

GMVEMSC PREHOSPITAL EMT-I (ADVANCED EMT)
STANDING ORDERS TRAINING MANUAL
VERSION January 1, 2013
Adult: Patients 16 Years Old and Above
Pediatric: Patients under 16 Years Old

ADULT and **PEDIATRIC** ORDERS INDEX

TOPIC	PAGE	TOPIC	PAGE
12-Lead EKG	11	Field Termination	4
2012 Changes	92	Frostbite	19
Abbreviations	37	GCS Scales	17
Abdominal Pain	24	Hazardous Drug Exposure	32
Administering Nerve Agent Antidotes	34	HAZ-MAT	31
Airway Maintenance	4	Head Injury	17
Allergic Reactions	22	Heat Exposure	20
Altered LOC	22	Hemorrhage Control	17
Antidote Resources	34	Hospital Capabilities	89
APGAR Scores	26	Hydrofluoric Acid, Haz-mat	33
Asthma/Emphysema/COPD	21	Hypothermia	19
Biological, Haz-mat	33	Intubation	6
Bradycardia	12	Initial Care	4
Burns/Smoke Inhalation	19	IO Insertion	6
Capnography	5	Maintenance Existing Med Pumps	8
Carbon Monoxide	20	Major Trauma	17
Cardiac Arrest-Asystole/PEA	10	Nebulized Meds	6
Cardiac Arrest-BLS	8	Newborn Resuscitation	26
Cardiac Arrest-PATH Protocol	10	Non-Initiation of Care	3
Cardiac Arrest-VFIB/Pulseless VT	10	Obstetrical Emergencies	25
Cardiovascular Emergencies	8	Organophosphate/Nerve Agent, Haz-Mat	33
CHEMPACK	35	Pepper Spray, Haz-Mat	35
Chest Pain	10	Poisoning/Overdose	23
Child Abuse	27	Prehospital Field Triage	14
Childbirth	25	PSW Exposure Matrix	90
Combative	29	Psychiatric	29
Communications	2	Pulmonary Edema	21
CPR Chart	9	Reroute Policy	83
Crisis Standards of Care	31	Respiratory Distress	21
CVA/TIA Checklist	40	Regional Hospital Notification	36
Cyanide, Haz-mat	33	Rights of Medicine Administration	41
Delivery Complications	26	Safe Harbor	27
Diabetic Refusal	22	SALT Triage	30-A
DNR-Comfort Care/Comfort Care Arrest	3	Seizures	23
Drowning	19	Shock	12
Drug Bag Exchange Program	70	Skills Sheets	58
Drug Sheets	42	Spinal Clearance	30
EDD	6	Stipulations	2
Elder Abuse	28	Stroke	12
End Tidal CO ₂ —Colorimetric	5	Tachycardia	12
Exsanguinating Hemorrhage	12	Tension Pneumothorax	6
Extremity Injuries	18	Transport	16
Eye Injuries	21	Trauma Criteria	14
Fever	27	Trauma Emergencies	13

STIPULATIONS

- This protocol is for use by those individuals operating in and under the authority of the Greater Miami Valley EMS Council (GMVEMSC) Drug Box Exchange Program and certified by the State of Ohio as an EMT-Intermediate, to be referred to as Advanced EMT.
 - This protocol is to be used in the field only. Communications must be attempted as soon as practical for potentially unstable patients or for 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 Medical Control Physician (MCP) permission.
 - 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.
 - 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 use appropriate confirmation devices (EtCO₂ detectors or monitors, or Esophageal Detection Devices).
 - Infrequently, stepwise adherence to specific protocols may not be in the patient's best interest. No protocol can substitute for the EMS professional's judgment. However, at no time should treatment options exceed those authorized without direct consultation with Medical Control. In all such cases, contact with Medical Control should be considered as soon as possible.
 - The Adult and Pediatric Orders ("Peds") are combined.
- A** Sections that apply only to Adults are bulleted with a bold "A."
- P** All Pediatric treatments will be in Pink and bulleted with a bold "P."
- Sections which apply to both Adult and Peds are indicated with standard bullets.
- G** There are a few sections which apply only to Geriatric patients and are bulleted with a bold "G."

COMMUNICATING WITH HOSPITAL OR MEDICAL CONTROL

- There are several reasons to contact the hospital:
 - To notify the hospital when time is needed to set-up for the patient. Examples include major trauma, cardiac arrest, hazardous materials, bedbugs, and Cardiac or Stroke Alerts.
 - Hospitals that request to be notified on every patient transported to their facility are:
 - Children's Medical Center, Maternity at Miami Valley Hospital, Miami Valley South, Greene Memorial Hospital, Springfield Regional Medical Center, Sycamore, Upper Valley Medical Center, Veterans Adm. Medical Center, Wayne Hospital, McCullough-Hyde Hospital, and WPAFB Medical Center.
 - To obtain orders, such as for procedures or medications indicated by the diamond in these Standing Orders
 - To obtain advice. For example, guidance from the MCP might be needed before a medication is given, even though Standing Orders allow it to be used without permission. Another situation could be a patient with an unfamiliar condition.
- When contacting the hospital, make sure a clear picture is painted. The crew can see the patient; the hospital personnel cannot. The ability to communicate findings will directly impact the hospital's response.
- When calling about a trauma patient, include MIVT, ETA, the components of the GCS, and patient assessment findings, especially those relevant to the decision to transport to a Trauma Center.
- If consultation with a physician is desired, the medic should specifically request Medical Control
- Paramedics should read the EKG, and then decide whether it should be transmitted, or if a call is enough. Paramedics who have transmitted an EKG are expected to call and to speak with the MCP.
- Basics and Intermediates must call the hospital whenever they transmit an EKG.
- When calling with an alert (Trauma, Cardiac, or Stroke) say, "We recommend a _____ Alert."
- Remember that the hospital may have more information, and may or may not decide to act on your recommended alert. Examples:
 - Patients who meet Trauma Destination Protocols do NOT always warrant the hospital calling in a surgical team immediately.

- o A patient who meets Cardiac Alert criteria may have prior EKGs in their hospital record that indicate that the alert is unnecessary.

NON-INITIATION OF CARE

Non-Initiation of Care

- Resuscitation will not be initiated in the following circumstances:
 - o Burned beyond recognition
 - o Decapitation
 - o Deep, penetrating, cranial injuries
 - o Massive truncal wounds
 - o DNR Order—present and valid
 - o Frozen body
 - o Hemitorporectomy (body cut in half.)
 - o Rigor mortis, tissue decomposition, or severe dependent post-mortem lividity
 - o Triage demands
 - o Blunt trauma found in cardiac arrest *unless* one of the following conditions is present:
 - Patient can be delivered to an emergency department within 5 minutes.
 - The arrest is caused by a medical condition.
 - Focused blunt trauma to the chest (such as a baseball to the chest)
 - An example is Commotio Cordis, a form of sudden cardiac death, seen most often in boys and young men playing sports. It occurs as the result of a blunt, non-penetrating impact to the precordial region from a ball, bat or other projectile.
 - o 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.

