;
  - Use caution not to confuse right mainstem intubation for a pneumothorax.
- Flail chest: immobilize with a bulky dressing or towels taped to the chest.
- Contact MCP and advise of patient condition with MIVT and ETA, and need for Trauma Team.

## Head Injury

- Evaluate patient condition:
  - Level of Consciousness
  - Pupillary size and reaction
  - Glasgow Coma Scale
- Ventilate at 20 BPM when the following signs of cerebral herniation are present:
  - Blown or unequal pupil(s), bradycardia, posturing, and decreased mental status.

**EMT-BASIC**

- {Ventilate to maintain $EtCO_2$ readings of 30 mmHg (30 torr)}.

### GLASGOW COMA SCALE

| | | GCS |
|---|---|---|
| EYES | SPONTANEOUSLY | 4 |
| | TO VERBAL COMMAND | 3 |
| | TO PAIN | 2 |
| | NO RESPONSE | 1 |
| | | |
| BEST | ORIENTED & CONVERSES | 5 |
| VERBAL | DISORIENTED & CONVERSES | 4 |
| RESPONSE | INAPPROPRIATE WORDS | 3 |
| | INCOMPREHENSIBLE SOUNDS | 2 |
| | NO RESPONSE | 1 |
| | | |
| BEST | OBEYS VERBAL COMMAND | 6 |
| MOTOR | PURPOSEFUL MOVEMENT TO PAIN | 5 |
| RESPONSE | WITHDRAWAL | 4 |
| | FLEXION | 3 |
| | EXTENSION | 2 |
| | NO RESPONSE | 1 |

Maintain good ventilation at rate of about one breath every 5-6 seconds, with high flow oxygen. Prophylactic hyperventilation for head injury is not recommended. Cerebral herniation syndrome is the only situation in which hyperventilation (rate of 20 per minute) is indicated.

An increase in the level of $CO_2$ (hypoventilation) promotes cerebral vasodilation and increased swelling, while lowering the level of $CO_2$ (hyperventilation) promotes cerebral vasoconstriction and cerebral ischemia. Hyperventilation causes a significant decrease in cerebral perfusion from vasoconstriction, which results in cerebral hypoxia. Thus, both hyperventilation and hypoventilation cause cerebral hypoxia and increase mortality.

The one time you may hyperventilate is cerebral herniation syndrome. In cerebral herniation, there is a sudden rise in intracranial pressure. Portions of the brain may be forced downward, applying great pressure on the brainstem. This is a life-threatening situation characterized by a decreased LOC that rapidly progresses to coma, dilation of the pupil and an outward-downward deviation of the eye on the side of the injury, paralysis of the arm and leg on the side opposite the injury, and/or decerebrate posturing. When this is occurring, the vital signs frequently reveal increased blood pressure and bradycardia. The patient may soon cease all movement, stop breathing, and die. If these signs are developing in a head injury patient, cerebral herniation is imminent and aggressive therapy is needed. Hyperventilation will decrease ICP. In this situation, the danger of immediate herniation outweighs the risk of ischemia.

## Extremity Fractures, Dislocations, Sprains

**FIRST RESPONDER / EMT-BASIC**

- Assess pulse, motor and sensation before/after splinting and during transport.
- For open fractures, control bleeding with direct pressure and cover with dry, sterile dressing.
- Apply appropriate splinting device.
- To reduce swelling, elevate extremity and {apply ice}.

## Drowning and Near Drowning

**FIRST RESPONDER / EMT-BASIC**

- Consider spinal immobilization.
- Consider hypothermia.
- Evaluate neurological status.
- Near drowning patients should be transported to a trauma center.

## Hypothermia with Arrest

**FIRST RESPONDER**

- Move patient to warm environment, remove all wet clothing, dry the patient, and cover with blankets.
- Avoid any rough movement that may cause cardiac dysrhythmias. It may be beneficial to immobilize the patient on the backboard.
- Assess neurological status.
- It may be necessary to assess pulse and respirations for up to 30-45 seconds to confirm arrest.
- Consider possibility of other medical conditions (i.e. overdose, hypoglycemia)
- Hypothermic patients should be transported to a trauma center.
- If patient arrest:
    - CPR continuously
    - If severe hypothermia (<86°F (30°C)) is strongly suspected, limit defibrillation attempts to 1 except on orders from MCP.
    - If body temperature is >86°F (30°C), follow normal arrest protocols.

**EMT-BASIC**

- {Intubate} and oxygenate the patient with {warmed and humidified} 100% $\mathbf{O_2}$.
- Continue resuscitative efforts while in transit, even if there is no response.

## Hypothermia without Arrest

**FIRST RESPONDER**

- Do not initiate CPR if there is any pulse present, no matter how slow.
- Rough handling and unnecessary stimulation may cause cardiac arrest.
- Minimize movement.
- Use the least invasive means possible to secure airway.

**EMT-BASIC**

- Consider other medical conditions (i.e. overdose, hypoglycemia, CVA)
- Transport to a trauma center.

## Frostbite

**FIRST RESPONDER / EMT-BASIC**

- Protect injured area(s). Remove clothing and jewelry from injured parts.
- Do not attempt to thaw injured part with local heat.
- Maintain core temperature.
- Severe frostbite injuries should be transported to a burn center.

## Burns/Smoke Inhalation

**General Considerations**

- Stop the burning and minimize contamination.
- Severe burns should be transported to a burn center unless ETA >30 minutes.
- Keep patient warm.
- Superficial and partial thickness burns <10% may have wet dressings applied. Cover burn areas with clean, dry sheets or dressings after cooling burns < 10% first.
- Remove clothing and jewelry from injured parts. Do not remove items, which have adhered to the skin.
- Inhalation injuries with unsecured airway should be transported to the nearest facility.
- Chemical burns are Haz-Mat situations and must be grossly decontaminated at the scene.
- BP may be taken over damaged tissue if no other site is accessible.

**Specific Care**

**FIRST RESPONDER**

- Assess for respiratory distress, stridor, hoarseness, sooty sputum, singed eyebrows and nares, or burns of the face or airway.
- Determine type of burn and treat as follows:
- Radiation burns:
    - Treat as thermal burns except when burn is contaminated with radioactive source. Then treat as Hazmat situation.
    - Consider contacting Haz-Mat team for assistance in contamination cases.

**EMT-BASIC**

- Inhalation Burns:
    - Provide {humidified} **$O_2$**.
- Consider Hyperbaric Oxygen Treatment for the following:
    - Underlying cardiovascular disease, or cardiovascular symptoms such as chest pain or shortness of breath.
    - > 60 years of age.
    - Obvious neurological symptoms, such as any interval of unconsciousness, loss of time, inability to perform simple motor tasks, or loss of memory.
    - Pregnancy.

## Heat Exposure

**General Considerations**

- Geriatric patients, pediatric patients and patients with a history of spinal injury or diabetes mellitus are most likely to suffer heat-related illnesses. Other contributory factors may include heart medications, diuretics, cold medications and/or psychiatric medications.
- Heat exposure can occur either due to increased environmental temperatures, prolonged exercise, or a combination of both. Environments with temperatures above 90°F and humidity over 60% present the most risk.

**Specific Care**

**FIRST RESPONDER / EMT-BASIC**

- Move patient to a cool environment.
- Strip the patient of clothing, cool the patient, and apply water to the skin.
- If conscious and not vomiting or extremely nauseous provide oral fluids.
- Be prepared for seizures.
- Consider other medical conditions (i.e. overdose, hypoglycemia, CVA) and treat accordingly.
- Hyperthermia patients should be transported to a trauma center.

## Carbon Monoxide (CO) Poisoning

**FIRST RESPONDER**

- Provide high flow **$O_2$** to all suspected CO poisonings.

**EMT-BASIC**

- Pulse Oximeter will give false readings and should not be utilized.
- Consider Hyperbaric Oxygen Treatment for the following:
    - Underlying cardiovascular disease, or cardiovascular symptoms such as chest pain or shortness of breath.
    - > 60 years of age.
    - Obvious neurological symptoms, such as any interval of unconsciousness, loss of time, inability to perform simple motor tasks, or loss of memory.
    - Smoke inhalation victims.
    - Pregnancy.
- Contact MCP to discuss transport considerations.

## Eye Injuries

**FIRST RESPONDER / EMT-BASIC**

- If possible, contact lenses should be removed. Transport contacts with patient.
- Nasal cannula and IV tubing for irrigation.
- Chemical Burns:
    - Irrigate immediately with **NS** or water for a minimum of 20 minutes.
    - Determine chemical involved. Bring MSDS, if available.
- Major Eye Trauma:
    - Do not irrigate if penetrating trauma.
    - Cover injured eye. Do not use a pressure or absorbent dressing on or near any eye that may have ruptured, or have any penetrating trauma.
    - Cover both eyes to limit movement.
    - Transport with head elevated at least 30°.

## {Spinal Injury Clearance}

**EMT-BASIC**

Spinal injury clearance may be utilized, when authorized by the Medical Director and the patient is over 16. It is critical that each step be evaluated in sequence, since the steps proceed from the least to the greatest risk for the patient. It is just as critical that the patient be manually immobilized until the evaluation is complete.

1. If patient unconscious with potential mechanism of injury: Immobilize.
2. If patient not alert, is disoriented, or has GCS < 15: Immobilize.
3. If patient had loss of consciousness: Immobilize.
4. If suspicion of ETOH or drug intoxication: Immobilize.
5. If possible acute stress reaction: Immobilize.
6. If other painful or distracting injury: Immobilize.
7. If cervical pain or other spinal column pain (patient complaint) is present: Immobilize.
8. If neurological deficit (motor or sensory): Immobilize.
9. If cervical tenderness (on palpitation) or deformity: Immobilize.
10. If pain with cervical motion: Immobilize.

If none of the above are present, personnel may opt to transport the patient without spinal immobilization. In any case where there is the slightest doubt about the possible need for spinal immobilization, the patient is to be fully and effectively immobilized.

All of the above items must be documented, and the EMS agency must have a mechanism in place for Quality Improvement monitoring of each run where this procedure is employed.

## START Triage System (MCIs)

Use the **S**imple **T**riage **A**nd **R**apid **Treatment** (START) method of triage to assess a large number of victims rapidly. It can be used easily and effectively by all EMS personnel.

Procedure

- Initial Triage
  - Utilize {Triage Ribbons [color-coded strips]}. One should be tied to an upper extremity in a VISIBLE location (wrist if possible, preferably on the right).
    - RED – Immediate
    - YELLOW – Delayed
    - GREEN – Ambulatory (minor)
    - BLACK – Deceased (non-salvageable)
  - If borderline decisions are encountered, always triage to the most urgent priority (i.e., GREEN/YELLOW patient, tag YELLOW). Move as quickly as possible.
- Secondary Triage
  - Will be performed on all victims in the Treatment Area.
  - Utilize the Triage Tags (METTAGs or START tags) and attempt to assess for and complete all information required on the tag. Affix the tag to the victim and remove ribbon. This is done after patients enter the Treatment Area, not at the initial triage site!
- The Triage priority determined in the Treatment Area should be the priority used for transport.
- Locate and remove all of the walking wounded into one location away from the incident, if possible. Assign someone to keep them together (i.e., PD, FD, or initially a bystander) and notify COMMAND of their location. *Do not forget these victims.* Someone should re-triage them as soon as possible.
- Begin assessing all non-ambulatory victims where they lie, if possible. Each victim should be triaged in 60 seconds or less, preferably much less.
- Assess **RESPIRATIONS**:
  - If respiratory rate is 30/min. or less, go to PERFUSION assessment.
  - If respiratory rate is > 30/min., tag RED.

- If victim is not breathing, open airway, remove obstructions, if seen and assess for above.
- If victim is still not breathing, tag BLACK.

- Assess **PERFUSION**:
  - Performed by palpating a radial pulse or assessing capillary refill (CR) time.
  - If radial pulse is present or CR is two seconds or less, go to MENTAL STATUS assessment.
  - No radial pulse or CR is > two seconds, tag RED.
- Assess **Mental Status**:
  - Assess the victim's ability to follow simple commands and their orientation to time, place and person.
  - If the victim follows commands and is oriented x3, tag GREEN. NOTE: Depending on injuries (i.e., burns, fractures, bleeding), it may be necessary to tag YELLOW.
  - If the victim does not follow commands, is unconscious, or is disoriented, tag RED.

**Special Considerations**

- Only correction of life-threatening problems (i.e., airway obstruction or severe hemorrhage) should be managed during triage.
- To help speed the process, consider utilizing colored (Red, Yellow, Green, Black) ribbons to initially mark patient categories. Triage Tags are then attached and filled out once the patient reaches the Treatment Area.
- When using Triage Tags, if the patient's condition or the triage priority changes, the bottom portion of the tag should be removed, leaving only the injury information. Add a new tag to identify the new triage priority, and if time permits, the reason for the change.

## RESPIRATORY DISTRESS

**EMT-BASIC**

- Evaluate breath sounds, and:
  - Clear: Treat cause (i.e. MI, pulmonary embolism, metabolic disturbance, and hyperventilation).
  - Wheezes: Treat cause (i.e. pulmonary edema, FBAO, asthma or allergic reaction).
  - Rales: Treat cause (i.e. pulmonary edema or pneumonia)
  - Dimished or absent:
    - Unilateral: Treat cause (i.e. pneumothorax, hemothorax, pneumonia, surgically removed lung)
    - Bilateral: Treat cause (i.e. respiratory failure, end stage COPD or asthma)
    - Obtain {Pulse Oximeter and/or capnography} reading

### Pulmonary Edema

**FIRST RESPONDER / EMT-BASIC**

- Assess for and note cyanosis, clammy skin, *absence of fever*, coughing, wheezing, labored breathing, diaphoresis, pitting edema, rales in bilateral lower lung fields, tachypnea, apprehension, JVD, and inability to talk.

### Asthma/Emphysema/COPD

**EMT-BASIC**

- If patient is currently prescribed **Albuterol** Inhaler but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the Emergency, the EMT-Basic may access the BLS Drug Bag for
- If patient develops wheezing, assist them with taking their prescribed Proventil (Albuterol) metered dose inhaler.
  - ♦The patient is currently prescribed **Albuterol** Metered Dose Inhaler but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the Emergency, the EMT-Basic may access the BLS Drug Bag for **Albuterol** Metered Dose Inhaler only

**under the direction of MCP**. The EMT-B may NOT administer **Albuterol** to a patient that is not currently prescribed.

- Transport immediately, unless an ALS unit is en route and has an ETA of less than 5 minutes

## ALTERED LEVEL OF CONSCIOUSNESS: Diabetic or Unknown Cause

**EMT-BASIC**

- If glucose <60, or there is strong suspicion of hypoglycemia despite {glucometer} readings
  - **{Oral Glucose}**
  - ♦In a diabetic patient with an insulin pump and a glucose <60, disconnect patient from the pump or "suspend" the device if you are familiar with its operation.
  - Maintain normothermia.

***Oral Glucose Administration**: Oral glucose is indicated for any awake but disoriented patient with BS <60 or strong suspicion of hypoglycemia despite blood sugar readings. Oral glucose may also be administered carefully under the tongue or between the gum and cheek of an unresponsive patient who must be placed in the lateral recumbent position to promote drainage of secretions away from the airway.*

## DIABETIC EMERGENCIES: Refusal of Treatment

**FIRST RESPONDER / EMT-BASIC**

- Patients >17 may be permitted to refuse. Follow these guidelines:
  - Repeat physical examination and vital signs. Patient must be A&O X 3.
  - Warn the patient that there is a significant risk of going back into hypoglycemia, especially if on oral hypoglycemics.
  - Advise the patient to eat something substantial immediately.
  - Advise the patient to contact their family physician as soon as possible to minimize future episodes.
  - Advise the patient to stay with someone, if possible.
  - Follow normal patient refusal procedures.

*<u>Note:</u> Ensure that the EMS Coordinator of the hospital that replaces your Supplies receives a copy of the run sheet for his/her records.*

## ALLERGIC REACTION/ANAPHYLAXIS

**FIRST RESPONDER**

- If severe allergic reaction, assist patient in **administering {Epi-Pe**n} if patient has his/her medication.

**EMT-BASIC**

- ♦If patient is currently prescribed Epi-Pen, but has outdated, damaged, or contaminated medication or does not have their own medication with them at the time of the emergency, the EMT-B may access the BLS Drug Bag for **Epi-Pen only on orders from** MCP. The EMT-B may not administer Epi-Pen to a patient that is not currently prescribed Epi-Pen or epinephrine.
- IF MEDICATION IS NOT AVAILABLE – Transport immediately, unless ALS unit is en route and has an ETA of less than 5 minutes. Contact MCP.
- If patient develops wheezing, assist them with taking their prescribed Proventil (Albuterol) metered dose inhaler.
  - ♦The patient is currently prescribed **Albuterol** Metered Dose Inhaler but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the Emergency, the EMT-Basic may access the BLS Drug Bag for **Albuterol** Metered Dose Inhaler only **under the direction of MCP**. The EMT-B may NOT administer **Albuterol** to a patient that is not currently prescribed.
- If applicable, apply {ice pack} and/or constricting band.

### Assisting with EpiPen:

When assisting patient with severe allergic reaction with his/her own prescribed EpiPen, do the following:

- Assure medication is prescribed for patient
- Check medication for expiration date.
- Contact MCP, if possible.
- Administer medication in mid-thigh and hold injector firmly against leg for at least ten (10) seconds to assure all medication is injected.
- Record patient reaction to medication and relay to MCP – be sure to have vital signs.

## SEIZURES

**FIRST RESPONDER**

- BVM and nasopharyngeal airway *during* seizure as needed.

**EMT-BASIC**

- If glucose <60, or there is strong suspicion of hypoglycemia despite {glucometer} readings
  - **Oral Glucose**
  - In a diabetic patient with an insulin pump and a glucose <60, disconnect patient from the pump or "suspend" the device if you are familiar with its operation.
  - Maintain normothermia.

*When obtaining history be sure to include the following:*

- *Description of seizures, areas of body involved, and duration*
- *Other known medical history; i.e. head injury, diabetes, drugs, alcohol, stroke, heart disease.*

## OVERDOSE

**FIRST RESPONDER**

- Manage Airway, gather appropriate history
- Thorough search for source substance

**EMT-BASIC**

- {Glucometer}
- Ingested Poison
  - Transport container and / or remaining medication to the hospital with the patient.

## HAZ-MAT

Contact receiving hospital immediately to allow for set up of decontamination equipment. If substance is determined, notify receiving facility as early as possible.

- Remove contaminated clothing.
- Thoroughly wash with {Dawn}, paying special attention to skin folds and other areas where simple irrigation may not remove it.
- Do not transport a patient until gross decontamination is completed.
- Obtain permission from hospital personnel before entering hospital with a potentially contaminated patient and/or crew.
- Consider decontamination of vehicle prior to leaving.

**Field decontamination** must be initiated. An example of the often overlooked importance of decon is a patient soaked in diesel fuel.

The Centers for Disease Control (CDC) has made recommendations about antidotes for MCI, including the following:

- It is likely that a terrorist attack would utilize materials that could be stolen or purchased in the U.S., rather than importing weapons such as Nerve Gas. Improvised weapons could include cyanide stolen from industry, or organophosphates, which have essentially the same effect as Nerve Agents, yet can be purchased inexpensively. In spite of what is commonly believed, many people exposed to cyanide, organophosphates, or Nerve Gas are potentially salvageable.
- It is critically important that the antidotes be given as quickly as possible.
- Atropine is the most important drug to be given rapidly for organophosphate or nerve agent poisons, and often the patients need repeated doses of Atropine.
- CDC recommends that suspected victims of cyanide poisoning in MCIs should be treated with Oxygen,.
- EMS agencies in major cities should be prepared to deal with at least 500 - 1,000 casualties from either cyanide or organophosphates/Nerve Agents, and thus should deploy antidotes on prehospital apparatus.

## Guidelines for Dealing with Exposure to Hazardous Drugs

### Hazardous Drug: Exposures and Spills

*From the Oncology Nursing Society Chemotherapy and Biotherapy*
*Guidelines and Recommendations for Practice (2ed) 2005*

Types of Patients that EMS personnel would have a potential exposure to a hazardous drug:

- Patients who have continuous IV chemotherapy at home (should have a homecare agency or physician's office providing daily check-up, spill kit, and disposal of contaminated items)
- Patients who have just had IV chemotherapy at the clinic or hospital and their body fluids could have traces of hazardous drug for 48 hours
- Patients who are taking oral chemotherapy drugs

- Hazardous refers to drugs that require special handling because of potential health risks. These risks are a result of the inherent toxicities of the drugs (National Institute for Occupational Safety and Health [**NIOSH**], 2004.)
  - http://www.cdc.gov/niosh/docs/2004-165/2004-165d.html has a complete list of drugs.
  - Hazardous drugs meet one or more of the following criteria:
  - carcinogenicity – can cause cancer
  - teratogenicity – can cause birth defects
  - reproductive toxicity – such as infertility, spontaneous abortion
  - organ toxicity – skin rash, elevated liver enzymes, hair loss
  - genotoxicity – damage to genes (chromosomes)
  - drugs similar in structure or toxicity to hazardous drugs
- According to **OSHA**, **1995**, safe levels of occupational exposure to hazardous agents cannot be determined, and no reliable method of monitoring exposure exists. Therefore, it is imperative that those who work with hazardous drugs adhere to practices designed to minimize occupational exposure. Potential routes of exposure include:
  - absorption through skin or mucous membranes
  - injection by needle stick or contaminated sharps
  - inhalation of drug aerosols, dust, or droplets
  - ingestion through contaminated food, tobacco products, beverage, or other hand-to-mouth behavior (NIOSH, 2004)
- PPE (personal protective equipment) should be worn whenever there is a risk of hazardous drug being released into the environment. For EMS personnel, the situations might include:
  - Handling leakage from tubing, syringe, and connection sites.
  - Disposing of hazardous drugs and items contaminated by hazardous drugs.
  - Handling the body fluids of a patient who received hazardous drugs in the past 48 hours.
  - Cleaning hazardous drug spills.
  - Additional situations apply to healthcare workers who mix and administer hazardous drugs.
- Guidelines for PPE:
  - Gloves: disposable, powder-free, latex or nitrile. Double gloves are recommended. Change gloves immediately after each use, if a tear, puncture, or drug spill occurs; or after 30 minutes of wear (NIOSH, 2004).

  - Gowns: disposable, lint-free, low-permeability fabric. Solid front, long-sleeves, tight cuffs, back closure. Inner glove cuffs should be worn under the gown cuffs and the outer glove cuffs should extend over the gown cuffs.
  - Respirators: Wear a NIOSH-approved respirator mask when cleaning hazardous drug spills. Surgical masks do not provide adequate protection.
  - Eye and face protection: wear a face shield whenever there is a possibility of splashing.
- Body Fluids – use universal (standard) precautions when handling the blood, emesis, or excreta of a patient who has received IV or oral chemotherapy within the previous 48 hours.
- Skin exposure: Remove contaminated garments, place in leakproof plastic bag, and immediately wash contaminated skin with soap and water. Rinse thoroughly. Report to ED for examination and documentation.
- Eye exposure: immediately flush eye with saline solution or water for at least 15 minutes. Report to ED for examination and documentation.
- Contaminated Linen/Clothing – place linens in a plastic bag. Wash items twice in hot water, separately from other items. Hospital linens are placed in a bag labeled "contaminated linen" .
- Spills, contaminated equipment: DO NOT touch the spill with bare hands. Post a sign or warn others to prevent spread of contamination and others from being exposed. Wipe up liquids with an absorbent pad or spill-control pillow. Clean the spill area from most contaminated to least contaminated three times, using a detergent solution followed by clean water. Rinse thoroughly.
- Disposal of hazardous drugs and materials contaminated with hazardous drugs - place items in a sealable, leakproof plastic bag or rigid cytoxic waste container marked with a brightly-colored label that cites the hazardous nature of the contents. Dispose of needles and syringes intact – DO NOT break or recap needles or crush syringes.
- Report and document spills as required (consider EPA, OSHA, and Regional/local HazMat team if more than 5 mL)

Who should you call for more help? (the patient should have these phone numbers)

  - the homecare agency that is supplying/monitoring the infusion
  - the physician who ordered the infusion (usually a medical oncologist)
  - ask for pharmacy support from a hospital, if necessary (there should be a label on the IV bag with the name of the drug and the dosage/concentration)
  - Consult with the Regional HazMat team (or local HazMat team for areas outside the Dayton area).

## Haz-Mat: Hydrofluoric Acid (HF)

**FIRST RESPONDER / EMT-BASIC**

- Deaths have been reported after burns involving < 3% Body Surface Area. Assure safety of all personnel!
- Begin decon immediately, as soon as it can be accomplished without putting EMS personnel at risk! Strip the patient of any clothing, which may be contaminated.
- Irrigate the chemical burn with water as quickly as possible. DON'T DELAY IRRIGATION/DECON! Continue to flush affected skin and eyes with copious amounts of water or **Saline** for at least 30 minutes.
- If ingested, do not induce vomiting. Dilute with water or milk.