NOTE: Pediatric patients may meet non-initiation of care criteria.

DNR: COMFORT CARE / COMFORT CARE ARREST

Do Not Resuscitate-Comfort Care (DNR-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**
- Splinting/immobilization
- Bleeding control
- Pain control

The following treatments are **not** permitted:

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

Do Not Resuscitate-Comfort Care Arrest (DNR-CCA)

- Allows any appropriate Standing Orders treatment until cardiac or respiratory arrest or 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 by action.

FIELD TERMINATION OF RESUSCITATION EFFORTS WITHOUT AVAILABLE ALS

P FIELD TERMINATION DOES NOT APPLY TO PEDIATRICS

- A ♦ When faced with a patient in cardiac arrest without return of spontaneous circulation (ROSC), no paramedics are available at the scene, and transport time to a medical facility will exceed 20 minutes, contact MCP for orders to terminate the resuscitation.
 - o ♦ MCP must be contacted, speak directly with the EMS provider, and give consent to stop resuscitation.
 - o The intent of this section is to avoid the risks of transporting non-viable patients emergently.
- A **Send a copy of the run sheet to the EMS Coordinator of the authorizing MCP's hospital.**

NOTE: If family requests any information about organ donations have them call Life Connection of Ohio @ 800-535-9206.

INITIAL CARE

- Follow basic/advanced life support and airway algorithms as indicated based on current AHA Guidelines.
- Obtain and document the chief complaint, OPQRST, SAMPLE history, and vitals.
- Utilize cardiac monitor and other monitoring devices as appropriate.
- Start IV of **Normal Saline (NS)** or Saline Lock (SL) as appropriate.
- **IVs:**
 - o Shock: **NS** run wide-open, using macro-drip or blood tubing. Decrease fluid rate if SBP >100.
- **P NS 20 ml/kg using macro-drip tubing. Titrate to maintain adequate perfusion.**
 - o Medical emergencies, head trauma, cardiac problems with stable BP: Use TKO rate.
 - o IV medication administration: **Slow IV = over 2 minutes**, unless otherwise specified.
 - o Any medication given IV can also be administered IO.
- Use of {IO devices} for both Adults and Peds is limited to patients who are unresponsive or hemodynamically unstable, and only when less invasive means are not available or are ineffective (e.g., Glucagon IM, Narcan IN, and Versed IN).
- ♦ If a patient with an existing IV pump experiences an allergic reaction, call the MCP for an order to discontinue the pump. Otherwise, the IV pump must be maintained.
- Bring medications or a list of the medications; include the dose and frequency administered.

NOTE: Take extra tubing and medication packets to the receiving facility with patients with insulin pumps.

NOTE: Pedi-Wheel may be used as a reference for pediatric vital signs.

AIRWAY MAINTENANCE

- **O₂** as needed. Use the following rates as guidelines:
 - o **2 LPM by nasal cannula (NC)** for patients with COPD
 - o **4-6 LPM by NC** for other patients
 - o **8-10 LPM for** nebulized meds
 - o **12-15 LPM by non-rebreather mask (NRM)** for severe trauma patients, distressed cardiac patients, patients with respiratory distress, and other patients who appear to need high flow **O₂**.
- Ventilate symptomatic patients who have insufficient respiratory rate or depth.
- Intubate if apneic.
- Consider patient airway anatomy and condition for proper airway adjunct selection.
- A If two attempts with an ETT are not successful, move to an adjunct device.
 - o If approved, adjuncts considered “rescue airways” such as the LMA or Dual Lumen Airways may be appropriate primary airway devices.
- **P {LMA} is recommended as the primary airway except in extreme cases.**
- Confirm correct placement of advanced airway by at least five methods. Capnography is the gold standard.” CO₂ detection methods are recommended.

Respiratory Rates by Age	
Up to 1 year	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

Confirmation Methods:

- Physical assessment including auscultation of the epigastrium, anterior chest, midaxillary areas and then the epigastrium again
- Repeat visualization of the tube between the vocal cords
- Condensation in the tube
- A Keeping an oral endotracheal tube at the 20-22 cm mark at the teeth will prevent inserting the ETT too far, greatly reducing the chance of a right mainstem bronchus intubation. Don't confuse right mainstem intubation for a pneumothorax.
- P Proper depth placement of endotracheal tube in the pediatric patient can be calculated by the following formula: Depth of insertion (marking on tube at teeth or gum line) = tube size x 3.

Confirmation Devices:

- {EtCO₂ Monitor}
- {EtCO₂ with waveform}
- {EtCO₂ Detector}
- {Esophageal Detection Device (EDD)}

ELECTRONIC END TIDAL CO₂ (ETCO₂) MONITORS—CAPNOGRAPHY

Waveform EtCO₂ is the preferred confirmation device. 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 sample the ventilation more remotely. Capnography can also be used with patients who are not intubated. In-line EtCO₂ monitors can be used on patients with or without adequate perfusion. Electronic monitors show changes in real-time.

Capnography or capnometry is considered the gold standard of tube placement confirmation. **If this equipment is available, it should be used on EVERY intubation, and always be one of five confirmation steps. Ventilations should be titrated to EtCO₂ of 30-35 torr. Maintain this device until patient care is transferred to the receiving hospital.**

END TIDAL CO₂ DETECTOR (ETCO₂)—COLORIMETRIC

Colorimetric Limitations:

- The Colorimetric EtCO₂ detector may be utilized as a confirmation device for patients in cardiac arrest, **IF** it shows the presence of CO₂ (color change to yellow). If there is no color change, use other confirmation methods. The absence of color change in a properly placed tube may be caused by a lack of perfusion, but it may also indicate esophageal intubation.
- Secretions, emesis, etc. can ruin the device.
- A patient with large amounts of carbonated beverage (e.g., beer) in their stomach can give a false positive result. The device may sense the CO₂ given off by that beverage and indicate that the tube is in the trachea, when it is in the esophagus.
- The device can be used for no more than two hours.
- Follow manufacturer's recommendations for weight restrictions.

Medication Issues:

- If medications are administered via ETT, remove the EtCO₂ detector for several ventilations until no medication returns through the tube during exhalation. Medications splashing up the tube can alter color change.
- Intravenous sodium bicarbonate will produce more carbon dioxide resulting in enhanced color.

ESOPHAGEAL DETECTOR DEVICE (EDD)

This device confirms 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.

EDD Limitations:

- A large amount of gastric air (e.g., caused by carbonated beverage, aggressive ventilations, misplacement of ETT) can give a false positive finding. Tracheal obstructions in patients with morbid obesity, late pregnancy, status asthmaticus, or copious endotracheal secretions may yield misleading results.
- 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.
- It cannot be used continuously. It must be removed after confirmation, though it may be used again after patient movement.
- Use only for confirmation of endotracheal tube placement, not for any other airways (LMA, King, etc.).

P May only be used on pediatric patients older than 5 years of age who weigh at least 20 kg (44 pounds).

INTUBATION

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

Tension Pneumothorax Relief:

- If there are indications of tension pneumothorax and the patient is hemodynamically unstable, decompress the chest with a 14-gauge, 3 1/4 inch angiocath placed in the second or third intercostal space in the mid-clavicular line (MCL). The MCL is parallel to the sternum, extending down from the midpoint of the clavicle. Placement of a needle too high, too low, too medial, or too lateral increases the risk of complications. Tracheal deviation is a very late sign and therefore an unreliable indicator.
- A** 3 1/4" angiocaths may not be available from emergency departments. EMS agencies may need to purchase them.

NEBULIZED MEDICATION

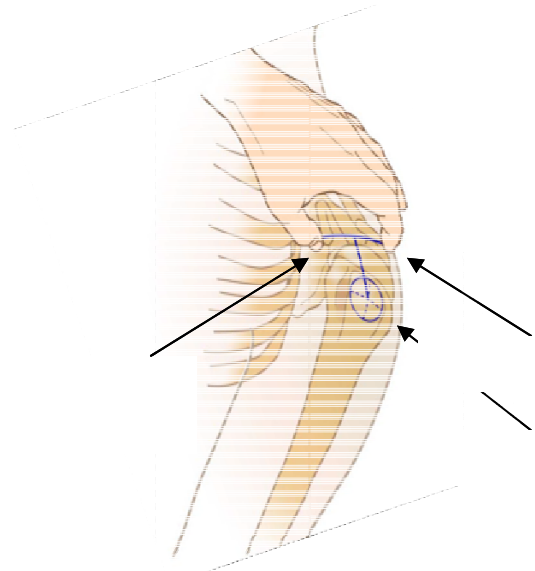
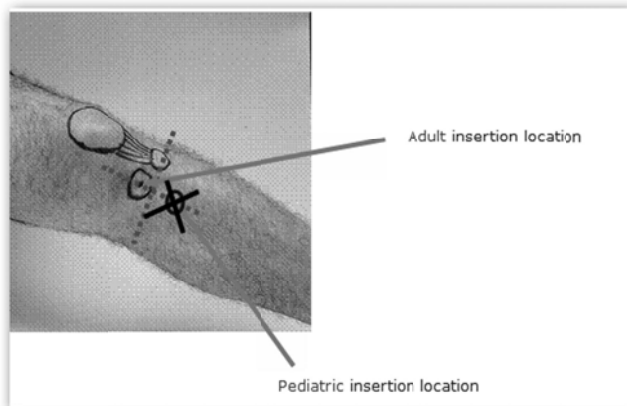
Nebulized medication may be administered while ventilating a patient with a BVM. The process ideally requires two oxygen sources, one attached to the nebulizer and one attached to bag-valve device and an extra elbow. If there is only one oxygen source, attach it to the nebulizer until medication delivery is complete, and then attach to BVM. Refer to the diagram on the skill sheet for further information.

{IO INSERTION}

- Use of IO devices is limited to patients who are unresponsive or hemodynamically unstable; and then, only when less invasive means are ineffective or not available (e.g., IM Glucagon, IN Narcan or Versed.)

- A For an adult in cardiac arrest, the preferable order of vascular access is EJ or AC, proximal humeral IO, and as a last resort, proximal tibial IO.
- A Consider the use of **Lidocaine 1.5 mg/kg (max 100 mg)** for pain control in the conscious patient.
- O An adult cardiac arrest patient's circulation differs from a pediatric cardiac arrest patient's, and also differs from an adult in deep shock. With the approval of the department's Medical Director, it is recommended that the proximal humerus be the site for IO insertions for adults in cardiac arrest. IV/IO accesses below the diaphragm may be ineffective for patients greater than 8 years old who are receiving CPR. Flow rates are better in the proximal humerus due to decreased bone density. The longer yellow (45 mm) needle is the only one recommended for this site in adults.
- In summary:

	<u>Adults</u>	<u>Pediatric</u>
Arrest:	Humerus	Tibia
Non-arrest:	Tibia	Tibia



Proximal Tibia: Find the "flat spot" on the medial aspect of the tibial shaft two finger widths below (distal) the tibial tuberosity. Remember, "Big Toe IO" means to look on the big toe side of the leg for the tibial plateau (the flat spot). Use a similar technique as for the Pediatric tibial insertion.

IO Insertion at Proximal Tibia Site

1. Identify the tibial tuberosity by palpating just below the knee.
2. Locate the consistent flat area of bone 2 cm distal and slightly medial to the tibial tuberosity (to avoid growth plate).
3. Support flexed knee with towel under calf.
4. Prep the skin and insert needle according to manufacturer's directions.
5. Use 10-15° caudal angulation to further decrease risk of hitting growth plate.
6. Needle will stand up on its own with proper placement.
7. Attach syringe and aspirate bone marrow (to further confirm placement).
8. **Lidocaine 2% 0.5 mg/kg IO** for pain associated with IO infusion.
9. Connect the IV line. If flow is good and extravasation is not evident secure needle with gauze pads and tape.
10. A pressure bag may facilitate infusion.

NOTE: The administration of other drug therapy should not be delayed due to the administration of lidocaine for pain management.

Humeral Head

The greater tuberosity is located by placing the patient's hand on their belly button and relaxing their shoulder and elbow. Draw a straight line between the coracoid process and the acromion. Complete

the drawing of a perfect triangle by using the previous line as the base of the triangle and extending the "point" of the triangle over the humeral head. The site is at the downward point of the triangle.

IO Insertion at Humeral Head Site

1. Position patient so shoulder is adducted (moved toward the middle of the body) and the greater tuberosity is most prominent by lying patient supine, arm at their side with palm on their belly button.
2. Palpate proximal humerus and identify the greater tuberosity.
3. Prep the skin.
4. Insert the needle at 90-degree angle directly into the greater tuberosity.
5. Needle will stand up on its own with proper placement.
6. The yellow IO needle may have to be used on larger patients.
7. Attach syringe and aspirate bone marrow to further confirm placement.
8. Connect the IV line. If flow is good and extravasation is not evident, secure needle with gauze pads and tape.
9. Pressure bags may facilitate infusion.

MAINTENANCE OF EXISTING MEDICATION PUMPS

Do not stop the flow of medication except under direct orders from Medical Control. There are some drugs such as **FloLAN** that could kill the patient if stopped. If the patient is experiencing an allergic reaction, call Medical Control.

NOTE: The exception is a diabetic patient with an insulin pump who is hypoglycemic as confirmed by a blood glucose monitor. If 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. The patient could receive a large bolus of insulin if the wrong button is pressed. If familiar with the device, it is permissible to "Suspend" the administration of insulin.