## Hazmat: Cyanide

**FIRST RESPONDER**

- In any case of known or strongly suspected cyanide intoxication including smoke inhalation, utilize the following:
  - Evaluate ABCs, treat accordingly
  - If in cardiac arrest defibrillation{AED}

**EMT-BASIC**

- {Intubation}if in cardiac arrest

### Hazmat: Organophosphate or Nerve Agent Posioning (MCI Only)

- Any case of known or strong suspected organophosphate or carbamate (i.e., insecticides such as parathion or malathion); or nerve agent (i.e., Tabun, Sarin, Soman, VX, etc.) exposure, symptoms may include miosis (pinpoint pupils), rhinorrhea (runny nose), copious secretions, localized sweating, nausea, vomiting, weakness, seizures, dyspnea, loss of consciousness, apnea, diarrhea, flaccid paralysis and cardiac arrest.
- Patients with severe poisoning may or may not be bradycardic.
- ♦ **Atropine** 1 - 2 mg. every 3-5 minutes, as available until lungs are clear to auscultation. **Atropine** may be given by **Mark I** auto-injector.
    - Atropine 1 - 2 mg by Autoinjector **2 mg**, for adults and children weighing over 90 pounds.
    - Children weighing 40 - 90 pounds should be given Atropen **1.0 mg** autoinjector.
    - Children weighing less than 40 pounds should be given Atropen **0.5 mg** autoinjector.
- ♦**Atropine** should be followed with **Pralidoxime 600 mg IM (2-PAM), which is Mark I autoinjector**
- ♦Treat seizures with **Diazepam (CANA) Autoinjector**.
- **In a MCI, contact 866-599-LERP and request a CHEMPACK, and contact 937-333-USAR and request additional Nerve Agent Antidotes**

In the event of a large MCI involving WMD such as Cyanide or Nerve Agents, contact MCP, and request an "Antidote free" order, allowing you to treat all of the patients on the scene with the appropriate antidote. Calling for separate orders for each individual patient is utterly impractical. Multi-dose vials or Atropine have been added to the Drug Box. However, Squads must carry syringes and needles for administering the Atropine.

Departments are authorized to {stockpile large quantities of Atropine and supplies (syringes, needles, etc.), as well as 2-PAM, if desired on selected units. The stockpiles can also be in the form of auto-injectors, such as the Mark I kits. Auto-injectors can be quite expensive, but enough atropine in multi-dose vials for an initial dose of Atropine for between 200 and 400 patients, with syringes, needles and alcohol preps, for example, is very inexpensive}.

### Administering the Nerve Agent Antidote Auto-Injector Kit (Mark I)

When first responder arrives on a scene potentially contaminated with nerve agents, s/he must don appropriate PPE. If symptoms of nerve agent exposure manifest:

1. Remove Mark I kit from protective pouch.
2. Hold unit by plastic clip.
3. Remove AtroPen from slot number 1 of the plastic clip. The yellow safety cap will remain in the clip and the AtroPen will now be armed. Do not hold unit by green tip. The needle ejects from the green tip.
4. Grasp the unit and position the green tip of the AtroPen on victim's outer thigh.
5. Push firmly until auto-injector fires.
6. Hold in place for 10 seconds to ensure Atropine has been properly delivered.
7. Remove Pralidoxime (2-PAM) ComboPen from slot number 2 of the plastic clip. The gray safety cap will remain in the clip and the ComboPen will now be armed. Do not hold the unit by the black tip. The needle ejects from the black tip.
8. Grasp the unit and position the black tip of the Combo Pen on victim's outer thigh.
9. Push firmly until auto-injector fires.
10. Hold in place for 10 seconds to ensure Pralidoxime has been properly delivered.
11. If nerve agent symptoms are still present after 15 minutes, repeat injections. If symptoms still exist after an additional 15 minutes, repeat injections for a third time. If after the third set of injections, symptoms remain, do not give any more antidotes but seek medial help.

Recommended Autoinjector Site:

**Anterolateral Thigh**

## CHEMPACKS and Other Resources for Mass Casualty Incidents (MCI)

In addition to our "WMD" medications in the GMVEMSC Drug Bags, there are now additional resources for use in MCIs. Among those resources are **CHEMPACKS: containers with enough antidotes to treat roughly 500 victims,** placed by the Centers for Disease Control (CDC) in hospitals around the nation.

The Ohio Region 2 Regional Physician Advisory Board (**RPAB**), in concert with the Dayton Metropolitan Medical Response System (DMMRS), Greater Dayton Area Hospital Association Domestic Preparedness Committee, GMVEMSC, and others, has developed a "Deployment Protocol" for preparation, transport, training, and usage of CHEMPACKS in the West Central Ohio Region. This protocol has been revised to be compliant with the newly enacted State of Ohio CHEMPACK PLAN.

All EMS personnel must now know how to recognize the use of chemical agents, when to utilize antidotes, and how they are administered. Ohio Law and Region 2 EMS Standing Orders now permit EMT-Intermediates, EMT-Basics, and First Responders to utilize WMD autoinjectors in an MCI. They must also understand the process for using the CHEMPACK agents. A training video on signs, symptoms, and the CHEMPACK protocol is being produced and distributed. **Personnel must further understand that the CHEMPACK agents are antidotes used to treat symptomatic patients; they are not to be given prophylactically (i.e., to persons who do not have symptoms).**

CHEMPACKS contain three drugs:

- Atropine (which blocks the effects of excess acetylcholine at its site of action);
- Pralidoxime Chloride (2-PAM) (which reactivates acetylcholinesterase and therefore reduces the levels of acetylcholine); and
- Diazepam (which lessens the severity of convulsions that can contribute).

There are two types of CHEMPACKS: Hospital and EMS. Both contain **the same drugs**. The difference between the two is the ratio of drug packaging: autoinjectors to multi-dose vials. Hospital CHEMPACKS have more multi-dose vials to permit precise dosing of children and patients requiring prolonged treatment. EMS CHEMPACKS have more autoinjectors to ease administration at the site, and by personnel wearing high levels of Personal Protective Equipment (PPE).

There are five types of autoinjectors. All five work just like the Epi-pens you are already familiar with.

- 0.5 mg Atropens – Pediatric dose of Atropine
- 1.0 mg Atropens – Pediatric dose of Atropine
- Mark 1 Kits containing a 2 mg Atropine autoinjector, and another autoinjector with 2-PAM
- CANA's – (which believe it or not, stands for "Convulsive Antidote, Nerve Agent") containing 10 mg Diazepam (Valium) for treating convulsions

The RPAB also developed a series of Job Aids, which will be distributed to all EMS agencies and hospitals in our region. "Job Aid" is NIMS-terminology for a step-by-step checklist. There are CHEMPACK Job Aids for Incident Commanders, EMS Branch Directors, Dispatchers, public safety personnel who transport CHEMPACK Antidotes, hospital personnel, and MCPs.

To request a CHEMPACK, EMS or hospitals simply contact the Ohio State Patrol (OSP) **Central Dispatch** at **866-599-LERP (5377).** 866-599-LERP will notify the closest CHEMPACK hospital and dispatch an OSP Trooper or other Law

Enforcement agency to pick up the contents of the CHEMPACK, and deliver it to a Staging Location designated by you. You must advise **866-599-LERP** that the incident meets **both** of the following criteria:

- A large number (50 or more) of confirmed or potential adult or pediatric patients **AND**
- Either a Nerve agent/Organophosphate was identified **or** there are patients exhibiting signs or symptoms consistent with exposure to a nerve agent

CHEMPACK antidotes are only useful against nerve agents or chemical pesticides. There is no provision for biological releases, cyanide incidents, etc. Furthermore, CHEMPACKS may **only** be utilized when other resources (antidotes in regional Drug Boxes and area hospitals) are inadequate for the number of victims.

However, our region does have other resources for Cyanide and Biological Incidents. In addition to the drugs in regional Drug Bags, all area hospitals have antidotes. More than that, EMS can access regional WMD Drug Caches for MCIs by calling the "Regional Rescue Coordination Center" at **937-333-USAR**. You will see that information listed in the Job Aids. Contact 333-USAR when you need additional antidotes for Cyanide, Nerve Agent, or Organophosphate MCIs.

If a hospital opens its own CHEMPACK, it also must notify 866-599-LERP, so they are aware the resources are not available for use elsewhere. Hospital CHEMPACKS have been partitioned into thirds. Each third is marked with colored dots (Red, Blue, and Yellow). Hospitals keep at least the materials with the Yellow dots for potential use at the Storing Hospital.

The information following is excerpted from the RPAB Region 2 CHEMPACK Job Aids:

| | |
|---|---|
| **Mnemonic for Signs & Symptoms of Nerve Agents or Organophosphates: SLUDGEMM** | |
| | **S**alivation<br>**L**acrimation<br>**U**rination<br>**D**efecation<br>**G**astrointestinal upset<br>**E**mesis<br>**M**uscle twitching<br>**M**iosis (abnormally constricted pupils) |
| **Initial Actions:** | |
| | **Personnel safety** (Distance, Uphill/Upwind, PPE, etc.) |
| | Call for additional resources<br>(Medic Units, Engines for personnel/resources/Decon, **Haz-Mat**, Law Enforcement, etc.) |
| | Consider potential for secondary devices |
| | **DECON!** |
| | **Antidotes in ALS Drug Bags and/or County Caches:**<br>• Mark I Kit<br>• Atropine<br>• Oxygen<br>• CANA for seizures (Valium Autoinjectors)<br>**Note: First Responders, EMT-B's, and EMT-I's may only administer O2 and Autoinjector WMD Drugs** |
| **Incident Is Appropriate for CHEMPACK Utilization <u>IF</u> BOTH of the following are present:** | |
| | • A large number (50 or more) of confirmed or potential adult or pediatric patients **<u>AND</u>**<br>• Nerve agent/Organophosphate identified or Patients are exhibiting signs or symptoms consistent with an exposure to a nerve agent |
| | **If so, immediately have your Dispatch contact Ohio State Patrol CENTRAL DISPATCH at 1-866-599-LERP, and request CHEMPACK deployment to the scene.** |
| **Contact MCP** | |
| | Provide the following information:<br>▪ Estimated number of confirmed or potential adult and pediatric patients<br>▪ Signs and symptoms exhibited by the patients<br>▪ Name and/or identification information of the nerve agent if known<br>▪ Form of the released nerve agent (liquid, gas, etc.) if known<br>▪ Routes of exposure of the patients (percutaneous, inhalation, ingestion, etc.) if known<br>▪ Additional anticipated decontamination needs if necessary |
| **Receive CHEMPACK from Transporting Law Enforcement Agency** | |
| | Sign the "**CHEMPACK CONTROLLED SUBSTANCE TRANSFER FORM"** and receive copy |
| | Obtain authorization **from MCP to administer** CHEMPACK antidotes. |
| | **To avoid the need for numerous calls to MCP in a MCI, request an "Antidote Free" order, allowing you to treat all patients on the scene**<br>▪ Region 2 EMS personnel need authorization from a MCP to administer cyanide antidotes.<br>▪ Calling for separate orders for each individual patient is impractical.<br>▪ This terminology ("Antidote Free") has been adopted from law enforcement and the military for this type of medical scenario. It is a blanket order to allow EMS to treat Mass Casualty victims as needed. "Weapons free" (as opposed to weapons tight) is a weapon control order whereby weapons systems may be fired at any target not positively recognized as friendly. |

| | |
|---|---|
| **Once Authorized, Administer Antidotes to Patients as Needed** | |
| | **Antidote dosing and administration of treatment (field, transport, and hospital):**<br>♦ Administer **Atropine (Atropine Sulfate) 2 mg**. every 3 - 5 minutes, as available until lungs are clear to auscultation. **Atropine** may be given by **Mark I** auto-injector<br>➢ Atropine 2 mg Autoinjector, for adults and children weighing over 90 pounds<br>➢ Children weighing 40 - 90 pounds should be given the Atropen **1 mg** autoinjector<br>➢ Children weighing less than 40 pounds should be given the Atropen **0.5 mg** autoinjector<br>♦ Follow Atropine with **Pralidoxime (2-PAM),** 600 mg IM, **which is Mark I autoinjector Item 2 for older children and adults**<br>♦Treat any seizures with **{Diazepam (CANA) Autoinjector}** |
| | **Rules of Thumb:**<br>• Mild to moderate cases should be treated with one or two doses of Atropine and 2-PAM<br>• Severe doses will generally require repeating every 5 minutes up to 3 doses<br>• Organophosphate poisonings will require more Atropine (> 3 Mark I Kits) than Nerve Agent poisonings, but no more 2-PAM than the 3 Mark I's<br>• Atropine in these circumstances is **not** for bradycardia, which may or may not be present<br>• Primary endpoints for treatment are diminished airway secretions, hypoxia improves, airway resistance decreases, and dyspnea improves |
| | Provide all needed Supportive Care (ventilation, eye/skin/oral care, etc.) |
| | Monitor all patients for delayed or recurring effects |
| **After Incident is Resolved** | |
| | Return all unused treatment supplies to the Hospital which supplied the CHEMPACK.<br>Properly dispose of all Medical Waste |
| **MCP:** | |
| | Must authorize use of any WMD Antidotes (CHEMPACK or Drug Bag) by EMS personnel |
| | Must understand that inappropriate CHEMPACK opening will result in loss of a $250,000 asset. (As soon as CHEMPACK is opened, the drugs become ineligible for the Shelf Life Extension Program. If CHEMPACK is opened contrary to guidelines, the **antidotes will not be replaced** by CDC.) |

## Hazmat: Biologicals

(This section intentionally left blank)

## Hazmat: Pepper Spray

**FIRST RESPONDER / EMT-BASIC**

- **{Sudecon Wipes}** can assist in the decontamination of patients or public safety personnel who have been sprayed with Pepper Spray.

## ABDOMINAL PAIN

**FIRST RESPONDER / EMT-BASIC**

- Pregnant patients of any age $\geq$ 20 weeks gestation should be taken to maternity department; < 20 weeks should go to the emergency department.

# OBSTETRICAL EMERGENCIES

**FIRST RESPONDER / EMT-BASIC**

- Treat for hypovolemic shock (do not rely on standard vital sign parameters).
- Give psychological support to patient and family.
- Be sure to take all expelled tissue with you to the hospital.
- Ask for first day of last menstrual period.
- Pregnant patients of any age $\geq$ 20 weeks gestation should be taken to maternity department; < 20 weeks gestation should go to the emergency department.

## Cardiac Arrest In Pregnant Female

**FIRST RESPONDER / EMT-BASIC**

- Precipitating events for cardiac arrest include: Pulmonary embolism, trauma, hemorrhage or congenital or acquired cardiac disease.
- Load and go to closest hospital and follow all cardiac arrest protocols en route.
- To minimize effects of the fetus pressure on venous return, apply continuous manual displacement of the uterus to the left, or place a wedge (pillow) under the right abdominal flank and hip.
- Administer chest compressions slightly higher on the sternum than normal.

## Third Trimester Bleeding

**FIRST RESPONDER / EMT-BASIC**

- Place patient in left lateral recumbent position.
- Apply continuous manual displacement of the uterus to the left, or place a wedge (pillow) under the right abdominal flank and hip.

## Childbirth

### General Considerations

- Unless delivery is imminent, transport to a hospital with obstetrical capabilities. Imminent delivery is when the baby is crowning during a contraction.
- Visualize the perineal area only when contractions are less than five minutes apart.
- Place a gloved hand inside the vagina only in the case of breech delivery with entrapped head, or a prolapsed umbilical cord.
- During delivery, gentle pressure with a flat hand on the baby's head should be applied to prevent an explosive delivery.
- Separate run reports must be completed for each patient. The newborn is a separate patient from the mother.

### Specific Care

**FIRST RESPONDER / EMT-BASIC**

- Obtain history of patient condition and pregnancy, including contraction duration and interval, due date, first day of last menstrual period, number of pregnancies, number of live children, prenatal care, multiple births and possible complications, and drug use.
- After delivery, keep infant warm.
- Cut the umbilical cord, then place the baby to suckle at the mother's breast.
- Obtain one and five minute APGAR scores if time and patient condition permits.

*NOTE: Fundal Height refers to the level of the upper part of the uterus. Fundal height changes as the uterus enlarges during the course of pregnancy. You can palpate the top of the uterus and get a general idea of the weeks of gestation by relating fundal height with anatomical landmarks of the mother.*

Changes in fundal height during pregnancy:

| | |
|---|---|
| Above the symphysis pubis: | >12-16 weeks gestation |
| At the level of the umbilicus | 20 weeks |
| Near the xiphoid process | within a few weeks of term |

**APGAR scores at 1 minute, and 5 minutes post delivery**

| | 0 | 1 | 2 |
|---|---|---|---|
| Heart rate | Absent | Slow (< 100) | > 100 |
| Resp. effort | Absent | Slow or Irregular | Good crying |
| Muscle tone | Limp | Some flexion of extremities | Active motion |
| Response to catheter in nostril | No response | Grimace | Cough or sneeze |
| Color | Blue or pale | Body pink; extremities blue | Completely pink |

## NEWBORN CARE & RESUSCITATION

**General Considerations**

- As soon as the baby is born, dry, warm, maintain airway.
  - Place in the sniffing position (1" towel under shoulders).
  - Suction infant until all secretions are clear of airway.
- If the newborn delivers with meconium-stained amniotic fluid and is vigorous, with strong respirations, good muscle tone, and heart rate > 100 BPM, suction the mouth and nose in the same way as for infants with clear fluid.
- If the newborn delivers with meconium-stained amniotic fluid and is depressed, has poor respiratory effort, decreased muscle tone, or heart rate < 100 BPM, suction *before* taking other resuscitative steps.
- Mechanical suction may be used on infants, but only if the suction pressure does not exceed 100 mmHg or 136 cm $H_2O$. Bulb suctioning is preferred.
- If drying and suctioning has not provided enough tactile stimulation, try flicking the infant's feet and/or rubbing the infant's back. If this stimulation does not improve the infant's breathing, then BVM may be necessary.
- Avoid direct application of cool oxygen to infant's facial area as may cause respiratory depression due to a strong mammalian dive reflex immediately after birth.
- Use length/weight-based resuscitation tape (i.e., Broselow Tape).

**Specific Care**

**FIRST RESPONDER / EMT-BASIC**

- After delivery of the infant, assess the airway and breathing while drying and positioning head down.
- If HR <100, BVM ventilation is necessary to increase heart rate.
  - Despite adequate ventilation, if HR <60 begin CPR.
  - Ventilation is also indicated for apnea and/or persistent central cyanosis.
  - Ventilate at 40-60/min.
  - Compress at 120/min. (Compression to Ventilation ratio of 3:1)
- If spontaneous HR absent or <60 despite adequate ventilation and stimulation:

### Delivery Complications

**FIRST RESPONDER / EMT-BASIC**

- Place mother on $O_2$ by NRB.
- **Cord around baby's Neck**:
  - As baby's head passes out of the vaginal opening, feel for the cord.
  - Initially try to slip cord over baby's head.
  - If too tight, clamp cord in two places and cut between clamps.
- **Breech Delivery**:
  - When the appendage(s) or buttocks first become visible, transport patient *immediately* to the nearest facility.
  - If the head is caught, support the body and insert two fingers forming a "V" around the mouth and nose.
- **Excessive Bleeding**:
  - Treat for shock
  - Post delivery, massage uterus firmly and put baby to mother's breast.
- **Prolapsed Cord**:
  - When the umbilical cord is exposed, prior to delivery, check cord for pulse.
  - Transport *immediately* with hips elevated and a moist dressing around cord.
  - Insert two fingers to elevate presenting part away from the cord, distribute pressure evenly if/when occiput presents.
  - Do not attempt to reinsert cord.

## PSYCHIATRIC EMERGENCIES

**FIRST RESPONDER / EMT-BASIC**

- For violent or non-compliant patients, consider staging until police have assured scene safety
- Have patient searched for weapons
- Obtain previous mental health history:
  - Suicidal or violent history
  - Previous psychiatric hospitalization, when and where
  - Location that patient receives mental health care
  - Medications
  - Recreational drugs/alcohol – amount, names
- Do not judge, just treat.
- Transport all patients who are not making rational decisions and who are a threat to themselves or others for medical evaluation

Threat of suicide, overdose of medication, drugs or alcohol and/or threats to the health and well being of others are not considered rational.

### Violent Patients

- Determine patient incompetence. A patient is incompetent if they are:
  - Suicidal
  - Child under 18 with urgent need for medical care
  - Confused
  - Developmentally or mentally disabled and injured/ill
  - Intoxicated and injured/ill
  - Physically/verbally hostile
  - Unconscious
- Consider medical causes for patient's condition
- Consider staging until police have assured scene safety

- Have patient searched for weapons
- Do not transport restrained patients in a prone position with the hands and feet behind the back or sandwiched between backboards or other items.
- Recheck a restrained patient's ability to breathe often
- Have the ability to remove/cut restraints if the patient vomits or develops respiratory distress
- Explain the need for restraint to the patient
- Document the restraints used and on which limbs and your justification for the restraints thoroughly

## ELDER ABUSE NEGLECT

**FIRST RESPONDER / EMT-BASIC**

- EMS personnel must report any alleged abuse or neglect (including adults) to the appropriate agency, generally the police, rather than social services, if victim is either elderly or pediatric. *Simply giving your report to hospital staff does not meet your burden under the law.*
- Complete the Social Services Referral Form provided by GDAHA at the hospital.

# Greater Miami Valley EMS Council

## First Responder/ EMT-Basic Standing Orders Training Manual

## PEDIATRIC
## 2007

**(Patients Age Under 16)**

**Effective January 1, 2007**

## STIPULATIONS

- This protocol is for use by those individuals operating in and under the authority of the Greater Miami Valley EMS Council (GMVEMSC) Drug Bag Exchange Program and certified by the State of Ohio as a(n):
  - First Responder
  - EMT-Basic
- This protocol is to be used in the field only. Communications must be attempted as soon as practical for potentially unstable patients or hospitals that request contact on all patients being transferred to their facility.
- Procedures that are marked with a diamond (♦) are never to be performed without a MCP order. The diamond provides rapid identification of procedures and medications that require on-line MCP authorization.
- No procedures, techniques, or drugs will be used without the proper equipment or beyond the training or capabilities of the prehospital personnel. Nothing in this protocol may be used without specific pre-approval of the Medical Director for the local department or agency.
- Procedures for EMT-Basics include those listed under the First Responder level.
- Items enclosed in braces ({ }) are at the option of the department and its medical director.
- EMS personnel of any level are not authorized to {intubate}, unless they have and can use appropriate confirmation devices ($EtCO_2$ detectors or monitors, and/or Esophageal Detection Devices).
- *Infrequently*, unusual patient situations and multiple complaints with competing priorities may prevent stepwise adherence to a specific section of this protocol. However, at no time should treatment options exceed those authorized here in without direct consultation with medical control. In all such cases, contact with medical control should be considered when logistically feasible.

## ADMINISTRATION

### Non-Initiation of Care

- Resuscitation will not be initiated in the following circumstances:
  - Burned beyond recognition
  - Decapitation
  - Deep, penetrating, cranial injuries
  - Massive truncal wounds
  - DNR Order - present and valid
  - Frozen body
  - Hemicorporectomy (body cut in half)
  - Rigor mortis, tissue decomposition, or severe dependent post-mortem lividity
  - Triage demands
  - Blunt trauma found in cardiac arrest *unless* one of the following conditions are present:
    - Patient can be delivered to an emergency department in 5 minutes.
    - If the arrest is caused by a medical condition.
    - Focused blunt trauma to the chest.
  - Penetrating trauma found in cardiac arrest when the patient cannot be delivered to an emergency department within 15 minutes.
    - Resuscitation will be initiated on victims of penetrating trauma who arrest after they are in EMS care.

Once en route, continue care even if the above time limits cannot be met.

## INITIAL CARE

- Follow basic life support and airway algorithms as indicated.
- Obtain chief complaint (OPQRST), SAMPLE history, and vital signs per patient condition.
- Utilize monitoring device {pulse oximeter, etc.**}** as appropriate.
- ♦ In a patient with an existing IV pump who is experiencing an allergic reaction, the pump may only be discontinued after receiving approval from MCP. Otherwise, the IV pump must be maintained. Exception: hypoglycemic diabetic patients with an insulin pump (see "Maintenance of Existing Medication Pumps" section for details)
- Bring the patient's medications, or a list of the medications, with the patient to the hospital. When supplying the hospitals with documentation of patient medications, be certain to include the dose, and frequency of administration.

*Note: Take extra tubing and medication packet(s) to receiving facility with patient, if available.*

## AIRWAY MAINTENANCE

**FIRST RESPONDER**

- **$O_2$** as needed. Use the following rates as guidelines:
  - **2 LPM by NC** for patient with known congenital heart defects.
  - **4 - 6 LPM by NC** for other patients.
  - **12 - 15 LPM by NRB** for severe trauma patients, distressed cardiac patients, patients with respiratory distress, and other patients who appear to need high flow **$O_2$**.