CARDIOVASCULAR EMERGENCIES

CARDIAC ARREST: BASIC LIFE SUPPORT

- Assess patient for respiratory and cardiac arrest.
- Initiate CPR and utilize an {AED/Defibrillator} using the most current American Heart Association Guidelines.
- Ratio of compressions to breaths of 30:2 at a rate of at least 100 compressions per minute
- A Consider {Impedance Threshold Device (i.e., Res Q Pod)}.
- Transport patient as appropriate.

General Considerations:

- CPR should not be interrupted for more than 10 seconds until spontaneous pulse is established.
- For pregnant patient in arrest consider need for manual uterine displacement and perform chest compressions slightly higher on the sternum than normal.
- In all cardiac arrests, consider the ACLS "Treatable Causes": i.e., "Hs" and "Ts":

Hs

Hypovolemia
Hypoxia
Hypothermia
Hydrogen Ion (Acidosis)
Hypoglycemia

Ts

Toxins
Trauma
Tension Pneumothorax

2010 AHA CPR GUIDELINES

	ADULTS	CHILDREN	INFANTS	NEWBORNS
CPR ORDER	Compression, Airway, Breathing CAB			
COMPRESSION DEPTH	At Least 2 Inches	1/3 Depth of Chest (About 2’’)	1/3 Depth of Chest (About 1½’)	1/3 Depth of Chest
COMPRESSION RATE	at least 100 per minute			120 per minute
COMPRESSION NOTES	Minimize Interruptions In Chest Compressions Attempt to Limit Interruptions to < 10 Seconds			
COMPRESSION TO BREATHS RATIO	30:2 1 OR 2 Person CPR	30:2 1 Person CPR 15:2 2 Person CPR		3:1
ADVANCED AIRWAY	1 breath every 6-8 seconds (8-10 breaths/min) About 1 sec per breath duration No pause between compressions			40-60 breaths /min
RESCUE BREATHING	1 breath every 5-6 seconds (10-12 breaths/min)	1 breath every 3-5 seconds (12-20 breaths/min)		40-60 breaths/min

NOTES:

- Use jaw-thrust method to open airway on trauma patients.
 - Allow the chest to fully recoil after each compression.
 - Change person compressing chest every 2 minutes.
 - Minimize interruptions in compressions before and after each shock to less than 10 seconds.
 - Resume CPR beginning with compressions.
 - Attach and use AED as soon as possible.
 - Utilize AED as it is programmed. (Even if it is not to AHA guidelines.)
- P** If available, use age appropriate AEDs or pads.

CARDIAC ARREST: V-FIB/PULSELESS V-TACH

- If witnessed or unwitnessed arrest, initiate quality CPR and proceed to first defibrillation as soon as possible.
- First Defib:
 - A 360 J for monophasic, use manufacturer's recommendations for biphasic.
 - P Defib: 2 J/kg or biphasic equivalent.
- CPR for 1- 2 minutes
- Second Defib:
 - A 360 for monophasic, use manufacturer's recommendations for biphasic.
 - P Defib: 4 J/kg or biphasic equivalent.
- CPR for 1- 2 minutes
- Third Defib:
 - A Defib: 360 for monophasic, manufacturer's recommendations for biphasic.
 - P Defib: 6 J/kg or biphasic equivalent.
- CPR for 1- 2 minutes
- Fourth Defib:
 - A Defib: 360 for monophasic, to manufacturer's recommendations for biphasic.
 - P Defib: 8 J/kg or biphasic equivalent.
- Continue CPR and repeat treatment as indicated.
- P Fifth and successive defibrillations will be at 10 J/kg or biphasic equivalent.
- Consider treatable causes.

CARDIAC ARREST: ASYSTOLE/PEA

- CPR
- Consider treatable causes
- Continue CPR and repeat treatment as indicated.

CARDIAC ARREST: POST-ARREST

- A {Cardiac Monitor with 12-lead as soon as possible}
- o {Call MCP for advice on transport destination.}
- A {Post-Arrest Therapeutic Hypothermia (PATH)}
- P ♦PATH protocol may be beneficial to pediatric patients.
 - A {Do NOT start protocol if patient is hypothermic (< 34°C/93.2°F)}, or if patient is conscious.
 - A {Place ice packs in axilla, groin bilaterally and neck. Protect skin with towels. Change ice packs every 15 minutes or when needed. Do not delay transport to cool.}
 - A {Complete neurologic exam including GCS and pupil response.}
 - A {Chilled (4°C/39.2°F) Normal Saline bolus IV to a total of 2 L max as rapidly as possible}

CLINICAL PEARLS:

- Protocol begins with Return of Spontaneous Circulation (ROSC).
- Inclusion Criteria:
 - o ROSC not related to blunt/penetrating trauma or hemorrhage.
 - o Age 16 or older
 - o Advanced airway in place with an EtCO₂ > 20
 - Patients may develop metabolic alkalosis with cooling. Do not hyperventilate
 - o ♦If advanced airway cannot be obtained, cooling may only be initiated with MCP order.
 - o GSC < 8 (No purposeful response to pain.)
 - o No known DNR order exists.
- Goal temperature 32-34⁰ C (89.7-93.2⁰ F)

SUSPECTED CARDIAC CHEST PAIN

Chest pain in the pediatric patient is rarely related to a cardiac event. Assessment of other causes (e.g., muscle pain, respiratory difficulties, injury) should be completed to determine the source of pain. Application of supplemental oxygen and transport should be the mainstay of care for these patients. Contact MCP for further advice when needed. The rest of Chest Pain Algorithm does not apply to Peds.

- A Cardiac patients should be considered unstable if they are hypotensive, have altered mental status, or chest pain and poor skin color or diaphoresis.
- A Ask male and female patients if they have taken Viagra, Cialis, Levitra, Revatio or similar medications within the last 24 hours. Do not administer **Nitroglycerin (NTG)** if they have taken the above medications. NTG may cause profound hypotension in these patients.
- A Give **Aspirin 324 mg** to every patient 25 years old or older with symptoms of Acute Coronary Syndrome (ACS) including anginal chest pain, shortness of breath, syncope, diaphoresis, weakness, nausea or vomiting. Some patients (women, elderly, or diabetics) often may have atypical symptoms. Patient **MUST CHEW** the **aspirin**.
- A Prior to moving patient, acquire a supine {12-lead EKG} on all patients with ACS symptoms. If a {12-lead EKG} is obtained, it must be transmitted to MCP. MCP shall determine the destination based upon patient condition. When calling report, include patient's cardiologist.
- A If SBP >100, and the patient is at least 25 years of age, administer **Nitroglycerin 0.4 mg SL** every 5 minutes x 3 with vital signs between doses. Prior to NTG administration, consider vascular access for patients who have not previously had NTG.
- A Consider **Fentanyl, up to 50 mcg, slow IV**, provided SBP >100 after first NTG. **DO NOT WAIT UNTIL 3 NTGS ARE GIVEN BEFORE CONSIDERING FENTANYL.**
 - o If unable to obtain IV, give **Fentanyl 50 mcg IM**.
 - o After five minutes, may consider repeating **Fentanyl 50 mcg, slow IV**.
 - o Repeat dose of **Fentanyl 50 mcg IM** (repeat no sooner than 30 minutes) is indicated only if transport time is greater than 30 minutes.
- A **NS, up to 500 ml, IV**, may be administered to a patient with SBP < 100 without pulmonary edema.
- A Consider repeat EKGs during transport.

NOTE: Revatio is a drug approved for treatment of pulmonary arterial hypertension (PAH), a disease that may be treated with Flolan at end stage. The drug contains Sildenafil which is Viagra. Organic nitrates are contraindicated with Revatio. Revatio is prescribed for both men and women. Providers should ask patients, especially PAH patients, about both Viagra and Revatio before giving NTG.

OBTAINING A 12-LEAD EKG

- Limb leads:
 - o Left and right shoulders, or anywhere on their arms
 - o Leg electrodes anywhere below the waist
- Chest leads:
 - o V1: The Angle of Louis is the prominence on the sternum where the manubrium (top third of the sternum), sternal body (bottom two thirds), and the second rib all come together. Locate it by palpating the "bump" on the sternum, then move out along the second rib to the patient's right. Just below the second rib is the second intercostal space. Move down two more intercostal spaces, and position electrode V1 in the fourth intercostal space, just to the right of the patient's sternum.
 - o V2: Place an electrode in the fourth intercostal space on the left side of the sternum.
 - o V3: Place V4 first, see below.
 - o V4: From V2, move down to the fifth intercostal space on the patient's left, then move laterally to the mid-clavicular line. V4 goes at the intersection of the fifth intercostal space, and the mid-clavicular line.
 - o V3: Halfway between V4 and V2
 - o V5: Find the anterior axillary line by locating the crease where the arm joins the chest. Move down that line to a point just lateral to V4.
 - o V6: V6 is placed on the midaxillary line, level with V5.
- If MCP suspects an inferior wall MI, they may ask for V4R. Lead V4R is simply Lead V4 on the patient's Right side, instead of their left. It provides a better picture of the right side of the heart. Capturing Lead V4R is very simple. Just complete the following steps:
 - o Perform a normal 12-Lead EKG.
 - o Place one additional electrode on the patient's right side, in the same anatomical location as V4 on the patient's left.

- o Move the V4 Lead from the left, to the new electrode on the right.
- o Complete another 12-Lead EKG.
- o Label this EKG with the patient's name, and the time. Label V4 prominently as V4R.
- Skin preparation
 - o Use alcohol preps to prep the skin for monitoring electrodes and for 12-Lead EKGs.
 - o DO NOT use alcohol preps with therapeutic electrodes, such as QuikCombo pads.
 - o Shave excess hair.
 - o Dry skin.
- Primary ways to reduce artifact:
 - o Thoroughly prep the skin.
 - Remove excess hair.
 - o Attach each electrode solidly.
 - o Prevent patient movement.
 - o Prevent cable movement.
 - o Stop the squad.
 - o Eliminate electromagnetic interference (EMI):
 - Turn off or move away from electrical devices.
 - Do not allow patient cables to touch power cords.
 - Make sure patient cables and electrodes are in good shape.
- {Transmit the 12 Lead EKG} and call the receiving facility.

CARDIAC DYSRHYTHMIAS: BRADYCARDIA/ TACHYCARDIA

A cardiac patient should be considered unstable if they are hypotensive, has altered mental status, or has unresolving chest pain and poor skin color or diaphoresis.

- Obtain {12-lead EKG}.
- For adequate perfusion, observe and monitor.
- Transport immediately unless ALS intercept is < 5 minutes.

SHOCK

Without Pulmonary Edema

(No JVD, edema, or rales noted)

- A NS 500 ml IV
- P NS 20 ml/kg IV. Titrate to maintain adequate perfusion.
- A ♦ Repeat NS 500 ml IV, if needed.
- P ♦ Repeat NS 20 ml/kg IV, if needed
- For persistent shock, establish additional vascular access.

With Pulmonary Edema

(JVD, edema, or rales present).

- A Consider NS 250 ml IV.

Exsanguinating Hemorrhage:

- A Control external bleeding and treat for hypovolemic shock as indicated.
- A NS to maintain SBP > 100 en route to hospital.
- P NS 20 ml/kg IV. May repeat x 2. Titrate to maintain adequate perfusion

Orthostatic Vital Signs: Consider evaluation of orthostatic vital signs in a conscious patient suspected of being volume depleted, provided there is no suspicion of spinal injury or other condition precluding this assessment. Have the patient rise from lying to sitting or standing for 1 minute and check vitals. A fall of 10-15mmHg of the systolic pressure or a pulse rate increase of 10-15 bpm (after 1 minute) indicates a significant (at least 10%) volume depletion (postural hypotension) and a decrease in perfusion status.

STROKE

- Be prepared to assist ventilations with oral or nasal airway and BVM or {FROPVD}.
- A If signs of cerebral herniation are present, ventilate at a rate of 20 respirations per minute.
 - o {If signs of cerebral herniation are present and numeric EtCO₂ readings are available, ventilate at a rate to maintain readings at approximately 30 mmHg (30 torr)}.

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

- Complete Cincinnati Prehospital Stroke Scale. If one or more signs on the Cincinnati Prehospital Stroke Scale are abnormal, call a Stroke Alert.
 - o **Cincinnati Prehospital Stroke Scale:** (normal or abnormal)
 - Facial Droop (pt. shows teeth or smiles.)
 - Arm Drift (pt. closes eyes and holds both arms straight out for about 10 seconds.)
 - Abnormal Speech (have pt. say “You can’t teach an old dog new tricks.”)
- If glucose < 60, or there is strong suspicion of hypoglycemia despite glucometer readings:
 - A **Administer D10, IV 250 ml** at wide open rate. (500 ml = 50 gm of Dextrose)
 - P **D10, IV (5 ml/kg) maximum dose of 250 ml**
 - o Document amount of **D10** administered in milliliters.
 - o If unable to establish vascular access, **Glucagon, 1 mg IM**
- **D10** may be repeated in ten minutes if blood sugar remains < 60
- Strongly consider transport to a Stroke Center
- A If patient’s symptoms occurred > 3 hours and < 8 hours from last time they were known to be free of stroke symptoms or awaking with symptoms, then consider transport to an Interventional Facility using air transport if needed.
 - o Contact MCP with a Stroke Alert for advice regarding transport destination. There are multiple factors that determine treatment options and time frames.
- Transport the patient with the bed flat, to increase cerebral perfusion.
- Transport historian with patient both to provide patient history and for permission to treat.
- Complete the “EMS CHECKLIST: SUSPECTED Stroke/CVA/TIA” for every stroke/TIA patient. Copies can be found in emergency rooms.