  *NOTE: Congenital heart defect patients in severe respiratory distress or with chest pain need the same $O_2$ devices and flow rates as any other patient in such condition. Be prepared to stimulate breathing and/or ventilate should the patient become apneic.*

- Consider BVM if airway compromise or insufficient ventilations are present.

**EMT-BASIC**

- {Intubate} if pulseless and apneic
- Confirm correct placement of advanced airway with clinical assessment and devices.

| **Respiratory Rates by Age** | |
|---|---|
| **Up to 1year** | **30-60** |
| **1 – 3 years** | **20-40** |
| **4 – 6 years** | **20-30** |
| **7 – 9 years** | **16-24** |
| **10 – 14 years** | **16-20** |
| **15+ years** | **12-20** |

**Assessment Methods:**

- Physical assessment including auscultation of the epigastrium, anterior chest, midaxillary areas, then the epigastrium again.
- Repeat visualization of the tube between the vocal cords.
- Condensation in the tube.
- Proper depth placement of tracheal tube in the pediatric patient can be calculated by the following formula: Depth of Insertion (marking on tube) = tube size x 3.

**Confirmation Devices:**

- {$EtCO_2$ Monitor}
- {$EtCO_2$ with waveform}
- {Esophageal Detection Device (EDD)}

## Electronic End Tidal $CO_2$ ($EtCO_2$) Monitors - Capnography

These devices measure the amount of carbon dioxide in the exhaled ventilations of patients. They can use mainstream sensors, which are located directly on the endotracheal tube, or sidestream sensors, which samples the ventilation more remotely from the patient. Capnography can be used with patients who are not intubated. In-line $EtCO_2$ monitors can be used on patient with or without adequate perfusion. Electronic monitors are more sensitive therefore changes can be seen in real-time.

## Esophageal Detector Device (EDD)

These devices confirm tube placement mechanically. It is based on the principle that the esophagus is a collapsible tube, while the trachea is rigid. An EDD looks like a bulb syringe. Collapse the bulb first and then place the device on the end of the ETT. As the bulb tries to refill with air, it creates suction. If the tube is in the esophagus, the soft tissues will collapse around the holes in the ETT preventing expansion of the bulb. When the bulb does not refill (or refills very slowly), the tube is presumed to be in the esophagus. If the tube is in the trachea there is nothing to occlude the movement of air. The bulb will rapidly refill, indicating that the ETT is properly placed.

**Limitations:**

- A large amount of gastric air (i.e. caused by carbonated beverage, aggressive ventilations, misplacement of ETT) and late term pregnancy can give a false positive finding
- A cold device may give a false negative result. (If the rubber bulb is stiff from the cold, it will fail to fill with air. The ETT will seem to be in the esophagus, when it is actually in the trachea).
- Cannot be used continuously. It must be removed after confirmation, though you may reuse it after patient movement.
- May only be used on pediatric patients who are older than 5 years of age and weigh at least 20kg/44 pounds.

**Indications for Various Intubation Confirmation Devices**

| | **Oral ETT** | **Pulseless Pt.** | **Apneic Patient** |
|---|---|---|---|
| **Electronic Waveform $EtCO_2$** | Useful | Useful | Useful |
| **EDD** | Useful | Useful | Useful |

*NOTE: Intubation is not permitted unless at least one of these devices is utilized.*

- Always secure the ET tube in place as effectively as possible, preferably with a commercial tube-securing device.
- Cervical collar is effective in maintaining patient's head in a neutral position.
- Re-assess ET tube placement every time the patient is moved.
- {Digital Intubation and Lighted Stylet Intubation} may be utilized.
- {Dual Lumen Airways (i.e., Combitube or Pharyngotracheal Lumen Airway (PtL), or a Laryngeal Mask Airway (LMA), are acceptable rescue airway devices. Use of these devices is limited to patients who are in cardiac arrest
- If routine ventilation procedures are unsuccessful, try to visualize obstruction with laryngoscope. If foreign body is seen, attempt to remove it using suction, and/or Magill Forceps, if possible.

### Maintenance Of Existing IV Pumps

Do not stop the flow of medication unless you receive direct orders from MCP. There are some drugs, such as Flolan that could kill the patient if stopped. If you think the patient is experiencing an allergic reaction, call MCP. A possible reason for MCP to have you shut off the pump would be a patient having an allergic reaction who is receiving a new antibiotic being administered IV with the pump.

♦*NOTE: The exception is a diabetic patient with an Insulin Pump who is hypoglycemic as confirmed by a blood glucose monitor. If you are NOT familiar with the device, disconnect the tubing from the pump (first choice) or remove needle assembly from the patient (second choice). Do NOT turn off the pump. You may hit the wrong button and, inadvertently bolus the patient with a large amount of Insulin. If you are familiar with the device it is permissible to "Suspend" the administration of Insulin.*

## CARDIOVASCULAR EMERGENCIES

### General Conditions

- CPR should not be interrupted for more than 10 seconds until spontaneous pulse is established.

### CARDIAC ARREST: Basic Life Support

**FIRST RESPONDER / EMT-BASIC**

- Assess patient for respiratory and cardiac arrest
- Initiate CPR and {AED/Defibrillator} using most current American Heart Association Guidelines
- Compressions should be at a rate of about 100 per minute
- Transport patient as appropriate
- Consider treatable causes

*<u>NOTE:</u> Current AEDs may not be programmed to the current AHA Guidelines. Utilize AED as it is programmed. AEDs are to be used only on patient over 1 year of age. If available, use AEDs or pads which are designed for pediatric use for children 1 – 8 years of age.*

### Suspected Cardiac Chest Pain

Chest pain in the pediatric patient is rarely related to a cardiac event. Assessment of other causes (i.e. muscle pain, respiratory difficulties, injury) should be completed to ensure the cause of pain. Application of supplemental oxygen and transport should be the management of care for these patients. Contact MCP for further advice when needed.

## CARDIAC DYSRHYTHMIAS

### Bradycardia

**FIRST RESPONDER / EMT-BASIC**

- For adequate perfusion, observe, monitor, and apply oxygen if needed.
- For poor perfusion,
  - Perform CPR if HR <60/min

### Tachycardia

**EMT-BASIC**

Transport immediately unless ALS intercept is < 5 minutes

## Non-Traumatic Shock

**FIRST RESPONDER / EMT-BASIC**

**Without Pulmonary Edema**

*(No JVD, edema, or rales noted)*

- Transport if ALS > 5 minutes.

**Exsanguating Hemorrhage**

- Transport if ALS > 5 minutes.

# TRAUMA EMERGENCIES

**General Considerations**

- Minor trauma patients may be transported to non-Trauma Centers.
- Major trauma patients are to be transported as soon as possible to the nearest appropriate facility, per destination protocols.
- Scene size-up, with rapid assessment and recognition of major trauma/multiple system trauma, and effective evaluation of the mechanism of injury are essential to the subsequent treatment.
- Document Glasgow Coma Scale including the individual components.
- Hypothermia is a significant, and frequent, problem in shock and major trauma patients. Maintain patient's body temperature.
- If patient condition changes, notify hospital back.
- When patient is transported by helicopter, the EMS run sheet should be faxed to receiving Trauma Center.
- The *only* procedures that should take precedence to transport of Major Trauma patients are:
    - Extrication
    - Airway Management
    - Stabilization of neck/back or obvious femur and pelvic fractures on a backboard
    - Exsanguinating Hemorrhage Control

## Exsanguinating Hemorrhage

**FIRST RESPONDER / EMT-BASIC**

- Control external bleeding with direct pressure, elevation, pressure points, etc.
- Treat for hypovolemic shock as indicated.

## Triage and Transport Guidelines

Please see the adult Triage and Transportation Guidelines.

### Head Injury

**FIRST RESPONDER**

Evaluate:

- Level of Consciousness
- Pupillary size and reaction
- Glasgow Coma Scale results

Ventilate at a rate of ten faster than normal respiratory rate when the following signs of cerebral herniation are present:

- Blown or unequal pupil(s), bradycardia, posturing, and decreased mental status.

**EMT-BASIC**

- {Ventilate to maintain $EtCO_2$ readings of 30 mmHg (30 torr)}.

## GLASGOW COMA SCALE

| | Child < 2 years | | Child > 2 and Adolescent | |
|---|---|---|---|---|
| **Eyes** | SPONTANEOUSLY | 4 | SPONTANEOUSLY | 4 |
| | TO VOICE | 3 | TO VOICE | 3 |
| | TO PAIN | 2 | TO PAIN | 2 |
| | *NO RESPONSE* | 1 | NO RESPONSE | 1 |
| | | | | |
| **Verbal** | COOS, BABBLES | 5 | ORIENTED | 5 |
| | IRRITABLE CRY, CONSOLABLE | 4 | CONFUSED | 4 |
| | CRIES TO PAIN | 3 | INAPPROPRIATE WORDS | 3 |
| | MOANS TO PAIN | 2 | GRUNTS, GARBLED SPEECH | 2 |
| | NO RESPONSE | 1 | NO RESPONSE | 1 |
| | | | | |
| **Motor** | NORMAL MOVEMENTS | 6 | OBEYS COMMANDS | 6 |
| | WITHDRAWS TO TOUCH | 5 | LOCALIZES PAIN | 5 |
| | WITHDRAWS TO PAIN | 4 | WITHDRAWS TO PAIN | 4 |
| | FLEXION (DECORTICATE) | 3 | FLEXION (DECORTICATE) | 3 |
| | EXTENSION (DECEREBRATE) | 2 | EXTENSION (DECEREBRATE) | 2 |
| | NO RESPONSE | 1 | NO RESPONSE | 1 |

Maintain good ventilation with high flow oxygen. Prophylactic hyperventilation for head injury is not recommended. Cerebral herniation syndrome is the only situation in which hyperventilation (ventilating at a rate of 10 faster than the normal rate) is indicated.

### Extremity Fractures, Dislocations, Sprains

**FIRST RESPONDER / EMT-BASIC**

- Assess pulse, motor and sensation before/after splinting and during transport.
- For open fractures, control bleeding with direct pressure and cover with dry, sterile dressing.
- Apply appropriate splinting device.

To reduce swelling, elevate extremity and {apply ice}.

### Drowning and Near Drowning

**FIRST RESPONDER / EMT-BASIC**

- Consider spinal immobilization.
- Consider hypothermia.
- Evaluate neurological status.
- Near drowning patients should be transported to a trauma center.

### Hypothermia

**FIRST RESPONDER**

- Move patient to warm environment, remove all wet clothing, dry the patient, and cover with blankets.
- Avoid any rough movement that may cause cardiac dysrhythmias. It may be beneficial to immobilize the patient on the backboard.
- Assess neurological status.
- It may be necessary to assess pulse and respirations for up to 30-45 seconds to confirm arrest.
- Consider possibility of other medical conditions (i.e. overdose, hypoglycemia)

- Hypothermic patients should be transported to a trauma center.
- If patient arrest:
  - CPR continuously
  - If severe hypothermia (<86°F (30°C)) is strongly suspected, limit defibrillation attempts to 1 except on orders from MCP.
  - If body temperature is >86°F (30°C), follow normal arrest protocols.

**EMT-BASIC**

- {Intubate} and oxygenate the patient with {warmed and humidified} 100% $\mathbf{O_2}$.
- Continue resuscitative efforts while in transit, even if there is no response.

## Hypothermia without Arrest

**FIRST RESPONDER / EMT-BASIC**

- Do not initiate CPR if there is any pulse present, no matter how slow.
- Rough handling and unnecessary stimulation may cause cardiac arrest.
- Minimize movement.
- Use the least invasive means possible to secure airway.
- Consider other medical conditions (i.e. overdose, hypoglycemia, CVA)
- Hypothermia patients should be transported to a trauma center.

## Frostbite

**FIRST RESPONDER / EMT-BASIC**

- Protect injured area(s). Remove clothing and jewelry from injured parts.
- Do not attempt to thaw injured part with local heat.
- Maintain core temperature.
- Severe frostbite injuries should be transported to a burn center.

## Burns/Smoke Inhalation

**General Considerations**

- Stop the burning and minimize contamination.
- Severe burns should be transported to a burn center unless transport is >30 minutes.
- Patient with extensive burns must be monitored for hypothermia.
- Superficial and partial thickness burns <10% may have wet dressings applied. Cover burn areas with clean, dry sheets or dressings after cooling <10% burns first.
- Remove clothing and jewelry from injured parts. Do not remove items, which have adhered to the skin.
- Inhalation injuries with unsecured airway should be transported to the nearest facility.
- Chemical burns are Haz-Mat situations and must be grossly decontaminated at the scene.
- Keep patient warm.
- BP may be taken over damaged tissue if no other site is accessible.

**Specific Care**

**FIRST RESPONDER**

- Assess for respiratory distress, stridor, hoarseness, sooty sputum, singed eyebrows and nares, or burns of the face or airway.
- Determine type of burn and treat as follows:
- Radiation burns:
  - Treat as thermal burns except when burn is contaminated with radioactive source, then treat as Hazmat.
  - Consider contacting Haz-Mat team for assistance in contamination cases.

**EMT-BASIC**

- Inhalation Burns:
  - Provide {humidified} **$O_2$** using a {wall humidifier}.
- Consider Hyperbaric Oxygen Treatment for the following:
  - Underlying cardiovascular disease, or cardiovascular symptoms such as chest pain or shortness of breath.
  - Obvious neurological symptoms, such as any interval of unconsciousness, loss of time, inability to perform simple motor tasks, or loss of memory.
  - Pregnancy.

## Heat Exposure

**Genral Considerations**

- Geriatric patients, pediatric patients and patients with a history of spinal injury or diabetes mellitus are most likely to suffer heat-related illnesses. Other contributory factors may include heart medications, diuretics, cold medications and/or psychiatric medications.
- Heat exposure can occur either due to increased environmental temperatures, prolonged exercise, or a combination of both. Environments with temperatures above 90°F and humidity over 60% present the most risk.

**Specific Care**

**FIRST RESPONDER**

- Move patient to a cool environment.
- Strip the patient of clothing, cool the patient, and apply water to the skin.

**EMT-BASIC**

- If conscious and not vomiting or extremely nauseous provide oral fluids.
- Be prepared for seizures.
- Consider other medical conditions (i.e. overdose, hypoglycemia)
- Hyperthermia patients should be transported to a trauma center.

## Carbon Monoxide (CO) Poisoning

**FIRST RESPONDER**

- Provide high flow **$O_2$** to all suspected CO poisonings.

**EMT-BASIC**

- Consider Hyperbaric Oxygen Treatment for the following:
  - Underlying cardiovascular symptoms such as chest pain or shortness of breath.
  - Obvious neurological symptoms, such as any interval of unconsciousness, loss of time, inability to perform simple motor tasks, or loss of memory.
  - Smoke inhalation victims.
  - Pregnancy.
- Contact MCP to discuss transport considerations.
- Pulse Oximeter will give false readings and should not be utilized.

## Eye Injuries

**FIRST RESPONDER**

- If possible, contact lenses should be removed. Transport contacts with patient.

**EMT-BASIC**

- Nasal cannula and IV tubing for irrigation.
- Chemical Burns:

  - Irrigate immediately with **NS** or water for a minimum of 20 minutes.
  - Determine chemical involved. Bring MSDS if possible.
- Major Eye Trauma:
  - Do not irrigate if penetrating trauma.
  - Cover injured eye. Do not use a pressure or absorbent dressing on or near any eye that may have ruptured, or have any penetrating trauma.
  - Cover both eyes to limit movement.
  - Transport with head elevated at least 30°.

## JumpSTART Triage for (MCIs)

**Introduction**

- Use the Jump **S**imple **T**riage **A**nd **R**apid **T**reatment (START) method of triage to assess a large number of pediatric victims rapidly. It is based on the START principles with considerations for pediatric response to trauma injury. It can be used effectively by all EMS personnel. However, there are limitations to JumpSTART

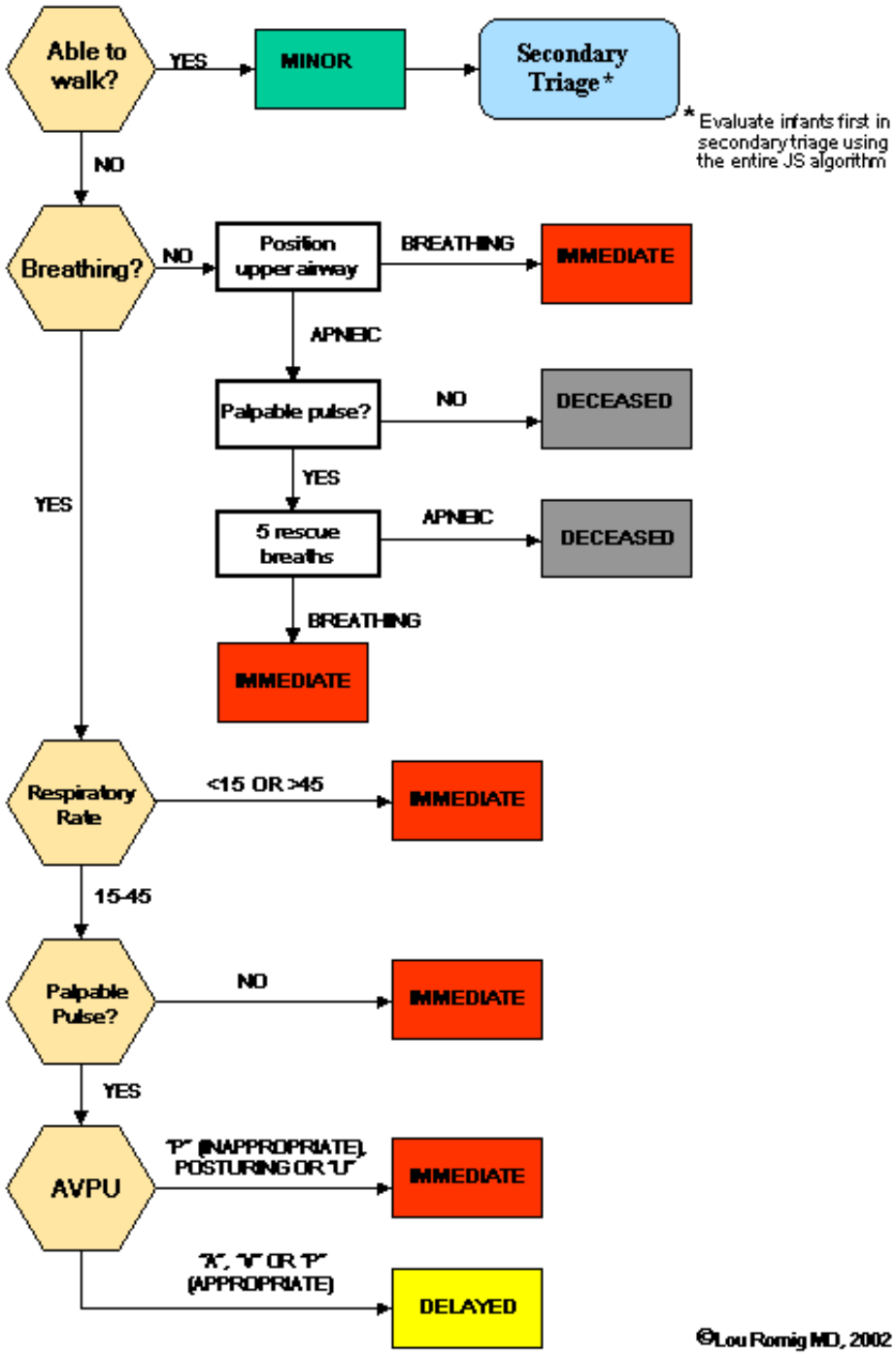
Procedure

- Initial Triage (Using the JumpSTART Method).
  - Utilize {Triage Ribbons [color-coded strips]}. One should be tied to an upper extremity in a VISIBLE location (wrist if possible, preferably on the right).
    - RED – Immediate
    - YELLOW – Delayed
    - GREEN – Ambulatory (minor)
    - BLACK – Deceased (non-salvageable)
- Independent decisions should be made for each victim. Do not base triage decisions on the perception that too many REDs, not enough GREENs, etc.
- If borderline decisions are encountered, always triage to the most urgent priority (i.e., GREEN/YELLOW patient, tag YELLOW). Move as quickly as possible.
- Secondary Triage
  - Will be performed on all victims in the Treatment Area.
  - Utilize the Triage Tags (METTAGs or START tags) and attempt to assess for and complete all information required on the tag (as time permits). Affix the tag to the victim and remove ribbon. This is done after patients enter the Treatment Area, not at the initial triage site!
  - The Triage priority determined **in the Treatment Area** should be the priority used for transport.
- JumpSTART
  - Locate and remove all of the walking wounded into one location away from the incident, if possible. Assign someone to keep them together (i.e., PD, FD, or initially a bystander) and notify COMMAND of their location. **Do not forget these victims.** Someone should re-triage them as soon as possible.
  - Begin assessing all non-ambulatory victims where they lie, if possible. Each victim should be triaged in 60 seconds or less, preferably much less. NOTE: Remember the mnemonic **RPM (Respirations, Perfusion, Mental Status)**.
  - Assess **RESPIRATIONS**:
    - If patient is breathing continue to assesses RESPIRATORY RATE, If not, position airway
    - If position corrects breathing, tag RED
    - If patient remains apneic, check pulse
    - If no pulse, tag BLACK
    - If pulse, Give 5 rescue breaths. If no pulse, tag BLACK
    - If rescue breathes return respirations, tag RED
    - If patient remains apneic, tag BLACK
    - Assess RESPIRATORY RATE
    - If rate is < 15 or > 45, tag RED

        - If rate is 15 to 45 assess pulse
    - Assess PULSE (Perfusion)
        - If no pulse is palpable, tag RED
        - If pulse is present, assess AVPU (Mental Status)
    - Assess AVPU
        - If patient is unconscious, posturing in response to pain, tag RED
        - If patient is alert, responds to verbal or pain without posturing, tag YELLOW

- Special Considerations
    - The **first** assessment that produces a RED tag stops further assessment.
    - Only correction of life-threatening problems (i.e., airway obstruction or severe hemorrhage) should be managed during triage.
    - To help speed the process, Departments should consider utilizing colored (Red, Yellow, Green, Black) {Ribbons} to initially mark patient categories. Triage Tags are then attached and filled out once the patient reaches the Treatment Area.
    - When using Triage Tags, if the patient's condition or the triage priority changes, the bottom portion of the tag should be removed, leaving only the injury information. Add a new tag to identify the new triage priority, and if time permits, the reason for the change.

# JumpSTART Pediatric MCI Triage©



## RESPIRATORY DISTRESS

**EMT-BASIC**

- Evaluate breath sounds and;
  - Clear: Treat cause (i.e. metabolic disturbance, fever and hyperventilation).
  - Wheezes: Treat cause (i.e. pulmonary edema, FBAO, asthma or allergic reaction).
  - Rales: Treat cause (i.e. pulmonary edema or pneumonia)
  - Dimished or absent:
    - Unilateral: Treat cause (i.e. pneumothorax, hemothorax, pneumonia, asthma)
    - Bilateral: Treat cause (i.e. respiratory failure, or asthma)
    - Obtain {Pulse Oximeter and/or capnography} reading

### Pulmonary Edema

This section left intentionally blank

### Asthma/Emphysema/COPD

**EMT-BASIC**

- ♦If patient is currently prescribed **Albuterol** Inhaler but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the Emergency, the EMT-Basic may access the BLS Drug Bag for **Albuterol Inhaler** only under the direction of a MCP. The EMT-B may NOT administer **Albuterol** to a patient that is not currently prescribed.

- Transport immediately, unless an ALS unit is en route and has an ETA of less than 5 minutes

### Altered Level of Consciousness: Diabetic or Unknown Cause

**EMT-BASIC**

- If glucose <60, or there is strong suspicion of hypoglycemia despite {glucometer} readings
  - **{Oral Glucose}**
  - In a diabetic patient with an insulin pump and a glucose <60, disconnect patient from the pump or "suspend" the device if you are familiar with its operation.
  - Maintain normothermia.

***Oral Glucose Administration****: Oral glucose is indicated for any awake but disoriented patient with BS <60 or strong suspicion of hypoglycemia despite blood sugar readings. Oral glucose may also be administered carefully under the tongue or between the gum and cheek of an unresponsive patient who must be placed in the lateral recumbent position to promote drainage of secretions away from the airway.*

## DIABETIC EMERGENCIES: REFUSAL OF TREATMENT

**FIRST RESPONDER / EMT-BASIC**

Does not apply to Peds

## ALLERGIC REACTION/ANAPHYLAXIS

**FIRST RESPONDER**

- If severe allergic reaction, assist patient in **administering {Epi-Pe**n} if patient has his/her medication.

**EMT-BASIC**

- ♦If patient is currently prescribed Epi-Pen, but has outdated, damaged, or contaminated medication or does not have their own medication with them at the time of the emergency, the EMT-B may access the BLS Drug Bag for **Epi-Pen only on orders from a MCP**. The EMT-B may not administer Epi-Pen to a patient that is not currently prescribed Epi-Pen or epinephrine.
  - **♦Epi-Pen Jr – 0.15 mg for patients < 30 Kg (< 66 pounds)**
  - **♦Adult Epi-Pen – 0.3 mg for patient > 30 Kg (< 66 pounds)**
- If applicable, apply {ice pack} and/or constricting band.

- IF MEDICATION IS NOT AVAILABLE – Transport immediately, unless ALS unit is en route and has an ETA of less than 5 minutes. Contact MCP.
- If patient develops wheezing, assist them with taking their prescribed Proventil (Albuterol) metered dose inhaler.
    - ♦The patient is currently prescribed **Albuterol** Metered Dose Inhaler but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the Emergency, the EMT-Basic may access the BLS Drug Bag for **Albuterol** Metered Dose Inhaler only **under the direction of MCP**. The EMT-B may NOT administer **Albuterol** to a patient that is not currently prescribed.
- If applicable, apply {ice pack} and/or constricting band.

### Assisting with EpiPen:

When assisting patient with severe allergic reaction with his/her own prescribed EpiPen, do the following:

• Assure medication is prescribed for patient
• Check medication for expiration date.
• Contact MCP, if possible.
• Administer medication in mid-thigh and hold injector firmly against leg for at least ten (10) seconds to assure all medication is injected.
• Record patient reaction to medication and relay to MCP – be sure to have vital signs.

## SEIZURES

**FIRST RESPONDER**

- BVM and nasopharyngeal airway *during* seizure as needed.

**EMT-BASIC**

- If glucose <60, or there is strong suspicion of hypoglycemia despite {glucometer} readings
    - **Oral Glucose**
    - In a diabetic patient with an insulin pump and a glucose <60, disconnect patient from the pump or "suspend" the device if you are familiar with its operation.
    - Maintain normothermia.

*When obtaining history be sure to include the following:*

- *Description of seizures, areas of body involved, and duration*
- *Other known medical history; i.e. head injury recent fever/illness, possible toxicological agents*

## OVERDOSE

**FIRST RESPONDER**

- Manage Airway, gather appropriate history
- Thorough search for source substance

**EMT-BASIC**

- {Glucometer}
- Ingested Poison
    - Transport container and / or remaining medication to the hospital with the patient.

## HAZ-MAT

Contact receiving hospital immediately to allow for set up of decontamination equipment. If substance is determined, notify receiving facilty as early as possible.

- Remove contaminated clothing.
- Thoroughly wash with {Dawn}, paying special attention to skin folds and other areas where simple irrigation may not remove it.
- Do not transport a patient until gross decontamination is completed.
- Obtain permission from hospital personnel before entering hospital with a potentially contaminated patient and/or crew.
- Consider decontamination of vehicle prior to leaving.

**Field decontamination** must be initiated. An example of the often overlooked importance of decon is a patient soaked in diesel fuel.

The Centers for Disease Control (CDC) has made recommendations about antidotes for MCIs including the following:

- It is likely that a terrorist attack would utilize materials that could be stolen or purchased in the U.S., rather than importing weapons such as Nerve Gas. Improvised weapons could include cyanide stolen from industry, or organophosphates, which have essentially the same effect as Nerve Agents, yet can be purchased inexpensively. In spite of what is commonly believed, many people exposed to cyanide, organophosphates, or Nerve Gas are potentially salvageable.
- It is critically important that the antidotes be given as quickly as possible.
- Atropine is the most important drug to be given rapidly for organophosphate or nerve agent poisons, and often the patients need repeated doses of Atropine.
- CDC recommends that suspected victims of cyanide poisoning in MCIs should be treated with Oxygen,.
- EMS agencies in major cities should be prepared to deal with at least 500 - 1,000 casualties from either cyanide or organophosphates/Nerve Agents, and thus should deploy antidotes on prehospital apparatus.

### Guidelines for Dealing with Exposure to Hazardous Drugs

**Hazardous Drug: Exposures and Spills**

*From the Oncology Nursing Society Chemotherapy and Biotherapy*
*Guidelines and Recommendations for Practice (2ed) 2005*

Types of Patients that EMS personnel would have a potential exposure to a hazardous drug:

- Patients who have continuous IV chemotherapy at home (should have a homecare agency or physician's office providing daily check-up, spill kit, and disposal of contaminated items)
- Patients who have just had IV chemotherapy at the clinic or hospital and their body fluids could have traces of hazardous drug for 48 hours
- Patients who are taking oral chemotherapy drugs

- Hazardous refers to drugs that require special handling because of potential health risks. These risks are a result of the inherent toxicities of the drugs (National Institute for Occupational Safety and Health [**NIOSH**], 2004.)
  - http://www.cdc.gov/niosh/docs/2004-165/2004-165d.html has a complete list of drugs.
  - Hazardous drugs meet one or more of the following criteria:
  - carcinogenicity – can cause cancer
  - teratogenicity – can cause birth defects
  - reproductive toxicity – such as infertility, spontaneous abortion
  - organ toxicity – skin rash, elevated liver enzymes, hair loss
  - genotoxicity – damage to genes (chromosomes)
  - drugs similar in structure or toxicity to hazardous drugs
- According to **OSHA**, **1995**, safe levels of occupational exposure to hazardous agents cannot be determined, and no reliable method of monitoring exposure exists. Therefore, it is imperative that those

who work with hazardous drugs adhere to practices designed to minimize occupational exposure. Potential routes of exposure include:
  - absorption through skin or mucous membranes
  - injection by needle stick or contaminated sharps
  - inhalation of drug aerosols, dust, or droplets
  - ingestion through contaminated food, tobacco products, beverage, or other hand-to-mouth behavior (NIOSH, 2004)
- PPE (personal protective equipment) should be worn whenever there is a risk of hazardous drug being released into the environment. For EMS personnel, the situations might include:
  - Handling leakage from tubing, syringe, and connection sites.
  - Disposing of hazardous drugs and items contaminated by hazardous drugs.
  - Handling the body fluids of a patient who received hazardous drugs in the past 48 hours.
  - Cleaning hazardous drug spills.
  - Additional situations apply to healthcare workers who mix and administer hazardous drugs.
- Guidelines for PPE:
  - Gloves: disposable, powder-free, latex or nitrile. Double gloves are recommended. Change gloves immediately after each use, if a tear, puncture, or drug spill occurs; or after 30 minutes of wear (NIOSH, 2004).
  - Gowns: disposable, lint-free, low-permeability fabric. Solid front, long-sleeves, tight cuffs, back closure. Inner glove cuffs should be worn under the gown cuffs and the outer glove cuffs should extend over the gown cuffs.
  - Respirators: Wear a NIOSH-approved respirator mask when cleaning hazardous drug spills. Surgical masks do not provide adequate protection.
  - Eye and face protection: wear a face shield whenever there is a possibility of splashing.
- Body Fluids – use universal (standard) precautions when handling the blood, emesis, or excreta of a patient who has received IV or oral chemotherapy within the previous 48 hours.
- Skin exposure: Remove contaminated garments, place in leakproof plastic bag, and immediately wash contaminated skin with soap and water. Rinse thoroughly. Report to ED for examination and documentation.
- Eye exposure: immediately flush eye with saline solution or water for at least 15 minutes. Report to ED for examination and documentation.
- Contaminated Linen/Clothing – place linens in a plastic bag. Wash items twice in hot water, separately from other items. Hospital linens are placed in a bag labeled “contaminated linen” .
- Spills, contaminated equipment: DO NOT touch the spill with bare hands. Post a sign or warn others to prevent spread of contamination and others from being exposed. Wipe up liquids with an absorbent pad or spill-control pillow. Clean the spill area from most contaminated to least contaminated three times, using a detergent solution followed by clean water. Rinse thoroughly.
- Disposal of hazardous drugs and materials contaminated with hazardous drugs - place items in a sealable, leakproof plastic bag or rigid cytoxic waste container marked with a brightly-colored label that cites the hazardous nature of the contents. Dispose of needles and syringes intact – DO NOT break or recap needles or crush syringes.
- Report and document spills as required (consider EPA, OSHA, and Regional/local HazMat team if more than 5 mL)

Who should you call for more help? (the patient should have these phone numbers)
- the homecare agency that is supplying/monitoring the infusion
- the physician who ordered the infusion (usually a medical oncologist)
- ask for pharmacy support from a hospital, if necessary (there should be a label on the IV bag with the name of the drug and the dosage/concentration)
- Consult with the Regional HazMat team (or local HazMat team for areas outside the Dayton area).

## Hazmat: Cyanide

**FIRST RESPONDER**

- In any case of known or strongly suspected cyanide intoxication, utilize the following:
- **In cases of smoke inhaltion where cyanide is a likely component of the smoke:**
  - Evaluate ABCs, treat accordingly
  - If in cardiac arrest {AED}

**EMT-BASIC**

- {Intubation},

### Hazmat: Organophosphate or Nerve Agent Poisoning (MCI Only)

- Any case of known or strong suspected organophosphate or carbamate (i.e., insecticides such as parathion or malathion); or nerve agent (i.e., Tabun, Sarin, Soman, VX, etc.) exposure, symptoms may include miosis (pinpoint pupils), rhinorrhea (runny nose), copious secretions, localized sweating, nausea, vomiting, weakness, seizures, dyspnea, loss of consciousness, apnea, diarrhea, flaccid paralysis and cardiac arrest.
- Patients with severe poisoning may or may not be bradycardic.
- ♦**Atropine 1 - 2 mg** by **Mark I** auto-injector every 3-5 minutes, as available until lungs are clear to auscultation.
  - Atropine **1 - 2 mg** is administered by Autoinjector, **2 mg** for adults and children weighing over 90 pounds. .
  - Children weighing 40 - 90 pounds should be given the Atropen **1.0 mg** autoinjector.
  - Children weighing less than 40 pounds should be given the Atropen **0.5 mg** autoinjector.
- ♦**Atropine** should be followed with ♦**Pralidoxime (2-PAM), 600 mg IM which is Mark I autoinjector**
- ♦Treat seizures with **Diazepam (CANA) Autoinjector**.
- **In a MCI, contact 866-599-LERP and request a CHEMPACK, and contact 937-333-USAR and request additional Nerve Agent Antidotes**

In the event of a large MCI involving WMD such as Cyanide or Nerve Agents, contact MCP, and request an "Antidote free" order, allowing you to treat all of the patients on the scene with the appropriate antidote. Calling for separate orders for each individual patient is utterly impractical. Multi-dose vials or Atropine have been added to the Drug Bag. However, Squads must carry syringes and needles for administering the Atropine.

Departments are authorized to {stockpile large quantities of Atropine and supplies (syringes, needles, etc.), as well as 2-PAM, if desired on selected units. The stockpiles can also be in the form of auto-injectors, such as the Mark I kits. Auto-injectors can be quite expensive, but enough atropine in multi-dose vials for an initial dose of Atropine for between 200 and 400 patients, with syringes, needles and alcohol preps, for example, is very inexpensive}.

## Hazmat: Biologicals

This section left intentionally blank

## Hazmat: Pepper Spray

**FIRST RESPONDER / EMT-BASIC**

- **{Sudecon Wipes}** can assist in the decontamination of patients or public safety personnel who have been sprayed with Pepper Spray.

## ABDOMINAL PAIN

**FIRST RESPONDER / EMT-BASIC**

- Pregnant patients of any age $\geq$ 20 weeks gestation should be taken to maternity department; < 20 weeks should go to the emergency department.

## FEVER

**FIRST RESPONDER / EMT-BASIC**

- **Transport all infants < 2 months of age with a history or reported temperature of > 38.0 C. (100.4 F. ) or < 35.6 C. (96.0 F.).**

## NEWBORN CARE & RESUSCITATION

**General Considerations**

- As soon as the baby is born, dry, warm, maintain airway.
  - Place in the sniffing position (1" towel under shoulders).
  - Suction infant until all secretions are clear of airway.
- If the newborn delivers with meconium-stained amniotic fluid and is vigorous, with strong respirations, good muscle tone, and heart rate > 100 BPM, suction the mouth and nose in the same way as for infants with clear fluid.
- If the newborn delivers with meconium-stained amniotic fluid and is depressed, has poor respiratory effort, decreased muscle tone, or heart rate < 100 BPM, suction *before* taking other resuscitative steps.
- Mechanical suction may be used on infants, but only if the suction pressure does not exceed 100 mmHg or 136 cm $H_2O$. Bulb suctioning is preferred.
- If drying and suctioning has not provided enough tactile stimulation, try flicking the infant's feet and/or rubbing the infant's back. If this stimulation does not improve the infant's breathing, then BVM may be necessary.
- Avoid direct application of cool oxygen to infant's facial area as may cause respiratory depression due to a strong mammalian dive reflex immediately after birth.
- Use length/weight-based resuscitation tape (i.e., Broselow Tape).

**Specific Care**

**FIRST RESPONDER / EMT-BASIC**

- After delivery of the infant, assess the airway and breathing while drying and positioning head down.
- If HR <100, BVM ventilation is necessary to increase heart rate.
  - Despite adequate ventilation, if HR <60 begin CPR.
  - Ventilation is also indicated for apnea and/or persistent central cyanosis.
  - Ventilate at 40-60/min.
  - Compress at 120/min. (Compression to Ventilation ratio of 3:1)
- If spontaneous HR absent or <60 despite adequate ventilation and stimulation:

### Delivery Complications

**FIRST RESPONDER / EMT-BASIC**

- Place mother on $O_2$ by NRB.
- **Cord around baby's Neck**:
  - As baby's head passes out of the vaginal opening, feel for the cord.
  - Initially try to slip cord over baby's head.
  - If too tight, clamp cord in two places and cut between clamps.
- **Breech Delivery**:
  - When the appendage(s) or buttocks first become visible, transport patient *immediately* to the nearest facility.
  - If the head is caught, support the body and insert two fingers forming a "V" around the mouth and nose.
- **Excessive Bleeding**:
  - Treat for shock
  - Post delivery, massage uterus firmly and put baby to mother's breast.
- **Prolapsed Cord**:

- When the umbilical cord is exposed, prior to delivery, check cord for pulse.
- Transport *immediately* with hips elevated and a moist dressing around cord.
- Insert two fingers to elevate presenting part away from the cord, distribute pressure evenly if/when occiput presents.
- Do not attempt to reinsert cord.

## PSYCHIATRIC EMERGENCIES

**FIRST RESPONDER / EMT-BASIC**

- For violent or non-compliant patients, consider staging until police have assured scene safety
- Have patient searched for weapons
- Obtain previous mental health history:
  - Suicidal or violent history
  - Previous psychiatric hospitalization, when and where
  - Location that patient receives mental health care
  - Medications
  - Recreational drugs/alcohol – amount, names
- Do not judge, just treat.
- Transport all patients who are not making rational decisions and who are a threat to themselves or others for medical evaluation

Threat of suicide, overdose of medication, drugs or alcohol and/or threats to the health and well being of others are not considered rational.

### Violent Patients

- Determine patient incompetence. A patient is incompetent if they are:
  - Suicidal
  - Child under 18 with urgent need for medical care
  - Confused
  - Developmentally or mentally disabled and injured/ill
  - Intoxicated and injured/ill
  - Physically/verbally hostile
  - Unconscious
- Consider medical causes for patient's condition
- Consider staging until police have assured scene safety
- Have patient searched for weapons
- Do not transport restrained patients in a prone position with the hands and feet behind the back or sandwiched between backboards or other items.
- Recheck a restrained patient's ability to breathe often
- Have the ability to remove/cut restraints if the patient vomits or develops respiratory distress
- Explain the need for restraint to the patient
- Document the restraints used and on which limbs and your justification for the restraints thoroughly

### Child Abuse/Neglect

- Report all alleged or suspected child abuse or neglect to the appropriate agency. Ohio Revised Code 2151.421 requires providers to report incidents of abuse to their county's public children services agency or a municipal or county peace officer. Hospitals have copies of the EMS Social Services Referral Form, supplied by GDAHA, for documenting cases of abuse. Use of this form can help providers in providing information

needed to their reporting agency, as well as provide for a continuum of care with hospital social services departments.

- Simply notifying hospital personnel about concerns of maltreatment do not meet mandated EMS reporting responsibilities. If any maltreatment is suspected, the EMS provider MUST, by law, notify the local public children services agency or law enforcement as soon as possible.

**Public Children Services Agency**

| County | Phone | After Hours Phone |
|---|---|---|
| Butler | (513) 887-4055 | (513) 868-0888 |
| Champaign | (937) 652-1022 | |
| Clark | (937) 327-1748 | (937) 324-8687 |
| Darke | (937) 548-7129 | (937) 548-8908 |
| Greene | (937) 562-6600 | (937) 372-4357 |
| Miami | (937) 335-4103 | |
| Montgomery | (937) 276-6121 | |
| Preble | (937) 456-1135 | |
| Shelby | (937) 498-7213 | |
| Warren | (513) 695-1546 | (513) 695-1600 |

## Safe Harbor

- Voluntary Separation of Newborn Infant
  - Safe Harbor (Ohio House Bill 660) is designed to allow desperate parents to separate from their babies confidentially to hospitals, EMS, or law enforcement agencies.
  - Stipulations of separation:
    - Infant must be 3 days old or less
    - No signs of abuse or neglect
  - History which should be obtained:
    - Date and time of birth
    - Any family medical history
    - Information regarding prenatal care
    - Information concerning the birth.
  - Information should be obtained in a manner, which will not lead to the revealing of the identity of the parents. Information collected should be based on patient (infant) care needs and assure confidentiality.
  - Transport the infant to the hospital.

# Abbreviations

Some abbreviations are case sensitive while others are content sensitive. Any words that can be readily abbreviated using a period have been left out of this list.

| A | A |
|---|---|
| Abdomen | ABD |
| abdominal aortic aneurysm | AAA |
| Abortion | Ab |
| above the elbow | AE |
| Acetaminophen | APAP |
| acquired immune def syndrome | AIDS |
| activities of daily living | ADL |
| acute coronary syndrome | ACS |
| acute myocardial infarction | AMI |
| acute pulmonary edema | APE |
| acute renal failure | ARF |
| acute respiratory distress syndrome | ARDS |
| acute respiratory distress | ARD |
| administer rectally | p.r. |
| advanced cardiac life support | ACLS |
| advanced directive | AD |
| advanced life support | ALS |
| After | p |
| Afternoon | P.M. |
| against medical advice | AMA |
| AIDS related complex | ARC |
| Airborne | A/B |
| Alcohol | ETOH |
| alert & oriented | A&O |
| alert/verbal/pain/unresponsive | AVPU |
| all terrain vehicle | ATV |
| antecubital fossa | AC |
| aortic valve replacement | AVR |
| Approximately | (~) |
| arterial blood gas | ABG |
| arteriosclerotic heart disease | ASHD |
| as desired | ad lib |
| as necessary or needed | Prn |
| as soon as possible | ASAP |
| Aspirin | ASA |
| assessment & plan | A&P or A/P |
| At | @ |
| at bedtime | h.s. |
| atrial fibrillation | a-fib |
| atrial flutter | AF |
| atrial tachycardia | AT |
| Atrioventricular | AV |
| atrioventricular node | AV node |
| auscultation & percussion | A&P |
| automatic external defibrillator | AED |
| automatic transport ventilator | ATV |
| **B** | **B** |
| backboard | BB |
| bag-valve-mask | BVM |
| basic life support | BLS |
| beats / breaths per minute | bpm |
| Before | a |
| below the elbow | BE |
| below the knee | BK |
| below the knee amputation | BKA |
| birth control (pills) | BC(P) |
| births, number of | para |
| Black | B |
| blood alcohol concentration | BAC |
| blood glucose | bG |
| blood pressure | BP |
| blood sugar | BS |
| body substance isolation | BSI |
| body surface area | BSA |
| both ears | AU |
| both eyes | OU |
| bowel movement | BM |
| Bradycardia | brady |
| breath or bowel sounds | BS |
| by mouth | PO |
| by or through | per |
| by way of | via |
| **C** | **C** |
| Calcium | $Ca^{++}$ |
| Canceled | CANX |
| Cancer | CA |
| capillary refill time | CRT |
| carbon dioxide | $CO_2$ |
| carbon monoxide | CO |
| cardiac care unit | CCU |
| cardiac output | co |
| cardiopulmonary resuscitation | CPR |
| carotid sinus massage | CSM |
| Centimeter | cm. |
| central nervous system | CNS |
| central venous pressure | CVP |
| Cerebral palsy | CP |
| cerebrospinal fluid | CSF |
| cerebrovascular accident | CVA |
| Cervical (1,2,3,4,5,6,7) | C |
| Cervical immobilization device | CID |
| Cervical spine | C-spine |
| Change | D |
| chest pain | CP |
| chest x-ray | CXR |
| chief complaint | CC |
| Chloride | $Cl^-$ |
| Chronic obstructive lung disease | COLD |

| | |
|---|---|
| chronic obstructive pulmonary disease | COPD |
| chronic renal failure | CRF |
| circulatory/sensory/motor | CSM |
| clear to auscultation | CTA |
| complaining of | c/o |
| complete blood count | CBC |
| computerized tomography | CAT/CT |
| congestive heart failure | CHF |
| conscious alert & oriented | CAO |
| consistent with | C/w |
| coronary artery bypass graft | CABG |
| coronary artery disease | CAD |
| cubic centimeter | cc. |
| **D** | **D** |
| daily | q.d. |
| date of birth | DOB |
| day | D |
| dead on arrival | DOA |
| decibel(s) | dB |
| decreasing | ↓ |
| deep tendon reflex | DTR |
| degree(s) | ° |
| delirium tremens | DT's |
| dextrose in water - 25% | D25 |
| dextrose in water - 5% | D5W |
| dextrose in water - 50% | D50 |
| diabetes insipidus | DI |
| diabetes mellitus | DM |
| diabetic ketoacidosis | DKA |
| diagnosis | Dx |
| diastolic blood pressure | DBP |
| dilation & curettage | D&C |
| discontinue | d/c |
| disease | DZ |
| do not resuscitate | DNR |
| dressing | dsg. |
| drops | gtt(s) |
| dry sterile dressing | DSD |
| due to | d/t |
| dyspnea on exertion | DOE |
| **E** | **E** |
| ear, nose, & throat | ENT |
| ectopic pregnancy | EP |
| electrocardiogram | ECG / EKG |
| electroencephalogram | EEG |
| emergency department | ED / ER |
| emergency department physician | EDP |
| emergency medical services | EMS |
| endotracheal (tube) | ET(T) |
| epinephrine | EPI |
| equal | (=) |
| esophageal detection device | EDD |
| esophageal gastric tube airway | EGTA |
| esophageal obturator airway | EOA |
| Estimated | Est. |
| estimated blood loss | EBL |
| estimated date of confinement | EDC |
| estimated date of delivery | EDD |
| estimated time of arrival | ETA |
| Evaluation | eval. |
| Every | Q |
| every evening | q.p.m. |
| every morning | q.a.m. |
| every other day | q.o.d. |
| external jugular vein | EJV |
| extraocular movement | EOM |
| **F** | **F** |
| Fahrenheit | F |
| family history | FH |
| fetal heart rate | FHR |
| fever of unknown origin | FOU |
| flow restricted $O_2$ powered ventilation device | FROPVD |
| fluid | Fld |
| follow-up | f/u |
| foot / feet | Ft. |
| for example | e.g. |
| foreign body | FB |
| four times a day | q.i.d. |
| fracture | Fx |
| french | Fr. |
| front to back | AP |
| full range of motion | FROM |
| full term normal delivery | FTND |
| full weight bearing | FWB |
| funny looking beats (ECG) | FLB's |
| **G** | **G** |
| gallbladder | GB |
| gastrointestinal | GI |
| gauge | Ga |
| genitourinary | GU |
| Glasgow coma score / scale | GCS |
| grain | Gr |
| gram | Gm |
| grand mal or grandmother | GM |
| grandfather | GF |
| grandmother or grand mal | GM |
| greater than | > |
| gun shot wound | GSW |
| gynecology | GYN |
| **H** | **H** |
| hazardous materials | HazMat |
| head, ears, eyes, nose, throat | HEENT |
| headache | H/a |
| headblocks | HB's |
| health related facility | HRF |
| heart block | HB |