Interventionist Facilities:

- Miami Valley Hospital
- Kettering Medical Center

Disorders Mimicking Stroke

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

TRAUMA EMERGENCIES

General Considerations:

- Use of on-line MCP for medical direction in the field for difficult cases is encouraged.
- 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.
- 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.
- Hypothermia is a significant and frequent problem in shock for 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 the receiving trauma center.
- The *only* procedures that should take precedence to transport of major trauma patients are:
 - o Airway management
 - o Stabilization of neck/back or obvious femur and pelvic fractures on a backboard
 - o Exsanguinating hemorrhage control
 - o Extrication
- After the trauma patient’s extrication, the on-scene time should be limited to **10 minutes or less**, except when there are extenuating circumstances.
- **Pre-arrival notification of the receiving facility is essential!** Give Mechanism of Injury, Injuries, Vital signs, Treatment (MIVT), GCS with components, and ETA.

- A IVs should be attempted en route to the hospital unless the patient is trapped, transport is otherwise delayed, or patient has no life threatening injuries, and transport prior to analgesia would be extremely painful. Start the IV with a large bore catheter, macro drip tubing and 1000 ml of **0.9% NS**.
- P **Start IV with a large bore catheter, macro drip tubing and 20 ml/kg of NS.**
- IV flow rates are as follows:
 - o Keep open rate for major head trauma with adequate perfusion
 - A IV wide open if the patient has inadequate perfusion (including head trauma) utilizing {IV Pressure Infusion Pump or Bag} or similar equipment if available.
- A Titrate all IV flow rates to maintain SBP > 100.
- A second IV may be established en route.
- A For pain relief when the patient is conscious and alert, consider **Fentanyl, up to 50 mcg slow IV**, provided SBP > 100.
- A If unable to obtain IV, give **Fentanyl 50 mcg IM**.
- A May repeat **Fentanyl, up to 50 mcg slow IV**, after 5 minutes provided SBP > 100.
- A Repeat dose of **Fentanyl 50 mcg IM** (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.
- P For severe pain relief when the patient is conscious and alert, consider **Fentanyl, 1 mcg/kg, slow IV** (Max dose 50 mcg) provided appropriate normal SBP.
- P If unable to obtain IV, give **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg).
- P **FENTANYL IS NOT TO BE ADMINISTERED TO ANYONE < 2 YEARS OF AGE.**
- P ♦ May repeat **Fentanyl 1 mcg/kg, slow IV after 5 minutes** (Max dose 50 mcg) if still in pain and SBP > 100.
- P ♦ Repeat dose of **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg) (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.

PRE-HOSPITAL FIELD TRIAGE

- Patients with unstable airway or trauma arrest < 5 minutes transport should be taken to nearest hospital:
- Drowning; near drowning; strangulation; burns; electromagnetic, chemical, or radiation exposure; heat or cold injury or illness; and asphyxia are considered trauma and these patients should be transported to a Trauma Center.
- List in the EMS run report which of the State Trauma Triage Criteria the patient met.

TRAUMA CRITERIA

- G Patients 70 years of age or older will be triaged for evaluation in a Trauma Center for:
 - o GCS < 15 with suspected traumatic brain injury (TBI)
 - o Systolic BP < 100 mmHg
 - o Falls, even from a standing position, with evidence of TBI
 - o Pedestrian struck by motor vehicle.
 - o Known or suspected proximal long bone (femur/humerus) fracture sustained in MVC.
 - o Multiple body regions injured.
- G Special consideration should be given for the geriatric trauma patient to be evaluated at a Trauma Center if they have diabetes, cardiac disease, clotting disorders, immunosuppressive disorder, are on anticoagulants, or require dialysis.

Anatomy of Injury:

- All penetrating trauma to head, neck, torso, and extremities proximal to elbow or knee with neurovascular compromise
- Abdominal injury with tenderness, distention, or seat belt sign
- Chest injury: flail chest or tension pneumothorax
- Two or more proximal long bone fractures
- G One proximal long bone fracture in MVC only (*Geriatric Trauma*)
- Evidence of pelvic fracture (exception: isolated hip fracture)
- Spinal cord injury with signs and symptoms of paralysis
- Burns greater than 10% total body surface area (BSA) or other significant burns involving the face, feet, hands, genitals or airway

P Burns greater than 5% total BSA or other significant burns involving the face, feet, hands, genitals or airway

- Amputation proximal to wrist 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 =Transport to Trauma Center	NO – Assess Physiological
Alert Trauma Team	

Physiological Adult:

- GCS less than or equal to 13
- Loss of consciousness greater than five minutes at any time
- Alteration in level of consciousness with evidence of head injury at time of exam or thereafter
- Failure to localize pain
- Respirations < 10 or > 29
- Intubation
- Tension pneumothorax
- Pulse > 120 in combination with any other physiologic criteria
- SBP < 90 or absent radial pulse with carotid pulse present

Physiological Pediatric:

- P GCS less than or equal to 13**
- P Loss of consciousness greater than five minutes at any time**
- P Alteration in level of consciousness with evidence of head injury at time of exam or thereafter**
- P Failure to localize pain**
- P Evidence of poor perfusion (e.g., weak distal pulse, pallor, cyanosis, delayed capillary refill, tachycardia)**
- P Evidence of respiratory distress or failure (e.g., stridor, grunting, retractions, cyanosis, nasal flaring, hoarseness, or difficulty speaking)**

Physiological Geriatric:

- G GCS < 15 with evidence of TBI**
- G Loss of consciousness greater than five minutes at any time**
- G Alteration in level of consciousness with evidence of head injury at time of exam or thereafter**
- G Failure to localize pain**
- G Respirations < 10 or > 29**
- G Intubation**
- G Relief of tension pneumothorax**
- G Pulse > 120 in combination with any other physiologic criteria**
- G SBP < 100 or absent radial pulse with carotid pulse present**

YES = Transport to Trauma Center	NO = Evaluate Mechanism of Injury
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
- Fall > 20 feet
- P Fall greater than 3 times child's height**
- High-speed auto crash
 - o Speed > 40 mph
 - o Intrusion into passenger compartment > 12 inches
 - o 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
May consult with Medical Control Physician if needed	

Special Situations:

- Pre-existing cardiac or respiratory disease
- Insulin dependent diabetes, cirrhosis, morbid obesity, seizure disorder
- Patient with bleeding disorder or on anticoagulants
- Immuno-suppressed patients (renal dialysis, transplant, cancer, HIV)

P Congenital disorders

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

TRANSPORT GUIDELINES

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 of the trauma patient.
- In some areas of the region a Level III Trauma Center is the only 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 closer to a Level III Trauma Center, but a Level I or Level II Trauma Center is still within 30 minutes, the EMS Provider should decide whether the patient would benefit more from an immediate evaluation, stabilization, and treatment at the Level III Trauma Center, or from direct transport to a Level I or Level II Trauma Center.
- In areas of the region where there are no Trauma Centers within 30 minutes ground transport time, the acute care hospital may act as the primary receiving facility for critically injured trauma patients, or EMS Provider may arrange for air medical transport from the scene.