| | |
|---|---|
| heart rate | HR |
| heart sounds | HS |
| head of bed | HOB |
| hematocrit | Hct. |
| hemoglobin | Hgb. |
| hepatitis A(BC) virus | HA(BC)V |
| history | Hx |
| history & physical | H&P |
| history of | h/o |
| history of present illness | HPI |
| hour | H or hr. |
| human immunodeficiency virus | HIV |
| hydrochlorothiazide | HCTZ |
| hydrogen ion concentration | pH |
| hypertension | HTN |
| **I** | **I** |
| identity or identification | ID |
| if necessary | Sos |
| immediately | STAT |
| increasing | ↑ |
| inferior | inf. |
| insulin dependent diabetes | IDDM |
| intake & output | I&O |
| intensive care unit | ICU |
| intercostal space | ICS |
| intermittent positive pressure breathing | IPPB |
| intraaortic balloon pump | IABP |
| intracranial pressure | ICP |
| intramuscular | IM |
| Intranasal | IN |
| intraosseous | IO |
| intravenous | IV |
| intravenous drip (or IVPB) | IVD |
| intravenous piggyback | IVPB |
| intravenous push | IVP |
| iron | Fe |
| **J** | **J** |
| joule | J |
| jugular venous distension | JVD |
| junctional rhythm | JR |
| **K** | **K** |
| keep vein open | KVO |
| Kendrick extrication device | KED |
| Kendrick traction device | KTD |
| kilogram | kg. |
| kilometer | km. |
| kilometers per hour | Kph |
| knee, above the | AK |
| knee, below the | BK |
| **L** | **L** |
| L lower extremity | LLE |
| L lower lobe (lung) | LLL |
| L upper extremity | LUE |
| L upper lobe (lung) | LUL |

| | |
|---|---|
| labor & delivery | L&D |
| large | lg. |
| laryngotracheal mask airway | LMA |
| last menstrual period | LMP |
| last normal menstrual period | LNMP |
| law enforcement | LE |
| lead | Pb |
| leading to or progressing | → |
| left | (L) |
| left bundle branch block | LBBB |
| left ear (auris sinistra) | AS |
| left eye (oculus sinister) | OS |
| left heart failure | LHF |
| left lower quadrant | LLQ |
| left upper quadrant | LUQ |
| less than | < |
| licensed practical nurse | LPN |
| lidocaine | LIDO |
| liters per minute | LPM |
| litre / liter | L. |
| liver, kidney & spleen | LK&S |
| longboard | LB |
| loss or limit of motion | LOM |
| loss or level of consciousness | LOC |
| low back pain | LBP |
| lower back | LB |
| lower extremity | LE |
| lumbar vertebrae (1,2,3,4,5) | L |
| lung sounds | LS |
| **M** | **M** |
| magnesium | Mg. |
| magnetic resonance imaging | MRI |
| MAST | PASG |
| mean arterial pressure | MAP |
| mechanism of injury | MOI |
| medial | med. |
| medical antishock trousers | MAST |
| medical control physician | MCP |
| medical doctor | MD |
| medications | Meds |
| mercury | Hg. |
| meter | m. |
| metered dose inhaler | MDI |
| methicillin resistant staphylococcus aureus | MRSA |
| microgram | mcg. |
| mid-clavicular line | MCL |
| miles per hour | Mph |
| milk of magnesia | MOM |
| milliequivalent | mEq |
| milligram | mg. |
| milligrams per deciliter | mg/DL |
| milliliter (same as cc.) | ml. |
| millimeter | Mm |
| millimeters of mercury | mmHg |

| | |
|---|---|
| minute | min. |
| mitral valve prolapse | MVP |
| month(s) | mo(s). |
| morning | AM |
| motor vehicle accident | MVA |
| motor vehicle collision | MVC |
| multiple casualty incident | MCI |
| multiple sclerosis | MS |
| musculoskeletal | MS |
| myocardial infarction | MI |
| **N** | **N** |
| nasal cannula | NC |
| nasogastric (tube) | NG(T) |
| nasopharyngeal airway | NPA |
| nasotracheal | NT |
| nausea & vomiting | N&V |
| nausea, vomiting, & diarrhea | NVD |
| negative / no / absent | (-) |
| neuro-muscular blockade (RSI) | NMB |
| newborn | NB |
| nitroglycerine | NTG |
| nitroprusside | NTP |
| no apparent distress | NAD |
| no known drug allergies | NKDA |
| non weight bearing | NWB |
| non-insulin dependent diabetes | NIDDM |
| non-rebreather mask | NRBM |
| nonsteroidal anti-inflammatory | NSAID |
| normal saline | NS |
| normal saline lock | NSL |
| normal sinus rhythm | NSR |
| not applicable / available | n/a |
| nothing by mouth | NPO |
| number | # |
| nurse practitioner | NP |
| **O** | **O** |
| O2 % of arterial blood | SpO2 |
| obstetrics | OB |
| of each | Aa |
| ointment | Ung |
| once a day | Od |
| operating room / suite | OR |
| orogastric (tube) | OG(T) |
| oropharyngeal airway | OPA |
| ounce | oz. |
| over the counter | OTC |
| overdose | OD |
| oxygen | $O_2$ |
| **P** | **P** |
| packs per day | p/d |
| pain | pn. |
| pair | pr. |
| paroxysmal atrial tachycardia | PAT |
| paroxysmal nocturnal dyspnea | PND |
| paroxysmal SVT | PSVT |
| partial pressure of $CO_2$ | $PCO_2$ |
| partial pressure of $O_2$ | $PO_2$ |
| partial rebreather mask | PRBM |
| partial weight bearing | PWB |
| parts per million | Ppm |
| past medical history | PMH |
| past medical illness | PMI |
| patient | Pt. |
| peak expiratory flow | PEF |
| pediatric intensive care unit | PICU |
| pelvic inflammatory disease | PID |
| penicillin | PCN |
| peptic ulcer disease | PUD |
| per | / |
| percent | % |
| percutaneous coronary intervention | PCI |
| peripheral inserted central cath | PICC |
| peripheral vascular resistance | PVR |
| pharyngo tracheal lumen airway | PtL |
| physical exam | PE |
| physician on scene | POS |
| physician's assistant | PA |
| physician's desk reference | PDR |
| police (department) | PD |
| positive / yes / present | (+) |
| positive end expiratory pressure | PEEP |
| positive or negative | (+/-) |
| post-operative diagnosis | PODx |
| potassium | $K^+$ |
| pound | lb. |
| pounds per square inch | Psi |
| pregnancies, number of | Gravida |
| premature rupture of membranes | PROM |
| premature atrial contraction | PAC |
| premature junctional complex | PJC |
| premature nodal contraction | PND |
| premature ventricular complex | PVC |
| premenstrual syndrome | PMS |
| primary care physician | PCP |
| primary / $1^{st}$ degree | 1° |
| prior to my arrival | PTA |
| pulmonary edema / embolism | PE |
| pulmonary function test | PFT |
| pulse | P= |
| pulse oximetry | $POX/SPO_2$ |
| pulse rate | PR |
| pulse, motor, sensation | PMS |
| pulseless electrical activity | PEA |
| pupils (=) & reactive to light | PERL |
| pupils (=) round reactive to light & accomodation | PERRLA |
| **Q** | **Q** |
| QRS complex | QRS |

| | |
|---|---|
| quart | Qt. |
| questionable / possible | ? |
| **R** | **R** |
| R bundle branch block | RBBB |
| R lower extremity | RLE |
| R lower lobe (lung) | RLL |
| R middle lobe (lung) | RML |
| R upper extremity | RUE |
| R upper lobe (lung) | RUL |
| range of motion | ROM |
| rapid sequence induction | RSI |
| Rate | R |
| red blood cell / count | RBC |
| red lights & siren | RLS |
| Regarding | re: |
| registered nurse | RN |
| respiratory rate | RR |
| respiratory syncytial virus | RSV |
| returned to service | RTS |
| rheumatic heart disease | RHD |
| Right | (R) |
| right ear (auris dextra) | AD |
| right eye (oculus dexter) | OD |
| right heart failure | RHF |
| right lower quadrant | RLQ |
| right upper quadrant | RUQ |
| rule out | r/o |
| **S** | **S** |
| sacral vertebrae (1-5) | S |
| secondary / second degree | 2° |
| sexually transmitted disease | STD |
| shortness of breath | SOB |
| signs & symptoms | S&S |
| sino-atrial | SA |
| sinus bradycardia | SB |
| sinus tachycardia | ST |
| small | sm. |
| small volume nebulizer | SVN |
| sodium | $Na^+$ |
| sodium bicarbonate | $NaHCO_3$ |
| sodium chloride | NaCl |
| solution | soln. |
| spinal cord | sp.cd. |
| stable angina | SA |
| standard | std. |
| standard operating procedure | SOP |
| standing orders | SO |
| stand-by | S/B |
| stroke volume | SV |
| subcutaneous | SC or SQ |
| sublingual | SL |
| sudden death | SD |
| sudden infant death syndrome | SIDS |
| supraventricular tachycardia | SVT |

| | |
|---|---|
| surgical intensive care unit | SICU |
| symmetry | sym. |
| symptoms | Sx |
| systemic vascular resistant | SVR |
| systolic blood pressure | SBP |
| **T** | **T** |
| tablespoon | Tbsp. |
| tachycardia | tach(y) |
| teaspoon | Tsp. |
| telephone order | TO |
| temperature | T |
| temperature, pulse, & respiration | TPR |
| temporomandibular joint | TMJ |
| tender loving care | TLC |
| therefore / in conclusion | \ |
| thoracic vertebrae (1-12) | T |
| three times a day | t.i.d. |
| tibia | Tib |
| tidal volume | TV |
| times | × |
| to keep open | TKO |
| tourniquet | TQ |
| tracheal deviation | TD |
| traction or transport | Tx |
| transcutaneous pacing | TCP |
| transfer | x-fer |
| transient ischemic attack | TIA |
| transplant | Txp |
| transport or traction | Tx |
| treatment / medication | Rx |
| tuberculosis | TB |
| turned over to | TOT |
| twice a day | b.i.d. |
| Tylenol™ | APAP |
| tympanic membrane | TM |
| **U** | **U** |
| ultra-high frequency | UHF |
| umbilical vein | UV |
| unconscious | unc. |
| unequal / not equal | |
| unknown | unk. or u/k |
| unstable angina | USA |
| upper & lower | U+L |
| upper extremity | UE |
| upper respirator infection | URI |
| urinary tract infection | UTI |
| US pharmacopeia | USP |
| **V** | **V** |
| vancomycin resistant enterococcus | VRE |
| vein | V |
| ventricular fibrillation | VF/ VFIB |
| ventricular tachycardia | VT/ VTACH |
| verbal order | VO |

| | |
|---|---|
| versus | vs. |
| very high frequency | VHF |
| vital signs | VS |
| vital signs stable | VSS |
| **W** | **W** |
| warm & dry | w/d |
| water | $H_2O$ |
| watt/seconds (joules) | w/s |
| week | wk. |
| weight | wt. |
| white | W |
| white blood count | WBC |

| | |
|---|---|
| with | c |
| within normal limits | WNL |
| Without | s or w/o |
| Wolff Parkinson-White | WPW |
| work of breathing | WOB |
| **X** | **X** |
| x-ray | XR |
| **Y** | **Y** |
| year | yr. |
| years old | y/o - y.o |
| **Z** | **Z** |
| | |

**Greater Miami Valley EMS Council & Ohio EMS Region 2**
**EMS CHECKLIST: SUSPECTED CARDIAC ARREST CHEST PAIN OR EQUIVALENTS**

**Patient Name:_____ EMS Agency/Unit:_____**

**Date:_____ Run #_____ Time of Pain Onset:_____**

**(Y)es or (N)o**

**_____ 1. HISTORY & PHYSICAL EXAM compatible with Acute MI? Pain Scale (1-10):_____**

**_____ 2. INITIAL THERAPY per Standing Orders?**
**Oxygen, Aspirin, Nitro, IV, possibly Morphine. Check for Aspirin Allergy and Viagra use. Monitor cardiac rhythm.**

**_____ 3. 12-LEAD EKG CHANGES compatible with Acute MI?**
Use 12-Lead liberally in women, diabetics and the elderly. (N/A if no 12-Lead available).

**_____ 4. TRANSPORT as rapidly as is possible and safe.**

**_____ 5. If patient has 12-Lead EKG evidence of Acute MI, follow destination consideration regarding transport to an Interventional Facility, especially if patient has contraindication to thrombolytics, pulmonary edema or signs of shock.**

Presently, those facilities include DHH, GSH, GVH, KMH, MVH, Springfield Mercy & Springfield Community.

**_____ 6. CONTRAINDICATIONS: Circle any Contraindications to Thrombolytic Therapy (i.e., tPA) that your patient has:**

| **Absolute & Relative Contraindications to Thrombolytic Therapy (Adapted from ACLS)** | | |
|---|---|---|
| **Time Frame** | **Absolute Contraindications** | **Relative Contraindications** |
| **Right Now** | ___Suspected aortic dissection<br>___Known intracranial neoplasm<br>___Pregnancy (certain lytic agents) | ___Sever, uncontrolled hypertension<br>___(BP > 200/120)<br>___Current anticoagulant use<br>___Prolonged (>10 minutes) and potentially traumatic CPR |
| **Past 2 – 4 Weeks** | ___Active internal bleeding (except menses) | ___Trauma, especially head trauma<br>___Major surgery<br>___Noncompressible vascular punctures<br>___Internal bleeding |
| **Past Year** | ___Non-hemorrhagic stroke or TIA<br>___Prior exposure to specific lytic agent | ___Intracerebral pathology |
| **Ever** | ___Hemorrhagic stroke<br>___Prior allergic reaction to streptokinase | ___Known bleeding disorder |

**_____ 7. NOTIFY the hospital of the transport of all possible MI patients, with or without 12-Lead EKG.**
- **_____ a) Give verbal report**
- **_____ b) Include evaluation of EKG.**
  (Label copy of EKG Strip/12-Lead EKG with patient name and leave at hospital)
- **_____ c) Complete this Checklist**

**_____ 8. If patient has 12-Lead EKG evidence of Acute MI, follow destination considerations regarding**
- **_____ a) Complete Cardiac Arrest Checklist**
- **_____ b) Advise MCP ASAP that you are transporting a CARDIAC ALERT patient.**
- **_____ c) Attempt to limit scene time 10 minutes or less**
- **_____ d) Follow appropriate Treatment Considerations for Specific AMI types.**

Revised: 10-2006

**Greater Miami Valley EMS Council**
**PREHOSPITAL SUSPECTED CVA/TIA CHECKLIST**

**Patient Name:_____ EMS Agency/Unit:_____**

**Date:_____ Run #:_____ Time Onset of S/S:_____**

**(Y)es or (N)o**

**_____ 1. HISTORY compatible with CVA?**

**_____ 2. PHYSICAL EXAM compatible with acute CVA?**

**Cincinnati Prehospital Stroke Scale:**

Facial Droop (pt. shows teeth or smiles)
_____ Normal _____ Abnormal

Arm Drift (pt. closes eyes and holds both arms straight out for about 10 seconds):
_____ Normal _____ Abnormal

Abnormal Speech (have pt. say "you can't teach an old dog new tricks"):
_____ Normal _____ Abnormal

**Glascow Coma Component Scores** (Scores of 8 or less have poor prognosis and need ALS ASAP).
_____ EYE OPENING (1 – 4) _____ **Total GCS** (3 – 15)
_____ BEST VERBAL RESPONSE (1 – 5)
_____ BEST MOTOR RESPONSE (1 – 6)

**_____ 3. Time of onset of signs and symptoms: _____**

**_____ 4. INITIAL THERAPY per Standing Orders?**
**Oxygen, Blood Sugar, EKG Monitor, IV or Saline Lock.**
**Intubate if indicated. Hyperventilation if signs of herniation.**

**_____ 5. TRANSPORT WITHOUT DELAY to most appropriate hospital. NOTIFY hospital ASAP.**
Contact MCP for advice on transport to facility offering thrombolytics for stroke ***if*** you can arrive within **two hours** of onset of symptoms. Consider air transport for Stroke patients with long transport times.

**_____ 6. CONTRAINDICATIONS to Thrombolytic Therapy (i.e. tPA)?**

**ABSOLUTE** (Check only those with a positive history.)
**_____ a)** Active internal bleeding.
**_____ b)** Hx of CVA in past three months.
**_____ c)** Spinal or intracranial surgery or trauma within three months.
**_____ d)** Intracranial neoplasm, AV malformation or aneurysm.
**_____ e)** Known bleeding disorder
**_____ f)** Pregnancy (certain lytic agents)
**_____ g)** Seizure at time of onset of symptoms.

**Relative**
**_____ a)** Abnormal blood glucose (< 60 or > 400 mg/dl).
**_____ b)** Recent major surgery or trauma ( < 2 months).
**_____ c)** BP > 200 / >120.
**_____ d)** Active peptic ulcer or guaiac positive stools (GI or GU bleeding).
**_____ e)** Recent prolonged or traumatic CPR.
**_____ f)** Hx of CVA, or brain tumor/injury/surgery.
**_____ g)** Current use of anticoagulants (i.e., Coumadin)

Revised: 10/2006

## 2007 FIRST RESPONDER / EMT-BASIC DRUG INFORMATION

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Revised 10/2006

Adult - Basic

| SPECIAL INFO | DRUG NAME | INDICATION | DOSAGE (ADULT) | REQUIRES MCP |
|---|---|---|---|---|
| | Albuterol (Proventil) Metered Dose Inhaler | Asthma/Emphysema/COPD | 2 puffs from Inhaler | Assist with patients own: No<br><br>From Drug Bag: Yes |
| | Aspirin (abbreviated as ASA) | Suspected Cardiac Chest Pain | 325 mg<br>4 chewable 81 mg tablets – MUST CHEW | Assist with patients own: No<br><br>From Drug Bag: Yes |
| Declared Emergency Only | Atropine | Organophosphate, or Nerve Agent Poisoning (regardless of cardiac rate) | Organophosphate, or Nerve Gas Poisoning:<br>Mark 1 Item 1, 2 mg until lungs are clear to auscultation | Organophosphate, Nerve<br>Agent Poisoning – Yes |
| | Dawn Soap | Decontamination of tenacious hazardous material on skin | Solution of Dawn soap & water | No |
| Declared Emergency Only | Diazepam (Valium) CANA | Seizures associated with Organophosphate or Nerve Agent MCI | 10mg IM<br>Autoinjector | Yes |
| | EpiPen | Severe symptomatic allergic reaction | 0.3 mg<br>Auto injector | Assist with patients own: No<br><br>From Drug Bag: Yes |
| | Nitroglycerine (abbreviated as NTG in the orders) (Nitrostat) | Chest pain or pulmonary edema with BP over 100 in pt. who is at least 25 yrs old or has prescribed Nitro. | 0.4 mg SL q 5 min for continued chest pain up to a total of 3 tablets. | Assist with initial dose of patients own: No<br>Repeat: Yes<br><br>From Drug Bag: Yes |

| SPECIAL INFO | DRUG NAME | INDICATION | DOSAGE (ADULT) | REQUIRES MCP |
|---|---|---|---|---|
| | Oral Glucose | Hypoglycemia if no IV access or available Glucagon. Stroke, generalized hypothermia without arrest, altered level of consciousness of unknown cause, or seizures with BS < 60, no BS monitor available, or strong suspicion of hypoglycemia despite BS reading, if no IV access. | 1 tube<br><br>May be repeated in 10 mins. If BS remains < 60. | No |
| Declared Emergency Only | Pralidoxime (2-PAM)<br><br>(Mark I Auto-injector, Item 2) to be used following Atropine | To be used following Atropine in Organophosphate, or Nerve Gas Poisoning.<br><br>Both for protection of public safety personnel who walk into scene & become unexpectedly contaminated as well as for treatment of civilian patients at the scene. | 600 mg IM AutoInjector | Yes |
| | Sudecon Wipes | Pepper Spray | Use as needed to assist with decontamination | No |

Pediatric - Basic

| SPECIAL INFO | DRUG NAME | INDICATION | DOSAGE (PEDI) | REQUIRES MCP |
|---|---|---|---|---|
| | Albuterol (Proventil) Metered Dose Inhaler | Asthma/Emphysema/COPD | 2 puffs from Inhaler | Pt's own: No<br><br>From Drug Bag: Yes |
| Declared Emergency Only | Atropine | Organophosphate, or Nerve Agent Poisoning (regardless of cardiac rate) | Organophosphate or Nerve Gas Poisoning<br><40 lbs: 0.5 mg IVP/IO/IM or 0.5 mg Atropine Auto-injector<br>>40 lbs: 1.0 mg IVP/IO/IM or 1.0 mg Atropine Auto-injector<br>> 90 lbs: 2.0 mg IVP/IO/IM or 2.0 mg Atropine Auto-injector<br>Atropine concentration in multiple-dose vial is 0.4 mg/ml. | Organophosphate, Nerve Agent Poisoning – Yes |
| | Dawn Soap | Decontamination of tenacious hazardous material on skin | Solution of Dawn soap & water | No |
| Declared Emergency Only | Diazepam (Valium) CANA | Seizures associated with Organophosphate or Nerve Agent MCI | 10mg IM Autoinjector | Yes |
| | EpiPen | Severe symptomatic allergic reaction | Patients < 30 kg – 0.15 mg Auto injector<br>Patients > 30 kg - 0.3 mg Auto injector | No |
| | Oral Glucose | Hypoglycemia if no IV access or available Glucagon.<br>Stroke, generalized hypothermia without arrest, altered level of consciousness of unknown cause, or seizures with BS < 60, no BS monitor available, or strong suspicion of hypoglycemia despite BS reading, if no IV access. | 1 tube<br><br>May be repeated in 10 mins. If BS remains < 60. | No |

| SPECIAL INFO | DRUG NAME | INDICATION | DOSAGE (PEDI) | REQUIRES MCP |
|---|---|---|---|---|
| Declared Emergency Only | Pralidoxime (2-PAM)<br><br>(Mark I Auto-injector, Item 2) to be used following Atropine | To be used following Atropine in Organophosphate, or Nerve Gas Poisoning.<br><br>Both for protection of public safety personnel who walk into scene & become unexpectedly contaminated as well as for treatment of civilian patients at the scene. | Children > 20 kg: 600 mg IM AutoInjector | Yes |
| | Sudecon Wipes | Pepper Spray | Use as needed to assist with decontamination | No |

Basic - Therapeutic Actions, Contraindications, and Precautions

| DRUG NAME | THERAPEUTIC ACTION | CONTRAINDICATION | PRECAUTIONS/SIDE EFFECTS |
|---|---|---|---|
| Albuterol (Proventil) | Bronchodilator | Prior hypersensitivity reaction to Albuterol, cardiac dysrhythmias associated with tachycardia. | Usually dose related, restlessness, apprehension, dizziness, palpitations, tachycardia, dysrhythmias.<br><br>May precipitate angina pectoris and dysrhythmias. |
| Aspirin (ASA) | Anti platelet | Hypersensitivity to salicylates, GI bleeding, active ulcer disease, hemorrhagic stroke, bleeding disorders, children with flu-like symptoms. | Stomach irritation, heartburn or indigestion, nausea or vomiting, allergic reaction.<br><br>Should be given as soon as possible to the patient with AMI. |
| Atropine<br><br>Mark 1 / AutoInjector | Anticholinergic as a result of WMD MCI | Tachycardia, hypersensitivity to atropine, obstructive disease of GI tract, obstructive uropathy, unstable cardiovascular status in acute hemorrhage with myocardial ischemia, narrow angle glaucoma, thyrotoxicosis. | Tachycardia, paradoxical bradycardia when pushed too slowly or when used at doses less than 0.5 mg, palpitations, dysrhythmias, headache, dizziness, anticholinergic effects (dry mouth/nose/skin/photophobia. blurred vision, urinary retention, constipation), nausea, vomiting, flushed, hot, dry skin, allergic reactions.<br><br>Atropine causes papillary dilation rendering the pupils nonreactive. Pupil response may not be useful in monitoring CNS status. |
| Diazepam (Valium)<br><br>CANA AutoInjector | Treats seizure activity as a result of WMD MCI. | Hypersensitivity to the drug, substance abuse (use with caution), coma (unless the patient has seizures or severe muscle rigidity or myoclonus), shock, CNS depression as a result of head injury, respiratory depression. | Hypotension, reflex tachycardia (rare), respiratory depression, ataxia, psychomotor impairment, confusion, nausea.<br><br>May cause local venous irritation. |

| DRUG NAME | THERAPEUTIC ACTION | CONTRAINDICATION | PRECAUTIONS/SIDE EFFECTS |
|---|---|---|---|
| EpiPen | Causes bronchodilation | Hypersensitivity (not an issue especially in emergencies – the dose should be lowered or given slowly in noncardiac arrest patients with heart disease), hypovolemic shock (as with other catecholamines, correct hypovolemia prior to use), coronary insufficiency (use with caution). | Headache, nausea, restlessness, weakness, dysrhythmias, including ventricular tachycardia and ventricular fib., hypertension, precipitation of angina pectoris, tachycardia.<br><br>May increase myocardial oxygen demand.<br><br>Syncope has occurred following epinephrine administration to asthmatic children. |
| Nitroglycerine (Nitrostat) (NTG) | Vasodilator which decreased preload and to a lesser extent, afterload. | Hypersensitivity, hypotension, head injury, cerebral hemorrhage. | Transient headache, reflex tachycardia, hypotension, nausea & vomiting, postural syncope, diaphoresis. |
| Pralidoxime (2-PAM)<br><br>(Mark I Auto-injector, Item 2) to be used following Atropine | Reactivates cholinesterase after poisoning with anticholinesterase agents as a result of WMD MCI | Hypersensitivity | Use with caution in myasthenia gravis, renal impairment, pregnancy, lactation or children. |

# 2007 GMVEMSC Standing Orders
# First Responder Pretest

**(Disclaimer:**
**The pretest is not inclusive of the questions and content of the post test. You as the provider are responsible for all material contained within the appropriate Standing Orders Training Manual. )**

**Name:_____ Date:_____**

## *Airway Management:*

1. What is the liter flow rate and delivery method for oxygen adminstration in a patient with a history of COPD ***without*** respiratory distress?
   A. 12-15 lpm via nonrebreather mask
   B. 4-6 lpm via nonrebreather mask
   C. 2 lpm via nasal cannula
   D. 4-6 lpm via nasal cannula

2. What is the liter flow rate and delivery method for oxygen adminstration in a patient with mild chest pain and ***no*** signs of respiratory distress?
   A. 2 lpm via nasal cannula
   B. 12-15 lpm via nonrebreather mask
   C. 4-6 lpm via nonrebreather mask
   D. 4-6 lpm via nasal cannula

3. You should ventilate an adult patient at a rate of 20 breaths per minute when signs of herniation are present. These include:
   A. Decreased mental status
   B. Blown pupil(s)
   C. Posturing
   D. All of the above are correct

4. Airway obstruction in an unconscious 3-month-old infant with a history of foreign body airway obstruction should be treated with all of the following ***except***:
   A. Visual look for foreign body in the mouth
   B. Abdominal thrusts
   C. Attempts to ventilate
   D. Back blows

5. A pediatric patient with respiratory distress should have oxygen administered at:
   A. 2 lpm NC
   B. 4-6 lpm NC
   C. 12-15 lpm NRB mask
   D. None of the above

6. Complete airway obstruction is indicated by:
   A. Gurgling sounds
   B. Crowing sounds
   C. Snoring sounds
   D. The lack of the usual sounds of breathing

7. How much oxygen is indicated for a patient with possible carbon monoxide exposure?
   A. No oxygen is needed if the oxygen saturation is 100%
   B. 4-6 lpm via nasal cannula
   C. 12-15 lpm via non-rebreather mask
   D. 2-4 lpm via nasal cannula

8. A non-rebreather mask with a reservoir bag delivers up to _____ oxygen.
   A. 75%
   B. 100%
   C. 25%
   D. 50%

9. Which of the following devices is recommended for a patient who is breathing shallowly at a rate of six breaths per minute?
   A. Non-rebreather mask
   B. Simple face mask
   C. Nasal cannula
   D. Bag valve mask

10. The first step in caring for a patient who is not breathing is to:
   A. Administer oxygen
   B. Apply positive pressure ventilation
   C. Clear the mouth
   D. Open the airway

## ***Cardiovascular (MI and Stroke)***

11. Which of the following are components of the Cincinnati Stroke Scale?
   A. Facial droop
   B. Arm drift
   C. Abnormal speech
   D. All of the above

12. A patient who is unconscious and makes absolutely no response to you verbally or painfully would have a GCS of:
    A. 5
    B. 1
    C. 3
    D. 0

13. Common signs and symptoms of shock may include the following?
    A. Cool, moist skin
    B. Weakness and confusion
    C. Restlessness and anxiety
    D. All are correct

## ***BLS & AED***

14. You are resuscitating a patient with a core temperature of 85 degrees Fahrenheit. Following the advised AED shock per current AHA recommendations, the patient remains in cardiopulmonary arrest. How many more times should you consider defibrillating this patient?
    A. May administer 1 additional shock
    B. Follow standard arrest protocols
    C. May administer 2 additional shocks
    D. No additional shocks are recommended until the patient is warmed

15. Cardiopulmonary resuscitation may be stopped for no longer than ____ seconds.
    A. 10
    B. 25
    C. 30
    D. 60

16. Systolic blood pressure indicates the pressure when the:
    A. Artery is relaxing
    B. Heart is contracting
    C. Artery is contracting
    D. Heart is relaxing

17. Non-Initiation of Care / Resuscitation will ***not*** be initiated in the following circumstances:
    A. Burned beyond recognition
    B. Decapitation or hemi-corpectomy
    C. Deep, penetrating, cranial injuries
    D. All qualify as non-initiation of care

18. When hyperventilating a ***pediatric*** patient, ventilate at a rate of:
    A. 10 greater than the normal respiratory rate for the patient
    B. 12 greater than the normal respiratory rate for the patient
    C. 20 greater than the normal respiratory rate for the patient
    D. 24 greater than the normal respiratory rate for the patient

19. The newborn you delivered has a heart rate of 50 with a respiratory rate of 10. The ratio of compressions to breaths should be:
    A. 5:1
    B. 3:1
    C. 30:2
    D. 15:2

20. Which of the following treatments is permitted in a patient who has a DNR Comfort Care Arrest that stops breathing?
    A. Chest compressions
    B. Artificial airways
    C. Respiratory assistance
    D. None of the above

21. When caring for a newborn infant, there are general considerations for care and resuscitation. Of those listed below, which one is ***not*** an acceptable practice?
    A. As soon as the baby is born, dry, warm, maintain airway.
    B. Place in the hyperextended position (4" towel under shoulders)
    C. Suction infant until all secretions are clear of airway.
    D. If drying and suctioning has not provided enough tactile stimulation, try flicking the infant's feet and/or rubbing the infant's back. If this stimulation does not improve the infant's breathing, then BVM may be necessary.

## ***Trauma Emergencies***

22. You are managing a twenty-two year old male while on the scene of a structure fire where he has received burns to 60% of his body. After stopping the burning process you bandage the burns. Wet dressings must be avoided if the body surface area is greater than _____.
    A. 10%
    B. 20%
    C. 5%
    D. 50%

23. Usually the best method to control external bleeding is by:
    A. Elevation
    B. Direct pressure
    C. Pressure point
    D. Tourniquet

24. Which of the following hospital combinations include all trauma centers:
    A. Miami Valley, Community, Upper Valley, Wayne
    B. Good Samaritan, St. Elizabeth, Children's Medical Center, Kettering Medical Center
    C. Miami Valley, Grandview, Children's Medical Center, Wilson
    D. Miami Valley, Children's Medical Center, Greene Memorial, Middletown Regional

25. What treatment is not indicated in the routine management of the patient with a head injury?
    A. Administration of oxygen
    B. Hyperventilation
    C. Glasgow Coma Scale results
    D. Stabilization of the cervical spine

## ***OB/GYN/Neonatal***

26. In administering CPR to a patient who is 8 months pregnant, appropriate care would be defined as:
    A. Load and go to the closest hospital, manually displace the uterus to the left, and administer chest compressions slightly higher than normal
    B. Transport immediately to a hospital with a maternity department, administer compressions at standard hand placement
    C. Consider field termination of resuscitation efforts if unable to obtain return of spontaneous circulation
    D. Transport immediately to the closest hospital, administer chest compressions slightly higher than normal, and do not use the AED

27. Upon delivering a newborn you should perform the APGAR scale:
    A. Before warming
    B. Within 10 seconds post delivery
    C. Within 30 seconds post delivery
    D. 1 and 5 minutes post delivery

28. Imminent delivery is when:
    A. Contractions are 1 minute apart
    B. The mother has the urge to push
    C. The mother has been in labor more than 12 hours
    D. The baby is crowning during contractions

# ***Haz Mat & Environmental***

29. Which of the following is ***not*** a true statement about dealing with the de-contamination of a hazardous materials patient?
    A. Remove contaminated clothing
    B. Thoroughly wash patient with substance similar to Dawn Detergent
    C. Obtain permission from hospital prior to entering ED with possibly contaminated patient
    D. Major Trauma patients may be decontaminated enroute to ED

30. What types of patients/situations might pose a potential risk of exposing you to hazardous drugs:
    A. Patients on continuous home IV chemotherapy
    B. Bodily fluids of those patients on chemotherapy within the last 48 hrs
    C. Patients taking oral chemotherapy agents
    D. All of the above

31. Some symptoms of organophosphate/ nerve gas poisoning exposure are:
    A. Miosis
    B. Sweating and excess secretions
    C. Nausea and vomiting
    D. All of the above

32. Which of the following mnemonics is helpful to remember signs and symptoms for Nerve Agent or Organophosphate poisoning?
    A. RPM
    B. OPQRST
    C. SAMPLE
    D. None of the above

34. You are on the scene of a patient with significant frostbite on both of her hands. The most appropriate care of this patient is to:
    A. Quickly removal all jewelry from her hands
    B. Place her hands in hot water until they are warmed
    C. Recommend that she seek follow up with her physician
    D. All of the above

# 2007 GMVEMSC Standing Orders
# EMT-Basic Pretest

**(Disclaimer:**
**The pretest is not inclusive of the questions and content of the post test. You as the provider are responsible for all material contained within the appropriate Standing Orders Training Manual. )**

**Name:_____ Date:_____**

## *Airway Management:*

1. Acceptable ET tube placement confirmation devices for a 55 kg, 14 year old pediatric patient in cardiac arrest are:

2. Which of the following is true regarding ETT placement in an adult?

A. Correct oral placement will be at the 22 cm. mark at the teeth.
B. The BAAM is a confirmation device utilized with oral ETT placement.
C. Correct adult nasotracheal placement is at the 22 cm. mark at the nose.
D. EDD and EtCOs detectors can identify placement in the mainstem bronchus.

3. You have just intubated an apneic and pulseless patient. Choose the single ***best*** answer that describes your options of tube confirmation.

A. Colormetric $EtCO_2$
B. EDD
C. BAAM
D. Pulse Oximeter

4. The proper depth for an ETT placed in a pediatric patient can be calculated by
tube size x ___ = mm @ front teeth or gum line.

A. 7
B. Patient age.
C. 3
D. 5

5. An EDD may only be used on pediatric patients who are older than ____ years of age and weigh at least _____ pounds.

6. Which of the following patients can an EMT-Basic intubate?
   A) A subdued, alcohol-intoxicated bar patron with a reduced gag reflex
   B) An elderly man with a decreased LOC and shallow respirations at 30 breaths per minute
   C) A 30-year-old pulseless and apneic patient whose chest does not rise with bag-mask ventilations
   D) A 55-year-old unconscious insulin dependant diabetic with Kussmaul respirations

7. When is it appropriate to attempt a "Rescue Airway" device?

8. What adjuncts/techniques are appropriate for maintaining proper endotracheal tube placement?

## ***Cardiovascular (MI and Stroke)***

9. Conditions mimicking stroke include:

10. You arrive to find a 73 year old female patient sitting at the kitchen table, slumped to their right side. The spouse states that she became unresponsive while eating breakfast. The vitals are as follows: P 60, BP 180/104, RR 12. The patient has drooping to the right side of his face. Which of the following would be *inappropriate*?

   A. Contact Medical Control advising you are enroute with a possible MI patient
   B. Check for hypoglycemia
   C. Complete the GMVEMSC Prehospital CVA/TIA Checklist
   D. Place an Oral or Nasopharyngeal Airway

11. The patient you are treating is 20 year old complaining of a sudden onset of midsternal chest pain and mild SOB while mowing the yard. The patient has no allergies. The patient is a heavy smoker and has a family history of cardiac disease. Which of the following treatments are contraindicated?
   A. Administering 324mg of Aspirin
   B. Administering 0.4mg of Nitroglycerin
   C. Administering O2
   D. None of the above

12. List four absolute contraindications to the use of thrombolytics according to the Suspected Cardiac Chest Pain Checklist?

13. All of the following statements concerning aspirin adminstration are true ***except***:
    A. Dose is 81 mg
    B. May cause bronchial spasm in some asthma patients
    C. Indicated for sudden onset of suspected cardiac chest pain
    D. Must be chewed

14. You are called to a local business for a 63 year old male with severe chest pain. His BP is 168/90, HR 88, R 20. He has no cardiac history. You are 5 minutes from a facility without 24 hour interventional capabilities, and 25 minutes from a facility with 24 hour interventional capabilities. Which is your *best* transport destination:

## *Cardiac Emergencies and BLS Changes*

15. When being treated by EMS Personnel the un-witnessed pediatric cardiac arrest patients may have 5 cycles (2 minutes) of CPR prior to AED/Defibrillation

    A. True
    B. False

16. When being treated by EMS Personnel the Un-witnessed adult cardiac arrest patients may have 5 cycles (1 minute) of CPR prior to AED/Defibrillation

    C. True
    D. False

17. Which statement(s) is correct regarding two-rescuer CPR for the healthcare provider?

    A. Rescuers should be changed after 5 cycles or about every 2 minutes.
    B. Interruptions should be 10 seconds or less
    C. Once advanced airway is in place, 1 breath should be given every 6 to 8 seconds without a pause in CPR to facilitate breath delivery.
    D. All of the above are true.

18. AEDs are to be used for pediatric patients at what age?

    A. 3 months
    B. > 1 year
    C. < 10
    D. > 8 years old

19. An AED should be used:
    A. According to the new AHA guidelines
    B. As the machine is programmed
    C. Never
    D. Both A and B are correct

## ***Haz Mat & Environmental***

20. What injuries may occur if a patient soaked in diesel fuel is left lying on their fuel saturated clothing?

21. A ten year old child was helping his mother pump gas at the local gas and becomes saturated with gasoline. What is your course of action?
    A. Flush the child's eyes, lecture the mother on her reckless behavior and let her sign a refusal statement
    B. Remove the child's contaminated clothing, thoroughly flush with water, contact the hospital, enter the hospital only after receiving permission
    C. Rinse the child with water, protect the child's modesty by leaving their clothing intact, transport to the hospital, complete a Social Services Referral form
    D. Instruct the mother to take the child home and bathe him

22. Major Trauma patients may be decontaminated enroute to ED
    A. True
    B. False

23. The patient you are treating has a laceration to the head and is bleeding profusely. The patient has a history of cancer and had chemotherapy via IV this morning. Knowing this you and your crew are at risk for exposure to hazardous materials and should use what PPE?

24. EMS personnel must provide which of the following information before obtaining the CHEMPAK?
    A. Estimated number of adult patients
    B. Estimated number of pediatric patients
    C. Identification of agent if known and route of exposure
    D. All of the above

25. EMT-B's may administer Atropine, 2-Pam, and what other drug via autoinjector in an emergency declared by the governor?

26. List the resources the EMT-B may use in the case of a spill of home chemotherapy medications:

## ***Medication Administration and Techniques***

27. When there is a drug bag discrepancy, which one of the following is an appropriate action for the EMS provider who encounters the problem to take?
    A. Turn in the blue seal with the hospital sticker that was attached to the drug bag in question, along with a written description of the problem found to his or her EMS officer
    B. Contact the medical director
    C. Contact the State Pharmacy Board
    D. Send a statement of what occurred to the GMVEMSC

28. Which of the following statements is ***true*** concerning the EpiPen?
    A. EpiPen Jr. contains 0.15 mg
    B. EpiPen Jr. is indicated for patients <33 pounds
    C. Adult EpiPen is indicated for patients < 66 pounds
    D. Adult EpiPen contains 0.15 mg

29. With medical control permission, which of the following time(s) are you permitted to access the BLS drug pocket?
    A. When Proventil (MDI) is indicated and the patient dose not have their prescribed inhaler available
    B. When nitroglycerin is indicated and the patient is prescribed nitro, but it is outdated
    C. When baby aspirin is indicated
    D. All of the answers are correct

30. When administering a prescribed inhaler, the first thing you should have the patient do is:
    A. Put the lips around the opening of the inhaler
    B. Inhale deeply
    C. Exhale deeply
    D. Depress the hand-held inhaler

31. Why are prescribed inhalers helpful for patients suffering from asthma, emphysema, or chronic bronchitis?
    A. Inhalers relax constricted bronchial tubes
    B. Inhalers slow the patient's heart rate
    C. Inhalers constrict dilated bronchial tubes
    D. Inhalers reduce pain and slow breathing

32. Which of the following is the correct EpiPen dose for an Adult having an allergic reaction?

    A. EpiPen 0.15 mg
    B. EpiPen 3.0 mg
    C. EpiPen 1.5 mg
    D. EpiPen 0.3 mg

33. Prior to admininstering Nitroglycerine, the EMT-B should ask the patient if they are taking what other medications?

## ***OB/GYN/Neonatal***

34. In administering CPR to a patient who is 8 months pregnant, appropriate care would be defined as:

35. You arrive on the scene of a reported "miscarriage". You find a 17 year old female complaining of abdominal pain and she states she is passing large "clots." Which statement is TRUE regarding your treatment?
    A. Encourage patient to follow up with her obstetrician, obtain a refusal signature and place unit in-service
    B. Flush tissue down the toilet, estimate blood loss, treat for shock, psychological support, transport
    C. Provide psychological support, treat for shock, and transport all expelled tissue
    D. None of the above

36. Which is true of OB Emergencies/ Child Delivery?
    A. Pregnant patient of any age > 20 weeks gestation should be taken to a maternity department; < 20 weeks gestation should go to the ED
    B. An internal vaginal exam should always be done prior to transport
    C. APGAR Scores should be obtained at 1 minute and 3 minutes
    D. An OB patient demonstrating "normal" vital signs can not be suffering from hypovolemic shock

37. When faced with a prolapsed umbilical cord during a delivery, the paramedic should do all of the following ***except***:
    A. Check the cord for a pulse
    B. Apply a dry dressing around the exposed cord
    C. Insert two fingers to prevent pressure on the cord
    D. Do not attempt to re-insert the cord

38. The newborn you delivered has a heart rate of 50 with a respiratory rate of 10. The ratio of compressions to breaths should be:
    A. 5:1
    B. 3:1
    C. 30:2
    D. 15:2

39. Upon delivering a newborn how often should you perform the APGAR scale?

40. What is the appropriate position of transport for a hypotensive patient, who is 7 months pregnant be transported?

41. Transport all infants < 2 months of age with a history or reported temperature of > 100.4°F or < 96.0°F.
    A. True
    B. False

42. It is suggested that you transport violent patients face down in a reeves with their hands restrained behind their back, to avoid being bitten or spit at.
    A. True
    B. False

## ***Trauma Emergencies***

43. List the Trauma Centers in the Region:

44. Which of the following statements about cerebral herniation are correct?
    A. Ventilate @ a rate of 12 BPM
    B. Hyperventilation will constrict the vessels in the brain
    C. Hyperventilation will dilate the cerebral vessels
    D. Signs include equal pupils, tachycardia, and posturing

45. A patient who is unconscious and unresponsive would have a GCS of:

46. Air medical transport is not appropriate for:

47. You are managing a 26-year-old pregnant trauma patient who is showing signs of shock. You are approximately 2 minutes from a Level 3 trauma center. The other trauma centers in the area are 35 minutes from your location. Where should the patient be transported?
    A. Level 1 Trauma Center
    B. Pediatric Level 2 Trauma Center
    C. Level 2 Trauma Center
    D. Level 3 Trauma Center

48. Regarding trauma patients, scene times should be limited to ____ minutes or less, except when there are extenuating circumstances.

## ***Miscellaneous***

49. Your patient currently holds an Ohio DNR Comfort Care-Arrest. She is having severe chest pain and S.O.B. Which of the following are permitted?

    A. Pain Control

    B. Oxygen

    C. Cardiac monitoring

    D. All of the following are permitted

50. It is permissible for an EMT-B to transport a patient that has a physician prescribed I.V. pump.
    A. True
    B. False

GREATER MIAMI VALLEY EMS COUNCIL
**YEAR 2007 FIRST RESPONDER SKILL SHEETS**

**FIRST RESPONDERS:** Use these skill sheets and protocol to study for Skills Testing.

**SKILLS TESTERS**: Record Pass/Fail on Individual's Test Summary Sheet. Use these and additional adult/pediatric mega code sheets as guidelines for grading. It is only necessary to make enough copies of this packet for testers (those who have gone through Train the Trainer sessions).

**Adult Mega Code** - Separate First Responder Mega Code sheets used for testing.

Automated External Defibrillator ---------- 81

**Oxygen Administration**

Non-rebreather mask ---------- 82
Nasal Cannula ---------- 82
Bag Valve Mask ---------- 82

**Medications**

Medication
Epipen ---------- 83

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: AUTOMATED EXTERNAL DEFIBRILLATORS

NAME_____ DATE_____

LEVEL: _____Paramedic _____ Intermediate _____Basic ____ First Responder

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. Perform an initial assessment of the patient. | | | |
| B. Begin CPR with 100% oxygen while preparing AED. | | | |
| a. If witnessed arrest and no defibrillator available, precordial thump. | | | |
| b. If unwitnessed arrest two minutes of CPR prior to defibrillation. | | | |
| c. CPR continuously until AED is attached to patient. | | | |
| C. Turn on the AED. | | | |
| D. Place the defibrillator pads onto the patient. | | | |
| E. Stop CPR. Allow AED to analyze rhythm. | | | |
| F. If shock is advised, clear all personnel from around the patient. | | | |
| G. Resume CPR if no response to the shocks. | | | |
| H. Repeat steps E, F and G in one minute if needed. | | | |

EQUIPMENT

1. A.E.D. per organization type
2. Simulator

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: OXYGEN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____First Responder

**NONREBREATHER MASK**

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. List indications for oxygen delivery by nonrebreather mask. | | | |
| B. Assure regulator is on tank, open tank and check for leaks. | | | |
| C. Check tank pressure | | | |
| D. Attach nonrebreather mask to oxygen. | | | |
| E. Prefill reservoir | | | |
| F. Adjust liter flow to 12 - 15 liters per minute. | | | |
| G. Apply and adjust mask to patient's face. | | | |

**NASAL CANNULA**

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. List indications for oxygen delivery by nasal cannula. | | | |
| B. Assure regulator is on tank, open tank and check for leaks. | | | |
| C. Check tank pressure | | | |
| D. Attach nasal cannula to oxygen. | | | |
| E. Adjust liter flow to 4 - 6 liters per minute. | | | |
| F. Apply and nasal cannula to patient. | | | |

**BAG-VALVE-MASK**

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. List indications for oxygen delivery by bag-valve-mask | | | |
| B. Assure regulator is on tank, open tank and check for leaks. | | | |
| C. Check tank pressure | | | |
| D. Assemble bag-valve-mask with appropriately sized mask. | | | |
| F. Connect reservoir and set oxygen at 12 - 15 liters/minute. | | | |
| G. Create a proper mask-to-face seal while maintaining open airway position. | | | |
| H. Ventilate @ appropriate rate and check for chest rise. | | | |
| | | | |

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECTS: ASSISTING WITH EPIPEN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____Basic _____ First Responder

| **STEPS** | **1st Test** | **2nd Test** | **3rd Test** |
|---|---|---|---|
| A. Evaluate the patient, with attention to S&S of anaphylaxis. | | | |
| B. Obtain the patient's EpiPen auto-injector. | | | |
| C. Assure that it is prescribed to the patient. | | | |
| D. Check the medication for expiration date and for cloudiness or discoloration. | | | |
| E. Remove the safety cap. | | | |
| F. Select the injection site. | | | |
| G. Push the injector firmly against the site. | | | |
| H. Properly discard the injector. | | | |
| I. Monitor the patient and record the results of the treatment. | | | |

Note: First Responders may only assist patient with their own EpiPen. Under the direction of a Physician, the EMT-Basic may access the BLS Bag for a patient who has currently prescribed EpiPen but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the emergency. . EMT-Intermediates may administer EpiPen if indicated to patients who do NOT have prescribed EpiPen.

GREATER MIAMI VALLEY EMS COUNCIL
**YEAR 2007 EMT-BASIC SKILL SHEETS**

**EMT-BASICS:** Use these skill sheets and protocol to study for Skills Testing.

**SKILLS TESTERS**: Record Pass/Fail on Individual's Test Summary Sheet. Use these and additional adult/pediatric mega code sheets as guidelines for grading. It is only necessary to make enough copies of this packet for testers (those who have gone through Train the Trainer sessions).