P If a pediatric patient meets the trauma triage guidelines, transport to a Pediatric Trauma Center. If transportation time is > 30 minutes, then transport to the nearest acute care hospital, or EMS providers 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:

- Prolonged delays at the scene waiting for air medical transport should be avoided.
- Cardiac arrest **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.
- Consider the time involved in landing, packaging, loading, and unloading the patient in deciding whether air transport is necessary. It is often faster to use ground transport if the patient is within 15 miles of the Trauma Center.

Exceptions to Transportation Guidelines:

- It is medically necessary to transport the victim to another hospital for initial assessment and stabilization before transfer to a Trauma Center.
- It is unsafe to transport the victim directly to a Trauma Center due to adverse weather or ground conditions or excessive transport time.
- Transporting the victim to a 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 begins, the patient requests to be taken to a particular hospital even if it is not a Trauma Center. If the patient is a minor or otherwise considered incapable of making medical decisions, an adult relative or other legal representative may make this request.

MAJOR TRAUMA

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

- Place the patient in a correct position to maintain the airway.
- Open pneumothorax: cover wound with an occlusive dressing, tape down three sides.
- Tension pneumothorax:
 - Lift one side of any occlusive dressing.
 - Use caution not to confuse right mainstem intubation for a pneumothorax.
 - Perform needle decompression.
- If patient in arrest has potential chest trauma, perform bilateral relief of tension pneumothorax.
- Flail chest: immobilize with a bulky dressing or towels taped to the chest.
- Contact Medical Control and advise of patient condition with MIVT, ETA, and GCS components.
- For pregnant patient in arrest consider need for manual uterine displacement and perform chest compressions slightly higher on the sternum than normal.

HEMORRHAGE CONTROL

- Control of life-threatening external hemorrhage takes priority over any other treatment.
- Constant, direct pressure is the primary method of bleeding control.
- If direct pressure fails to control bleeding from extremities, use a tourniquet.
 - {Commercial tourniquets such as the CAT or SOFTT are recommended.}
 - Only use wide, flat materials such as cravats or BP cuffs as improvised tourniquets.
 - Any tourniquet should be placed as proximal on the arm or leg as possible. For injuries to the lower leg or forearm, place two tourniquets as proximal as possible on the femur or humerus.
 - Tighten the tourniquet until the bleeding stops.
 - Document time and location. Be sure that the ER staff is aware of the tourniquet.
- For life-threatening groin or axillary hemorrhage that can’t be controlled by a tourniquet, consider external hemostatic dressing, e.g., Combat Gauze or ChitoFlex PRO. **Do not use these in chest or abdominal cavity.** (Granular agents are not recommended.) Place in direct contact with source of bleeding and add conventional bandages on top if needed.
- Treat for hypovolemic shock as indicated.

HEAD INJURY

Evaluate patient condition including level of consciousness, pupillary size and reaction, GCS.

GLASGOW COMA SCALE

	< 2 YEARS OLD		ADULT & PEDIATRIC > 2 YEARS OLD	
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, BABBLING	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

- Signs of cerebral herniation:
 - Dilated and unresponsive pupils, bradycardia, posturing, decreased mental status.
- Ventilate at 20 breaths per minute when signs of cerebral herniation are present.
 - {Ventilate to maintain EtCO₂ readings of 30 mmHg (30 torr)}.
- P Ventilate at a rate of ten faster than normal respiratory rate when the signs of cerebral herniation are present.**

Maintain good ventilation at rate of about one breath every 5-6 seconds (10-12 per minute), 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; **pediatric rate of 10 faster than the normal rate**) is indicated.

Hypoventilation increases the level of CO₂ in the brain causing cerebral vasodilatation and increased swelling. Hyperventilation decreases the level of CO₂ and causes cerebral vasoconstriction, hypoxia, and ischemia. Both hyperventilation and hypoventilation could cause cerebral hypoxia and increases mortality.

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, 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, or decerebrate posturing. When this occurs, 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 INJURIES

- Assess and document pulse, motor, and sensation both pre/post 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}.
- A For pain relief when the patient is conscious and alert, consider Fentanyl, up to 50 mcg slow IV, provided SBP > 100.**
- A If unable to obtain IV, give Fentanyl 50 mcg IM.**
- A May repeat Fentanyl, up to 50 mcg slow IV, after 5 minutes provided SBP > 100.**
- A Repeat dose of Fentanyl 50 mcg IM (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.**
- P For severe pain relief when the patient is conscious and alert, consider Fentanyl, 1 mcg/kg, slow IV (Max dose 50 mcg) provided appropriate normal SBP.**
- P If unable to obtain IV, give Fentanyl 1 mcg/kg IM (Max dose 50 mcg).**
- P FENTANYL IS NOT TO BE ADMINISTERED TO ANYONE < 2 YEARS OF AGE.**
- P ♦May repeat Fentanyl 1 mcg/kg, slow IV after 5 minutes (Max dose 50 mcg) if still in pain and SBP > 100.**
- P ♦Repeat dose of Fentanyl 1 mcg/kg IM (Max dose 50 mcg) (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.**

Good Splinting Practices:

- Document distal sensation and circulation pre & post splinting and pre & post spinal immobilization.
- If the extremity is severely angulated and pulses are absent, apply gentle traction in an attempt to bring the limb back into a natural anatomic position. If resistance is encountered, splint the extremity in the angulated position.
- Open wounds should be covered with a sterile dressing before splinting.
- Apply a well-padded splint to immobilize above and below the injury.
- If in doubt, splint a possible injury.

NOTE: The patient who requires a load and go approach can be adequately immobilized by careful packaging on the long spine board. Do additional splinting en route to the hospital as time and the patient's condition permit.

DROWNING AND NEAR DROWNING

- Consider spinal immobilization.
- Consider possibility of hypothermia.
- Establish vascular access.
- Evaluate neurological status.
- Near drowning patients should be transported to a Trauma Center.

HYPOTHERMIA

- 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 or cardiac arrest. It may be beneficial to immobilize the patient on a backboard.
- Minimize movement.
- Assess neurological status.
- It may be necessary to assess pulse and respirations for up to 45 seconds to confirm arrest.
- Consider possibility of other medical conditions (e.g., overdose, hypoglycemia).
- Do not initiate CPR if there is any pulse present, no matter how slow.
- Use the least invasive means possible to secure airway. Intubate if necessary, as gently as possible.
- Hypothermic patients should be transported to a Trauma Center.
- Establish vascular access and consider {warmed} fluids.
- If patient arrests:
 - CPR continuously
 - If severe hypothermia < 86°F (30°C) is strongly suspected, limit defibrillation attempts to 1 and withhold medications except on orders from Medical Control.
 - If body temperature is > 86°F (30°C), follow normal arrest protocols.
 - Intubate and oxygenate the patient with {warmed and humidified} 100% O₂.
 - Continue resuscitative efforts while in transit, even if there is no response.