**Adult Mega Code** - Separate Basic Mega Code sheets used for testing.

Orotracheal Intubation of Nontrauma Patient ---------- 85
Automated External Defibrillator ---------- 86

**Pediatric Mega Code** - Separate Basic Mega Code sheets used for testing.

Orotracheal Intubation ---------- 87
Use of Length / Weight Based Tape (covered in Mega Code)

**Medications**

Medication
Metered Dose Inhaler ---------- 88
Aspirin ---------- 88
Nitroglycerine ---------- 89
Epipen ---------- 89

**Trauma**

Inline Orotracheal Intubation of the Trauma Patient ---------- 90

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: OROTRACHEAL INTUBATION OF THE NON-TRAUMA PATIENT

NAME_____ DATE_____

LEVEL: _____Paramedic _____ Intermediate _____Basic

| **STEPS** | **1st Test** | **2nd Test** | **3rd Test** |
|---|---|---|---|
| A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest. | | | |
| B. List the equipment required to perform endotracheal intubation. | | | |
| C. List the potential complications of endotracheal intubation. | | | |
| D. Open the airway. | | | |
| E. Pre-oxygenate patient during preparations to intubate. | | | |
| F. Demonstrate the performance of cricoid pressure. | | | |
| G. Assemble equipment. | | | |
| H. Insert Laryngoscope | | | |
| I.. Elevate the mandible | | | |
| J. Insert the ET tube | | | |
| K Remove the stylet | | | |
| L. Document ETT at 20-22 cm at front teeth. | | | |
| M. Inflate the cuff with 5 to 10 ml. of air. | | | |
| N. Ventilate the patient. | | | |
| O. Confirm tube placement, using the End Tidal CO2 Detector for patients with a perfusing rhythm, or the Esophageal Detection Device for patients in cardiac arrest. Be able to discuss the indications and limitations of each device. | | | |
| a. *NOTE: EDDs will fill more slowly in humans than in manikins | | | |
| b. Compress EDD first, then place it on the ETT before ventilating pt. | | | |
| c. If bulb fills in <5 seconds, ETT is likely successful | | | |
| • If bulb fails to fill, or takes >5 seconds, or fills with emesis, esophageal placement is probable. | | | |
| • Contraindicated in pregnancy, or children under 5 yoa or 20 kg. | | | |
| P. Confirm tube placement with at least 3 other methods of verification and document the outcomes. | | | |
| Q. Secure tube in place & reassess placement after any movement of patient. | | | |
| R. Consider applying cervical collar to prevent extubation | | | |

EQUIPMENT

1. Proper size Endotracheal tube
2. Stylet
3. Laryngoscope Blade & handle
4. Magill forceps
5. 10 ml. syringe
6. Suction equipment
7. Stethescope
8. Gloves & Eye protection
9. Commercial tube holder or proper taping method.
10. Confirmation Device
11. C-collar
12. Adult Intubation Manikin

When preparing for this skill evaluation, be sure that you are able to meet the objectives A, B, C, G, and O. If you need a reminder, the material is readily available in any standard textbook.

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: AUTOMATED EXTERNAL DEFIBRILLATORS

NAME_____ DATE_____

LEVEL: _____Paramedic _____ Intermediate _____Basic ____ First Responder

| **STEPS** | **1st Test** | **2nd Test** | **3rd Test** |
|---|---|---|---|
| A. Perform an initial assessment of the patient. | | | |
| B. Begin CPR with 100% oxygen while preparing AED. | | | |
| a. If witnessed arrest and no defibrillator available, precordial thump. | | | |
| b. If unwitnessed arrest two minutes of CPR prior to defibrillation. | | | |
| c. CPR continuously until AED is attached to patient. | | | |
| C. Turn on the AED. | | | |
| D. Place the defibrillator pads onto the patient. | | | |
| E. Stop CPR. Allow AED to analyze rhythm. | | | |
| F. If shock is advised, clear all personnel from around the patient. | | | |
| G. Resume CPR if no response to the shocks. | | | |
| H. Repeat steps E, F and G in one minute if needed. | | | |

EQUIPMENT

1. A.E.D. per organization type
2. Simulator

# PEDIATRIC PROTOCOL SKILL EVALUATION
## SUBJECT: PEDIATRIC OROTRACHEAL INTUBATION

NAME_____ DATE_____

LEVEL: _____Paramedic _____ Intermediate _____Basic

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest. | | | |
| B. List the equipment required to perform endotracheal intubation. | | | |
| C. List the potential complications of endotracheal intubation. | | | |
| D. Open the airway. | | | |
| E. Pre-oxygenate patient during preparations to intubate. | | | |
| F. Assemble equipment, selects proper size ETT and laryngoscope blade (Uses Length / Weight Based Tape) | | | |
| G. Insert Laryngoscope | | | |
| H.. Elevate the mandible | | | |
| I. Insert the ET tube | | | |
| J Remove the stylet | | | |
| K. Document ETT depth at at front teeth. | | | |
| L. Ventilate the patient. | | | |
| M. Confirm tube placement, using the End Tidal CO2 Detector for patients with a perfusing rhythm, or the Esophageal Detection Device for patients in cardiac arrest (only if weight appropriate). Be able to discuss the indications and limitations of each device. | | | |
| a. Contraindicated in pregnancy, or children under 5 yoa or 20 kg. | | | |
| N. Confirm tube placement with at least 3 other methods of verification and document the outcomes. | | | |
| O. Secure tube in place & reassess placement after any movement of patient. | | | |
| P. Consider applying cervical collar / towel roll to prevent extubation | | | |

EQUIPMENT

1. Proper size Endotracheal tube
2. Proper size Stylet
3. Laryngoscope Blade & handle
4. Magill forceps
5. Suction equipment
6. Stethescope
7. Gloves & Eye protection
8. Commercial tube holder or proper taping method.
9. Confirmation Device
10. C-collar or towel roll
11. Pedi intubation manikin

When preparing for this skill evaluation, be sure that you are able to meet the objectives A, B, C, F, and M. If you need a reminder, the material is readily available in any standard textbook.

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: ASSISTING WITH METERED DOSE INHALER (ALBUTEROL)

NAME_____ DATE_____

LEVEL: _____Basic

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. Obtain inhaler from the patient. | | | |
| B. Remove dust cap. | | | |
| C. Shake contents of inhaler. | | | |
| D. Place inhaler in patient's mouth. | | | |
| E. Instruct patient to depress the inhaler, inhale medication, and hold their breath for a few seconds. | | | |
| F. List the indications for the use of Proventil (Albuterol). | | | |
| G. List the contraindications and warnings for use of the Proventil aerosol. | | | |

Note: . Under the direction of a Physician, the EMT-Basic may access the BLS Bag for a patient who has currently prescribed EpiPen but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the emergency. .

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: ASSISTING WITH ASPIRIN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____Basic

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. Evaluate the patient for symptoms consistent with Acute Coronary syndrome | | | |
| B. Check with patient if aspirin is availabe. | | | |
| C. Assist patient to take 325 mg. Aspirin (4 baby aspirin are preferred) | | | |
| D. Have patient CHEW aspirin before swallowing. | | | |
| G. Document that Aspirin was given - time, amount | | | |

Note: If no Aspirin is available, the EMT-Basic should contact MCP and obtain permission to administer 325 mg. of baby Aspirin from the BLS compartment.

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: ASSISTING WITH NITROGLYCERIN

NAME_____ DATE_____

LEVEL: _____Basic

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. Evaluate the patient with attention to contraindications. Verify SBP > 100. | | | |
| B. Place patient on Oxygen. | | | |
| C. Verify patient has physician-prescribed Nitroglycerin (EMT-B). | | | |
| D. Verify patient alertness. | | | |
| E. Place one Nitroglycerin tablet under the patient's tongue. | | | |
| F. Reassess patient vital signs in 2-3 minutes. | | | |
| G. Document results of the drug being administered. | | | |

Note: Under the direction of a physician, the EMT-Basic may access the BLS Bag for a patient who has currently prescribed nitroglycerin but has outdated, damaged, or contaminated medication on hand or does not have their own medication with them at the time of the emergency.

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECTS: ASSISTING WITH EPIPEN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____Basic _____ First Responder

| STEPS | 1st Test | 2nd Test | 3rd Test |
|---|---|---|---|
| A. Evaluate the patient, with attention to S&S of anaphylaxis. | | | |
| B. Obtain the patient's EpiPen auto-injector. | | | |
| C. Assure that it is prescribed to the patient. | | | |
| D. Check the medication for expiration date and for cloudiness or discoloration. | | | |
| E. Remove the safety cap. | | | |
| F. Select the injection site. | | | |
| G. Push the injector firmly against the site. | | | |
| H. Properly discard the injector. | | | |
| I. Monitor the patient and record the results of the treatment. | | | |

Note: First Responders may only assist patient with their own EpiPen . Under the direction of a Physician, the EMT-Basic may access the BLS Bag for a patient who has currently prescribed EpiPen but has outdated, damaged, or contaminated medication on hand, or does not have their own medication with them at the time of the emergency. EMT-Intermediates may administer EpiPen if indicated to patients who do NOT have prescribed EpiPen.

## ADULT PROTOCOL SKILL EVALUATION
## SUBJECT: INLINE OROTRACHEAL INTUBATION OF THE TRAUMA PATIENT

NAME_____ DATE_____

LEVEL: _____Paramedic _____ Intermediate _____Basic

| **STEPS** | **1st Test** | **2nd Test** | **3rd Test** |
|---|---|---|---|
| A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest. | | | |
| B. List the equipment required to perform endotracheal intubation. | | | |
| C. List the potential complications of endotracheal intubation. | | | |
| D. Open the airway with C-Spine precautions. | | | |
| E. Pre-oxygenate patient during preparations to intubate. | | | |
| F. Demonstrate the performance of cricoid pressure. | | | |
| G. Assemble equipment. | | | |
| H. Insert Laryngoscope | | | |
| I.. Elevate the mandible | | | |
| J. Insert the ET tube | | | |
| K Remove the stylet | | | |
| L. Document ETT at 20-22 cm at front teeth. | | | |
| M. Inflate the cuff with 5 to 10 ml. of air. | | | |
| N. Ventilate the patient. | | | |
| O. Confirm tube placement, using the End Tidal CO2 Detector for patients with a perfusing rhythm, or the Esophageal Detection Device for patients in cardiac arrest. Be able to discuss the indications and limitations of each device. | | | |
| a. *NOTE: EDDs will fill more slowly in humans than in manikins | | | |
| b. Compress EDD first, then place it on the ETT before ventilating pt. | | | |
| c. If bulb fills in <5 seconds, ETT is likely successful | | | |
| d. If bulb fails to fill, or takes >5 seconds, or fills with emesis, esophageal placement is probable. | | | |
| e. Contraindicated in pregnancy, or children under 5 yoa or 20 kg. | | | |
| P. Confirm tube placement with at least 3 other methods of verification and document the outcomes. | | | |
| Q. Secure tube in place & reassess placement after any movement of patient. | | | |
| R. Apply cervical collar. | | | |

EQUIPMENT

1. Proper size Endotracheal tube
2. Stylet
3. Laryngoscope Blade & handle
4. Magill forceps
5. 10 ml. syringe
6. Suction equipment
7. Stethescope
8. Gloves & Eye protection
9. Commercial tube holder or proper taping method.
10. Confirmation Device
11. C-collar
12. Adult Intubation Manikin

When preparing for this skill evaluation, be sure that you are able to meet the objectives A, B, C, G, and O. If you need a reminder, the material is readily available in any standard textbook.

# GMVEMS COUNCIL OPERATING GUIDELINES
# I. DRUG BOX EXCHANGE PROGRAM
# II. STANDING ORDERS

Revised: November 1999; November 2000; May 2002; November 12, 2003; October 5, 2005

## PURPOSE

To administer and monitor a drug bag exchange program between participating Fire/EMS/ Private Ambulance departments and hospitals to improve the level and quality of pre-hospital care by ensuring that participating members are in full-service at all times.

## DRUG BOX EXCHANGE COMMITTEE

| | |
|---|---|
| Co-Chairmen: | 1 Hospital EMS coordinator |
| | 1 Hospital pharmacy representative from each participating county |
| Members: | EMS Coordinator from each participating hospital |
| | Pharmacy representative from each participating hospital |
| | Any interested GMVEMS Council member |

## MEETINGS

| | |
|---|---|
| Scheduled: | Two meetings per year: March and September |
| Unscheduled: | As needed to discuss problem areas |

## OPERATING GUIDELINES

### GENERAL

- There are two types of drug bags: ***ALS/BLS*** and **BLS** (fanny pack style).
- All drug bags, both ALS and BLS, are the property of the Greater Miami Valley EMS Council.
- There is an initiation fee for each new bag added to the program.
- There is an annual maintenance fee for each ALS/BLS bag and BLS bags.
- There is an approved policy for the replacement of lost or stolen drug bags (see Addendum A).
- To maintain the integrity of the drug bag contents, pharmacy departments seal stocked drug bags with a blue plastic device. The only time the seal should be broken is for the administration of pre-hospital emergency medical treatment by approved EMS personnel. After pre-hospital emergency medical treatment use, the drug bag should be cleaned and re-sealed with the red plastic device contained inside the drug bag.
- The following action will be taken for any department found to be in non-compliance with the Drug Bag Exchange Program Operating Guideline regarding opening and resealing the drug bag:
  - Notification of the Fire Chief, EMS Administrator, or Private Ambulance Administrator.
  - The governing agency, i.e. city council, trustees, OMTB for private ambulance service, etc., will be notified that action is being initiated for the Fire/EMS/Private ambulance service.
  - All drug boxes will be removed from all locations of said Fire/EMS/Private ambulance service.
  - The GMVEMS Council will distribute written notification that the said service is in violation of the operating policy of the Drug Box Exchange Program:
    - Medical Director
    - Regional Physician Advisory Board
    - OH State Pharmacy Board
    - OH Division of EMS
    - All hospitals participating in the drug box exchange program

- GMVEMS Council maintains an information database for all EMT personnel authorized to participate in the Drug Bag Exchange Program.

- Rosters with expiration dates for EMT-P, EMT-B and ACLS certifications are distributed annually for review and updates.

**PARTICIPATION REQUIREMENTS**

- Active membership in the GMVEMS Council.
- Area hospital participation according to Council guidelines. (See Addendum C.)
- Medical advisor approval for the use of the GMVEMS Council Operating Protocols. Approval consists of a signed, notarized letter, which is attached to the drug license renewal application form with a copy submitted to Council.
- Signed agreement to abide by the Operating Guidelines for the Drug Bag Exchange Program (see Addendum D).
- Agreement to complete an annual skills check and written test 1 January-30 April unless otherwise scheduled by Council (see Non-Compliance Procedures).
- Maintain all drugs in a clean and temperature-controlled environment per Rule 4729-33-03(E) of the OH State Pharmacy Board Administrative Code. The ideal temperature span is 59-86 degrees F.
- In order to utilize an ALS or BLS drug bag in the pre-hospital emergency setting, the following equipment should be immediately available:

    - BLS Provider:
        - Oxygen
        - Suction (non-powered is acceptable)
        - AED & Intubation Equipment (only if Medical Advisor approved)
        - Submission of a copy of the annual OH State Board of Pharmacy drug license(s) for each location(s) with vehicles that carry drug bags no later than 1 February ***to GMVEMS Council***

    - ALS Provider:
        - Oxygen
        - Suction (non-powered is acceptable)
        - Monitor/Defibrillator or AED & Intubation Equipment
        - Submission of a copy of the annual OH State Board of Pharmacy drug license(s) for each location(s) with vehicles that carry drug bags no later than 1 January to GMVEMS Council**.** *Council will verify all licenses no later than January 1st.*
        - ***Submission of a copy of a current DEA license to GMVEMSC Council office. It is the responsibility of the Agency to keep the DEA license current and submit a renewed copy to Council.***

## LEVELS OF PARTICIPATION

**Paramedic Level**

- Each drug bag consists of a navy, standard issue drug bag with a separate, red outside pouch sewn into it.
- The red pouch is used to carry the following medications: Albuterol ***Inhaler***, Nitrostat, EpiPen, EpiPen Jr. and baby ASA. All other medications are carried in the standard issue drug bag.
- Each standard issue bag is labeled with a metal tag from 850 – up.
- Upon completion of a transport, the entire unit is exchanged at the receiving hospital ***with the appropriate paperwork.***

**Intermediate Level**

**A side compartment labeled "intermediate" to carry the following medications ONLY: 50% Dextrose in Water, 25% Dextrose in Water, Diazepam, Diphenhydramine,**

*Epinephrine 1:1,000 multidose vial, Glucagon, Morphine Sulfate, Narcan*

**Basic Life Support**

- A fanny-pack style bag used to carry the following medications ONLY: Albuterol ***Inhaler***, Nitrostat, EpiPen, EpiPen Jr., and baby ASA.

- Each bag is labeled with a numeric code.
- Upon completion of a transport, the bag is exchanged at the receiving hospital ***with the appropriate paperwork.***

**EXCHANGE PROCESS**

- Each department is assigned to a "home" hospital. The assigned hospital is the central resource for initial fulfillment of medications for the drug bags and wholesale exchanges/replacement/additions as required by revisions to the GMVEMS Council Standing Orders/Protocols. Under normal operating parameters, drug bags can be exchanged at any participating hospital.
- ALS/BLS combo-bags may be exchanged one-for-one with another ALS/BLS combo-bag. BLS bags may be exchanged one-for-one with another BLS bag.
- Each hospital designates a specific location for the exchange of drug bags. EMS personnel are **required** to complete the Sign In/Out log sheets when exchanging a drug bag.

**Documentation Drug Usage**

- Morphine, Midazolam and Valium are scheduled drugs, which means they must be tracked from the time they are dispensed into the drug bag up to the time of administration.
- There are two methods of documenting
- To insure the medications are properly accounted for, all Intermediate/Paramedics will document:
    1. The drug name
    2. The amount used
    3. The amount wasted
    4. The signature of the two witnesses if wastage (the person wasting the medication can also sign as a witness).

- The GMVEMSC run sheets have a dedicated area for this documentation and required signature lines. Those using other ***types*** of run sheets should document the above information and the required signatures. ***Some hospitals also require the use of the GMVEMSC approved controlled medication sheet in addition to documentation on the run sheet.*** This information shall be on both the original EMS department form and the hospital copy for reference if needed.

***WASTED DRUG PROCEDURE***

- Morphine, Midazolam and Valium are scheduled drugs. If a medication is partially administered, any unused portion must also be accounted for. If a medication is drawn up in a syringe for administration, then the partially used syringe shall have the name of the drug put on the syringe by the person drawing the medication. That unused portion can be left with the nurse or physician who is caring for the patient, should they decide to use the remaining portions.
- If the unused portion is not going to be used and needs to be wasted, then the provider must have a nurse or physician present to witness the waste of the drug. A pharmacist can also be a witness if a nurse or physician is not available.

- To insure the medications are properly accounted for, all Paramedics and Intermediates will document:
    The drug name
    The amount used
    The amount wasted
    The signature of the two witnesses

- One witness will be the Intermediate wasting the medication and the second witness signature will be the nurse/physician/pharmacist who witnessed the disposal of the medication. Both witnesses will sign the run sheet.

- The GMVEMSC run sheets have a dedicated area for this documentation and required signature lines. Those using other ***types*** of run sheets should document the above information and the required signatures. ***Some hospitals also require the use of the GMVEMSC approved controlled medication sheet in addition to documentation on the run sheet.*** This information shall be on both the original EMS department form and the hospital copy for reference if needed.

## GENERAL NON-COMPLIANCE PROCEDURES

- Each department and department medical advisors will be notified that the annual test and skills check-off has not been completed within the prescribed time period.
- The Ohio State Board of Pharmacy will be notified that a department or individual members of a department have not completed the annual test and skills check-off within the prescribed time period.
- Hospital EMS coordinators and pharmacy departments will receive a list of departments or individuals within a department that are not in compliance with the operating guidelines. ~~At~~ ***the end of the testing season, if a department does not have 100% of their personnel completing both skills and written and information about individual reasons for non-compliance noted in the Standing Orders database, then appropriate action up to and including the removal of department from the Drug Bag program by the chair of the drug bag committee, will be taken***
- If copy of drug license(s) is not received by due date, GMVEMS Council notifies EMS department medical advisor. GMVEMS Council reserves the right to initiate the non-compliance action process for any Fire/EMS/Private Ambulance service ~~t~~hat cannot provide documentation for drug license(s) renewal.
- ***If a department does not have a current DEA license (it is the responsibility of the EMS Department to submit a copy of the DEA renewal license when the license on file has expired)*** , GMVEMS Council notifies EMS department medical advisor. GMVEMS Council reserves the right to initiate the non-compliance action process for any Fire/EMS/Private Ambulance service ~~t~~hat cannot provide documentation for drug license(s) renewal.

**Drug Bag Discrepancies**

All discrepancies (missing meds, expired meds, wrong medication or dose, altered or tampered meds, drug box number discrepancy, etc.) that are found by any agency or department (EMS provider, pharmacist, and/or EMS Coordinator) shall be reported to the GMVEMSC and to the appropriate state agency as noted in the following. This information will be forwarded to the Drug Box Committee Chairperson.

**EMS Provider:**

A. If, while on a call, an EMS provider encounters a discrepancy he/she will:

1. Log the ALS/BLS bag into the ED using the Drug Box check-in form (patient name, metal tag # of bag being checked in and metal # of bag being taken).
2. Turn in the blue seal with hospital sticker that was attached to the drug bag in question, along with a written description of the problem noted to his/her EMS Officer. This written description shall include the Drug Bag # of the bag in question. The written description of the discrepancy shall be dated and signed by the EMS provider reporting the complaint.

**EMS Officer:**

The EMS Officer will:

1. Contact the EMS Coordinator of the hospital in which the bag originated (hospital name on Blue Seal).
2. Contact the State Pharmacy Office of the nature of the following discrepancies:
   a. Missing medication
   b. Wrong medication in drug bag
   c. Missing or Stolen drug bag
   d. Altered medications

   The EMS Officer will report the following:
   e. Name of drug
   f. What occurred
   g. What hospital the bag originated from
   h. What EMS Agency was involved

   *The State Pharmacy Board number is **614.466.4143**. Advise them you want to report a drug bag discrepancy and they will connect you to the appropriate person.*
3. If the drug is a controlled drug (Valium, or Morphine), or the bag has been stolen or is missing, or any medication appears altered or tampered with, the EMS Agency will:
   - Make a police report to the department in which the discrepancy was found.
   - ***Contact the DEA and submit*** DEA Form 106 within 30 days of notification and send electronically (http://www.deadiversion.usdoj.gov/21cfr_reports/theft/106/announce_106.htm )
     - Original to the DEA
     - Copy to the State Pharmacy Board
     - copy to the Fire/EMS/Private Ambulance department
     - Maintain one copy for your records

~~4.~~ A copy of the police report if bag was stolen lost, or controlled meds missing and or any medications altered.

5. Send the following to the Hospital EMS Coordinator from which the discrepancy occurred:
   a. The blue seal with hospital name and tag number on drug bag to which seal was attached.
   b. A statement of what occurred.
   c. A statement indicating that the Pharmacy Board was contacted and to whom the report was given.
   d. A copy of the police report, if requested by the Hospital Pharmacist.
6. Send the following to the GMVEMSC:
   a. A statement of what occurred.
   b. A statement indicating that the Pharmacy Board was contacted and to whom the report was given.
   ***c. A statement indicating that the DEA form 106 was submitted.***
   d. A copy of the police report if the bag was stolen, lost, or controlled meds are missing and /or any medications altered.

**EMS Coordinators:**

A. When the EMS agency contacts you about a drug bag discrepancy that occurred that had a blue seal from your hospital pharmacy, you shall:
   1. Insure that agency has completed the tasks listed in the EMS providers responsibilities listed in part A.

B. If the EMS Coordinator discovers any discrepancies (missing meds, expired meds, wrong medication or dose, altered or tampered meds, drug box number discrepancy, etc.) the EMS Coordinator will:
   1. Contact the EMS Coordinator of the hospital in which the discrepancy originated (hospital name on Blue Seal). The EMS Coordinator who discovers the discrepancy will also send the blue seal to that EMS Coordinator so he/she can follow up with the pharmacy that filled the bag.
   2. The EMS Coordinator who discovers the discrepancy will contact the State Pharmacy Office of the following discrepancies:
      a. Missing medication
      b. Wrong medication in drug bag
      c. Missing or Stolen drug bag
      d. Altered medication

      The EMS Coordinator who discovers this will also report to the pharmacist:
      a. Name of drug
      b. What occurred
      c. What hospital the bag originated from
      d. What EMS Agency was involved

   *The State Pharmacy number is 614.466.4143. They shall be contacted immediately of any discprency. Advise them you want to report a drug bag discrepancy and they will connect you to the appropriate person.*
   3. If the drug involved is a controlled medication (Valium, or Morphine), the bag has been stolen or is missing or any medication appears altered or tampered with, the EMS Coordinator will:

      a. Contact his/her hospital pharmacist

      b. A police report is made according to their hospital protocol

   4. The EMS Coordinator discovering discrepancy will then send the following to the GMVEMSC:
      a. A statement of what occurred

      b. A statement indicating that the Pharmacy Board was contacted (if indicated i.e. controlled meds, lost or stolen bags) and whom the report was given.
      ***If the drug is a controlled drug (Valium, or Morphine), the bag has been stolen or is missing, or any medication appears altered or tampered with, the EMS Agency will make also contact the DEA and submit*** DEA Form 106 within 30 days of notification and send electronically (http://www.deadiversion.usdoj.gov/21cfr_reports/theft/106/announce_106.htm )
      - Original to the DEA
      - Copy to the State Pharmacy Board
      - Copy to the Fire/EMS/Private Ambulance department
      - Maintain one copy

   5. A copy of the police report if bag was stolen lost, or controlled meds missing and or any medications altered.

**Pharmacy department personnel:**
When a discrepancy is noted, notify the EMS Coordinator of your facility and advise him/her of the discrepancy encountered and he/she will assist you with the steps outlined in the EMS Coordinator section.

**The GMVEMSC will:**
- Maintain a record of all discrepancies that occur.
- Follow up with the agencies involved as needed.

- Advise the Drug Box Chairperson of any and all discrepancies and action taken.

**The Drug Box Committee Chairperson will:**

- Will report all at the bi-annual Drug Box Committee meetings for discussion and resolutions to discrepancies encountered.
- Will assist the Council and or affected departments with any issues or questions that may result.

**Drug Box Seals**

**Blue seals**:

Blue seals are used by the pharmacy that inventories and restocks the ALS/BLS drug bags. The blue seals will have a hospital sticker attached to the seal that identifies the hospital and pharmacist that inventoried the bag and the expiration date of the next drug to expire. The inner compartment of the ALS bag and Intermediate will be sealed with a blue seal and will have the expiration date noted. The blue seal will be looped through the proximal portion of the zipper tab (not the outermost portion of the zipper tab).

**Red Seals**:

Red seals identify ALS/BLS boxes as being used. The EMS provider will discard any used sharps and clean any contaminants from bag used and will then take the red seal from inside the bag (supplied by pharmacy when restocking the ALS/BLS bag) and seal the appropriate bag used. The red seal will be looped through the proximal portion of the zipper tab (not the outermost portion of the zipper tab).

Hospital Pharmacies should use the same style colored seals to maintain continuity of the system. Hospital pharmacists can purchase these seals through the GMVEMSC office.

## ADDENDUM A

### Lost or Stolen Drug Bag Policy

RE: Lost or Stolen Drug Bags
APPROVED: June 1994
PURPOSE: To provide a uniform mechanism for the investigation and reporting of lost or stolen drug bags.

EMS DEPARTMENT SHALL:

- Develop and implement an internal investigation mechanism for lost or stolen drug bags. The internal investigation mechanism should include:
    1. Determine if drug bag was left at the scene.
    2. Determine if drug bag was not exchanged on last run.
    3. Determine if drug bag is in the wrong vehicle.
    4. Interview all personnel who had access to the drug bag.

- Notify the following upon determination that a drug bag has been lost or stolen:
    1. "Responsible party" as listed on the drug license
    2. GMVEMS Council
    3. Assigned hospital pharmacy
    4. Assigned hospital EMS Coordinator
    5. Local police department

- Send copy of the police report to the assigned hospital pharmacy.

    ASSIGNED HOSPITAL PHARMACY WILL:

    1. Check hospital inventory to determine if appropriate number of bags are present and accounted for.
    2. Distribute a replacement drug bag to the Fire/EMS/Private Ambulance department.
    3. Contact hospital EMS Coordinator who in turn will contact the GMVEMS Council to obtain new bag for the hospital pharmacy inventory.
    4. Number new drug bag with the next sequential number per the numbering system.
    5. ***Submit*** DEA Form 106 within 30 days of notification and send electronically (http://www.deadiversion.usdoj.gov/21cfr_reports/theft/106/announce_106.htm )
        - Original to the DEA
        - Copy to the State Pharmacy Board
        - One copy to the Fire/EMS/Private Ambulance department
        - Maintain one copy

    EMS COORDINATOR WILL:

    - Contact other hospitals to determine if the drug bag is in another hospital's inventory. This can be checked through the pre-assigned numbering system, or by counting the number of drug bags at the hospital.

## ADDENDUM B

## Hospital Participation Policy

APPROVED: 29 November 2001

GENERAL PURPOSE:

- To assure uniformity of hospital pharmacy participation in the DBEP.

THE HOSPITAL SHALL:

- Purchase (at cost), fill, and maintain a supply of bags sufficient to meeting the needs of an average day, plus a few extra to meet peak demands for bag replacement.
- Accept responsibility for filling new bags for departments or vehicles as assigned by Council, at hospital expense.
- Assign one licensed pharmacist and an EMS coordinator to attend and participate in the Standing Orders and Drug Bag Exchange Program Committees.
- Agree to pay annual dues and any fees assessed by Council that are approved by the DBEP Committee and the GMVEMSC Council that pertain to the DBEP.

GMVEMSC SHALL:

- Maintain a current State *& DEA* drug license for all participants in the DBEP.
- Furnish hospital pharmacy with a current listing of all departmental personnel authorized to access the GMVEMSC drug boxes and copy of the protocol.
- Assign departments to hospitals in both a geographic and otherwise equitable fashion.

## ADDENDUM C

## AGREEMENT LETTER

*Please type or print legibly*

*DEPARTMENT/SERVICE:*_____

*CONTACT PERSON:*_____

*TELEPHONE:* _____

*FAX:* _____

*This department/service agrees to abide by the GMVEMS Council Drug Box Exchange Program and Standing Orders operating guidelines.*

*SIGNATURE:*_____

Fire Chief, EMS Administrator, or Private Ambulance Administrator.

*DATE:*_____

**Return to:**

GMVEMSC

PO Box 2307

Dayton OH 45401-2307

Phone: 937.586.3703

Fax: 937.586.3699

## ADDENDUM D

### New Member Policy requiring Drug (ALS/BLS) bag for licensure of their ALS/BLS unit

Those Agencies who have applied for membership and require a GMVEMSC drug bag to license their units may request a GMVEMSC drug Bag to be available 24 hours prior to the Ohio Ambulance Licensing Board (OALB) inspection date providing they have done the following:

1. Have applied for a GMVEMSC membership
2. They have provided a copy of their State Pharmacy License
3. They have provided a copy of their DEA license or proof of submission for a DEA license if agency is an intermediate or ALS agency .
4. Have been given a provisional membership by the GMVEMSC Executive Committee if the inspection is before regularly scheduled Council meeting.
5. Personnel must be checked off on Standing Orders and data entered on GMVEMSC data base.

The agency has 72 hours to show proof of a temporary permit from the date of inspection to the GMVEMS Council office. If they cannot demonstrate an OALB permit in that time the Drug bag must be returned to the Hospital to which the agency is assigned or the hospital that provided the drug bag.

# II. STANDING ORDERS/PROTOCOLS

## PURPOSE

To develop and approve Standing Orders Protocols (Adult and Pediatric) for the Greater Miami Valley EMS Council.

## STANDING ORDERS COMMITTEE

| | |
|---|---|
| Co-Chairmen: | 1 EMS squad representative |
| | 1 Hospital EMS Physician representative |
| Members: | EMS Coordinator representatives from participating hospitals |
| | 1 Squad representative from each participating county |
| | 1 Physician representative from each participating county |
| | Any interested GMVEMS Council member |

## OPERATING GUIDELINES

### GENERAL

- Standing Orders/Protocols (Adult and Pediatric) are submitted to each participating department in the Drug Box Exchange Program for approval.
- Approval of the Guidelines Standing Orders includes a signed and notarized letter from the department medical director to the Ohio State Board of Pharmacy. Copies of the letters are kept on file at GMVEMS Council.
- The Standing Orders Committee develops a training package for the Standing Orders.
- Participation in the Drug Bag Exchange Program requires that all EMT-P, EMT-B and EMT-I personnel from each participating department complete an annual skills check and written test between 1 January-30 April unless otherwise scheduled by Council.

### REVIEW/APPROVAL PROCESS

- Department and hospital representatives cooperate to review the Standing Orders as needed. The schedule for the review process is four years.
    - Year One: Evaluation of field operations for any changes made in that year.
    - Year Two: Review and evaluation of field operation; discussion of new medications or clinical procedures.
    - Year Three: Review, evaluation, and field trials of proposed changes to the operating protocols.
    - Year Four: Months 1-3: The Standing Orders Committee requests information from all DBEP participants, medical advisors, hospital EMS coordinators, hospital Emergency Department directors, hospital EMS physician representatives and educational representatives on the efficiency of the Standing Orders, proposed changes, and new procedures or medications to be reviewed for inclusion in the Standing Orders and the Drug Bag Exchange Program.
    - Month Four: Standing Orders Committee compiles the information for Committee review. The review process includes: a review of all submitted information and discussions as necessary to clarify any item. If new procedures or medications are recommended, each request is assigned to a subcommittee for a literature review, evaluation and recommendation.
    - May 1st: A draft of the Standing Orders is prepared. It is distributed for review to: DBEP participants, medical advisors, hospital Emergency Department directors, hospital EMS coordinators and education representatives. Comments and/or revisions to the draft must be submitted in writing.
    - The draft/review process is repeated as many times as necessary to achieve consensus of all interest groups involved.
    - The Standing Orders are submitted to participating departments for approvals for approval.
    - Revised Standing Orders/Protocols and new medical lists are distributed to each participating department to correspond with the annual drug license renewal period.
    - Revised Standing Orders/Protocols may be implemented by a participating department upon completion of these requirements.

- Completion of the annual training exercise
- Completion of the scheduled drug bag updates

**INTERIM CHANGES TO THE STANDING ORDERS**

Each proposed revision will be evaluated by the Standing Orders Committee and the Drug Bag Committee. The Ohio State Board of Pharmacy will be notified. General guidelines to be followed are:

- All interest groups are notified and requested to respond to the proposed revision. The Standing Orders Committee and the Drug Bag Committee convene as many times as necessary to achieve a consensus among the interest groups.
- The proposed revision is submitted to participating department medical directors for approval. Approval consists of a signed, notarized letter from each department medical director. GMVEMS Council collects the letters and submits them to the Ohio State Board of Pharmacy with a revised drug list for the Drug Bag Exchange Program. GMVEMS Council maintains copies of the letters in a master file. The Standing Orders are revised and distributed to DBEP participants.

EM42.01/42.06

## 2004 EMS Standing Orders Synopsis of the Greater Dayton Hospital Association/Greater Miami Valley EMS Council Policy on Emergency Department Re-routing Due to Overcrowding

To avoid misunderstanding, all parties are cautioned to use the word **"rerouting"** never "closed." Patients are never rerouted for patient's economic considerations.

Major changes from the last synopsis of the Reroute Policy are marked with an asterisk (*).

When conditions exist that may hinder the timely treatment of additional emergency cases the designated hospital official declares, "rerouting of emergency patients to be in effect." The intent is to provide for best patient care at the rerouted institution and throughout the EMS system.

Rerouting Does **Not** Apply (DNA) to**:**

1. **Respiratory/Cardiac Arrest**
2. ***Major Trauma**
3. **Serious Burns**
4. **Maternity**
5. **High Risk Neonatal**
6. ***Dialysis Patient**
7. **Hyperbaric needs**
8. **Air Medical Transport**
9. ***Recently Discharged Patients (48 Hours)**

*Psychiatric was deleted from the DNA List, and Recently Discharged Patients was added. Trauma and Dialysis Patients should NOT be rerouted. They should be taken to the hospital where they are normally treated.

When conditions exist the Designated Hospital Official will:

1. **Update GDAHA Reroute web page**
2. **Notify Dayton FD Dispatch or their appropriate county dispatch**
3. **Notify appropriate EMS organizations**
4. **Notify other hospitals**

**Important:** hospitals must always show correct designation on website**:**

- **"Normal Operation"**
- **"Reroute all Emergency Patients"**
- **"Reroute all but Major Trauma"**
- **"Reroute ICU &/or CCU patients Only"**
- **"Forced Open"**
- **"Reroute Emergency"**
- **Lockdown**
- **Special Situation: See website Notes or Call**

Reroute status for any hospital must be reviewed after not more than four hours. The rerouting hospital is responsible for cancellation and will update GDAHA Reroute Web Page, notify Dayton Fire Department Dispatch, and follow the same notification protocols used to initiate the reroute.

**Rerouting Categories Defined**

- "Reroute All Emergency Patients"
  - No patients brought to the rerouted hospital ED, with two groups of exceptions:
    - Permission of the MCP (MCP)
    - Patient is in one of the "DNA" categories
- "Reroute All But Major Trauma"
  - Used only by Trauma Centers. No patients brought to the rerouted hospital ED, with three groups of exceptions:
    - Permission of the MCP
    - Patient is in one of the "DNA" categories
    - Significant trauma
  - Intent is to permit patients needing 'immediate surgical intervention' to go to Trauma Centers
- "Reroute Intensive and/or Coronary Care Patients Only"
  - No patients who require monitoring or ICU are brought to rerouted hospital ED, unless:
    - Permission of MCP
    - Patient is in one of the "DNA" categories

- **Informational Categories**
  - Hospital not able to handle a limited category of patients
  - Examples
    - Stroke or head trauma patients due to CT Scan down
    - Haz-Mat patients
    - Absence of a physician specialty
  - Duration of reroute could be brief or extended
  - Shown on the web page as "Special Situation." Hospitals diverting these categories of patients are **not** rerouted.
  - These categories **do not** trigger "Tie-Breaker" actions
- Lockdown
  - Hospital has activated its disaster plan because of an internal emergency, bomb threat, or other situation rendering it unable to accept patients. "Home Base Hospital" and "Does Not Apply" list are both not applicable in these situations.

When emergency medical service personnel respond to an emergency call and the patient and/or physician requests him to proceed to a hospital which is rerouted, the emergency medical services personnel will have the responsibility of advising the patient and/or physician that "due to overcrowding of the hospital patient care may be jeopardized." If the patient and/or physician still requests to be transported to the rerouted hospital, the emergency medical services personnel will contact the MCP in the emergency department of the rerouted hospital and his/her decision will be binding.

If EMS transports to rerouted hospital, the patient will be attended to. Any discussion concerning the transport decision should be private, and after patient care has been initiated.

Emergency medical service personnel should use their BLS radios, cellular phone or dispatcher to notify the rerouting hospital in unusual circumstances (critical illness or injury, multi-victim incidents, etc.). If a patient is to be transported to a rerouted hospital, EMS personnel must contact the receiving facility by radio or telephone.

**"Tie-Breakers"**
If a three hospitals in a "geographic area" attempt to reroute, all hospitals in that area will terminate rerouting for a minimum of two hours, and each of the three hospitals enters "Forced Open" on the web page. Hospitals have agreed to educate the staff and use Forced Open first, before Reroute Emergency. This is not a change in the policy, but a change in the hospital procedures. Affected hospitals should re-notify EMS of "Forced Open" status.

EMS personnel should realize a "Forced Open" hospital would be rerouted if other hospitals were not. EMS personnel may want to **consider other destinations** when appropriate for patient care.

Following are the geographical areas and the hospitals in each area**:**

| Metro | East | North | South | West |
|---|---|---|---|---|
| **Good Samaritan Hospital**<br>**Grandview Hospital**<br>**Kettering Memorial Hospital**<br>**Miami Valley Hospital** | **Greene Memorial and any other two:**<br>**Miami Valley**<br>**Kettering**<br>**Grandview**<br>**Southview** | **UVMC and any other two:**<br>**Good Samaritan**<br>**Grandview**<br>**Miami Valley**<br>**Wilson Hospital in Sidney** | **Any three:**<br>**Middletown**<br>**Southview**<br>**Sycamore**<br>**Kettering** | **All three:**<br>**Wayne Hospital**<br>**Good Samaritan**<br>**Grandview** |

It is the responsibility of the third rerouting hospital to check the website, and initiate communication with other rerouted hospitals. If one or more hospitals stop rerouting before changes to website are made, "Tie-Breaker" rules are not initiated.

**"Rerouting Emergency"**
If none of the three hospitals in a geographic area can stop rerouting, then a "rerouting emergency" will be declared. During "Reroute Emergency," all squads will transport primarily to their "Home Base Hospitals," except for patients with one of the DNA categories. If responding on a mutual aid call, EMS personnel will use the aided community's "Home Base Hospital" as much as possible.

Hospitals which are not considered "Home Bases" (i.e., VA, WP, CMC, DHH) are not affected by Emergency Rerouting rules. Children's Medical Center, will accept patients up to 21 years of age (no maternity patients). Also, EMS personnel should consider transports to outlying hospitals not affected by the "Reroute Emergency" when practical. Consider the patient's needs, departmental needs (EMS out of service times), hospital situations, and patient delays.

EMS systems and their "Home Base Hospitals are as follows:

| Good Samaritan Hospital | Grandview | Kettering | Miami Valley | Southview |
|---|---|---|---|---|
| **Brookville**<br>**Clayton**<br>**Englewood**<br>**Union**<br>**Dayton FD Co.'s 16 & 14**<br>**Harrison Twp. - Main St.**<br>**New Lebanon**<br>**Lewisburg**<br>**Trotwood**<br>**West Alexandria**<br>**North Central**<br>**Phillipsburg** | **Butler Twp.**<br>**DFD Co.'s 8 & 13**<br>**Harrison Twp. – I75 & Needmore**<br>**Huber Heights**<br>**Vandalia** | **DFD Co.'s 15 & 18**<br>**Kettering FD (4 units)**<br>**Miami Twp. # 48**<br>**Moraine (4 units)** | **DFD Co. 11**<br>**Fairborn**<br>**Jefferson Twp.**<br>**Oakwood**<br>**Riverside**<br>**U.D. Public Safety** | **Bellbrook**<br>**Clearcreek Twp.**<br>**Miami Twp. # 50**<br>**Sugarcreek (2 units)**<br>**Washington Twp.**<br>**Wayne Twp.** |
| Sycamore | Greene Memorial | Middletown | Community Hospital | Mercy Medical Cntr. |
| **Farmersville**<br>**Miamisburg (2 units)**<br>**Miami Twp. # 49**<br>**West Carrollton**<br>**Germantown**<br>**JEMS** | **Beavercreek**<br>**Cedarville Twp.**<br>**Cedarville University**<br>**Central State University**<br>**Fairborn**<br>**Jefferson Twp.**<br>**Miami Twp.**<br>**New Jasper Twp.**<br>**Silvercreek Twp.**<br>**Xenia**<br>**Xenia Twp.** | **Gratis**<br>**Lebanon**<br>**Mason**<br>**Turtlecreek** | **Hustead EMS**<br>**Madison Twp.**<br>**Harmony Twp.**<br>**Springfield Twp. Stations 1 & 2**<br>**Pleasant Twp.**<br>**SFRD Medic 3, 6, 8** | **German Twp.**<br>**New Carlisle**<br>**Pike Twp.**<br>**Bethel Twp.**<br>**Springfield Twp. Station 3**<br>**Mad River Twp.**<br>**Moorefield Twp.**<br>**SFRD Medic 2, 7, 10** |

| U.V.M.C. | Wayne | Wilson | | |
|---|---|---|---|---|
| **Miami County Squads** | **Darke County Squads** | **Shelby County Squads** | | |
| Reid | Clinton | McCullough | | |
| **Eaton**<br>**NW Fire - New Paris** | **Massie Twp** | **Camden** | | |

## Hospitals Capabilities List

Below is a list of hospitals, and the specialty capabilities of each (Stroke, PCI, Trauma, etc.).

| Hospital | Adult Trauma Center & Level | Pedi Trauma Center & Level | Inpt. Burn Servc | Interventional Cath Lab 24/7 | If Cath Lab, Cardiac Alert Program | If No Cath Lab, Throm-bolytics for AMI | Labor & Delivery Srvcs | 24 hr Neuro Cover-age | Stroke Protocol with Throm-bolytics | Other (see below) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Children's** | | Level 2 | YES | | | | | YES | | |
| **Community** | | | | YES | | | YES | YES | YES | |
| **Dayton Heart** | | | | YES | YES | | | | | |
| **Good Sam** | | | | YES | YES | | YES | YES | YES | |
| **Grandview** | | | | YES | YES | | | YES | YES | * |
| **Greene Memorial** | Level 3 | | | | | YES | YES | YES | YES | |
| **Kettering** | | | | YES | YES | | YES | YES | YES | * |
| **Mercy (Sprfld)** | | | | YES | | | | | YES | |
| **Mercy (Urbana)** | | | | | | YES | | | YES | |
| **Miami Valley** | Level 1 | Level 1 | YES | YES | YES | | YES | YES | YES | ** |
| **Middletown** | Level 3 | | | | | | | | | |
| **Southview** | | | | | | YES | YES | YES | YES | * # |
| **Sycamore** | | | | | | YES | | YES | YES | * # |
| **Upper Valley** | | | | | | YES | YES | YES | | |
| **Wayne** | | | | | | YES | YES | | | *** |
| **WPAFB** | | | | | | YES | YES | | | |

*** Accredited Chest Pain Eval Center**
**** Sexual Assault Nurse Examiners 24/7**
***** Treats superficial/minor burns. Thrombolytics for stroke pts at receiving hosp. direction**
**# Has a "cardiac alert program" but no cath lab on site**

# *Hospitals' Guide for Public Safety Worker (PSW) Exposures*

Updated 6-06 (Data subject to change-check periodically to ensure most current)

| Step | 9-04 Childrens | Community 6-06 | DHH 6-06 | 9-04 GSH | 9-04 GVH/SVH | GMH 6-06 | 9-04 KMH/SYC | MMC & MMH 6-06 | MVH | MRH | Wayne 6-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wash Area | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Notify Supervisor | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Report to hospital | Y | Y | Y | Y | Y | Y | Y | Y | Y | | Y |
| Hospital Contact | NICU Charge Nurse | ED Staff -> EMS Coord | ED Staff -> EMS Coord. | ED staff, or Infection Control | ED Staff -> EMS Coord. | Infection Control | ED Staff -> Infection Control | ED Staff -> EMS Coord | Security -> AOC | ED Charge Nurse | Infection Control |
| Complete "Request for Information Form for HCWs" | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Type into ED | If desired | Y | Y | If desired | Y | Y | If desired | Y | If desired | Encouraged | Y |
| Have ***your*** lab drawn | If source is high risk (not routine) | If Indicated | Y | If indicated | Y | Y | If desired | If indicated | If desired | If Desired | If indicated |
| Have ***source*** lab drawn (HIV, Hep B, Hep C) | Y | Y (Rapid HIV avail.) | Y (Rapid HIV avail.) | Y (Rapid HIV avail) | Y (Rapid HIV avail.) | Y | Y | Y | Y (Rapid HIV avail.) | Y (Rapid HIV Available) | Y |
| Follow-up: Consult ***YOUR Fire/EMS/Police*** Dept policies/procedures as well | Follow dept policy | Infection Control | EMS Coord. or designee & Follow dept policy | Infection Control | EMS Coord. or designee & Follow dept policy | WorkPlus Dept | Infection Control & Follow dept policy | Infection Control | Infection Control or Admin Officer | Follow Dept. Policy | Director of Administrative Services |
| Comments | Infection Control Doc available 24/7 for RN contact if needed | Give form to EMS Coord, who forwards to Infection Control for follow up | EMS Coord. is to be paged 24/7 by ED or Prehospital provider | Form placed in locked box in EMS room for Infection Control | EMS Coord. is to be paged 24/7 by ED or Prehospital provider | | Infection Control to be paged 24/7 by ED | Give form to EMS Coord who forwards to Infection Control for follow up | Security page Infection Control Mon-Fri 8-4. Admin Officer to be paged at all other times including holidays | Exposure packets located by EMS radio. Anti Viral meds available in ER if needed. | Give form to Dir Admin Srvcs, ED Manager or House Supervisor |

Prepared by Lisa Faulkner, Infection Control Chair, GMVEMSC after consult with hospitals' EMS Coordinators and Infection Control Officers

Region 2 EMS Providers, October 25, 2006

This Training Manual has been produced as a result of countless hours of work by a diverse cross section of the EMS community in the Region. The members of the Standing Orders and Continuing Education Committees, and the RPAB have poured input in this document. The new AHA Guidelines have been incorporated and there has been a philosophical change with orders this year requiring more critical thinking.

There are companion documents and additional resources that are available for you to either view online / download for further explanation on the Training / Testing process for 2007. The first of those is the "2007 Implementation Guide". It addresses the new philosophy, CEUs, and other important information regarding the testing. The other is the Ohio Public Safety "Scope of Practice" document. We hope to have additional supplemental material posted on the websites soon.

The Training Manuals and processes would not have been possible without the strong foundation left by the past chairpersons of the Continuing Education Committee, Anne Boyd and Standing Orders, David Gerstner. Thank you both. We would also like to thank the members of the two committees that made this possible:

| Continuing Education | Standing Orders |
|---|---|
| Tony Alexander | Dr. Randy Marriott, Co-Chair |
| Tom Baltes | Denny Powell, Co-Chair |
| Karen Basso | Tom Baltes |
| Jeff Bruggeman | Tammy Beanblossom |
| Gerald Bowerman II | Lisa Faulkner |
| Dave Evans | David Gerstner |
| Lisa Faulkner | Jason Kinley |
| David Gerstner | Dixie Kirkland |
| Jason Kinley | Brian Kuntz |
| Dixie Kirkland | John Larch |
| Brian Kuntz | Ken Livingston |
| John Larch | Tom Long |
| Tom Long | Bill Mangas |
| Bill Mangas | Terri Norris |
| Dr. Randy Marriott | Tony Stringer |
| Terri Norris | Steve Swoll |
| Denny Powell | |
| Erik Sheiderer | |
| Tony Stringer | |

Sincerely,

*Steve M. Stein*

Continuing Education Chair

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