FROSTBITE

- Protect injured areas. 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.
 - Establish vascular access and consider {warmed} fluids.
- A** For pain relief when the patient is conscious and alert, consider **Fentanyl, up to 50 mcg slow IV**, provided SBP > 100.
- A** If unable to obtain IV, give **Fentanyl 50 mcg IM**.
- A** May repeat **Fentanyl, up to 50 mcg slow IV**, after 5 minutes provided SBP > 100.
- A** Repeat dose of **Fentanyl 50 mcg IM** (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.
- P** For severe pain relief when the patient is conscious and alert, consider **Fentanyl, 1 mcg/kg, slow IV** (Max dose 50 mcg) provided appropriate normal SBP.
- P** If unable to obtain IV, give **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg).
- P** **FENTANYL IS NOT TO BE ADMINISTERED TO ANYONE < 2 YEARS OF AGE.**
- P** ♦ May repeat **Fentanyl 1 mcg/kg, slow IV after 5 minutes** (Max dose 50 mcg) if still in pain and SBP > 100.
- P** ♦ Repeat dose of **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg) (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.

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 an 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

- Assess for respiratory distress, stridor, hoarseness, sooty sputum, singed eyebrows and nares, or burns of the face or airway.
- Apply cardiac monitor, especially if patient has suffered a lightning strike or electrical burn.
- Determine type of burn and treat as follows:
 - Radiation burns:
 - Treat as thermal burns except when burn is contaminated with radioactive materials, then treat as a Haz-Mat situation
 - Consider contacting Haz-Mat team for assistance in contamination cases.
 - Inhalation Burns:
 - Provide {humidified} **O₂** with **Saline**.
 - If no humidifier is available, administer a **Saline Nebulizer 3 ml**. Repeat PRN.
- {CO oximeter}
- Provide endotracheal intubation if apneic.
- Consider Hyperbaric Oxygen treatment for the following:
 - Underlying cardiovascular or 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
- In patients where cyanide is a likely component of the smoke, it is critical to control any seizure activity using Diazepam or Midazolam.

CARBON MONOXIDE (CO) POISONING

- Provide high flow **O₂** to all suspected CO poisonings
- Pulse Oximeter will give false readings and should not be utilized.
- {CO oximeter}
- Consider Hyperbaric Oxygen treatment for the following patients with suspected CO exposure:
 - Underlying cardiovascular disease or 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 Medical Control to discuss transport considerations.

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 psychiatric medications.
- Heat exposure can occur 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

- Move patient to a cool environment.
- Remove patient's clothing. Apply water to the skin to cool the patient.
- Apply cold packs to underarms and groin area.

- If conscious and not vomiting or extremely nauseous, provide oral fluids.
- A **NS 500 ml IV** if hypotensive or mental status changes. May repeat x 1 without MCP approval.
- P **NS 20 ml/kg IV** if hypotensive or mental status changes. May repeat x 1.
- ♦ Additional **NS IV**, if indicated.
- Be prepared for seizures.
- Consider other medical conditions (e.g., overdose, hypoglycemia, CVA) and treat accordingly.
- Hyperthermia patients should be transported to a Trauma Center.

EYE INJURIES

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

RESPIRATORY DISTRESS

- Evaluate breath sounds:
 - Clear: treat cause (e.g., MI, pulmonary embolism, metabolic disturbance, hyperventilation).
 - Wheezes: treat cause (e.g., pulmonary edema, FBAO, asthma, allergic reaction).
 - Rales: treat cause (e.g., pulmonary edema, pneumonia).
 - Diminished or absent:
 - Unilateral: treat cause (e.g. pneumothorax, hemothorax, pneumonia, unilateral lung).
 - Bilateral: treat cause (e.g., respiratory failure, end stage COPD, asthma).
- Obtain {Pulse Oximeter and capnography} reading.
- Cardiac monitor and {12-lead EKG}

PULMONARY EDEMA

- Consider need for possible early endotracheal intubation.
- 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.
- If {CPAP} is available, its use is encouraged prior to the initiation of drug therapy.
- If patient has SBP > 100, **Nitroglycerin 0.4 mg SL** up to 3, 1 every 5 minutes.

NOTE: At times, pneumonia may look like CHF with pulmonary edema. However, the pneumonia patient is often dehydrated and has an elevated temperature.

ASTHMA/EMPHYSEMA/COPD

- Consider **Albuterol 2.5 mg** and Ipratropium **0.5 mg**, **nebulized** with **O₂ 8-10 LPM**.
- May repeat **Albuterol 2.5 mg nebulized X 2**.
- COPD: {CPAP}
- After intubation of an asthma patient, limit rate of ventilation to avoid auto-PEEP and hypotension, provided that you can adequately oxygenate the patient at that rate.
 - A 8-10 breaths per minute for adults
 - P 10-15 breaths per minute for pediatric patients
- If patient arrests, tension pneumothorax is a likely cause. Strongly consider bilateral needle decompression for relief of tension pneumothorax if the patient has unilateral or bilateral diminished breath sounds and the patient is hemodynamically unstable.

- A Asthmatics in severe distress: **Epinephrine (1:1,000) 0.3 mg SQ or auto-injector.**
- A ♦ May repeat **Epinephrine (1:1,000) 0.3 mg SQ or auto-injector.**
- P Asthmatics in severe distress: **Epinephrine (1:1,000) 0.01 mg/kg < 30 kg or 0.3mg ≥ 30 kg SQ.**
- P ♦ May repeat **Epinephrine (1:1,000) 0.01 mg/kg < 30 kg or 0.3mg ≥ 30 kg SQ.**

ALLERGIC REACTION/ANAPHYLAXIS

- If severe allergic reaction, **Adult Epi-Pen or Epi 1:1,000 0.3 mg SQ.**
- P **Epi-Pen Jr 0.15 mg for patients < 30 kg (66 pounds) or Epinephrine 1:1000, 0.01 mg/kg SQ**
- If applicable, apply {ice pack} or constricting band.
- If apneic, intubate, possibly with smaller than normal ET tube.
- If patient is wheezing: **Albuterol 2.5 mg and Ipratropium 0.5 mg in nebulizer with O₂ flowing at 8-10 LPM.**
- **Albuterol** may be repeated X 2.
- If patient is intubated, **Albuterol 2.5 mg** by nebulizer into the endotracheal tube. If **Ipratropium** not given before intubation, add to first **Albuterol**.
- A If hypotensive, **NS IV to maintain adequate BP.**
- P If hypotensive, **NS 20 ml/kg IV to maintain adequate BP.**
- **Diphenhydramine 50 mg IM/IV.**
- P **Diphenhydramine 1 mg/kg IM/IV (Max Dose 50 mg).**
- A For patients unresponsive to **Epinephrine, Glucagon, 1mg IV/IM**

ALTERED LEVEL OF CONSCIOUSNESS: DIABETIC OR UNKNOWN CAUSE

- If glucose < 60, or there is strong suspicion of hypoglycemia despite glucometer readings:
 - A Administer **D10, 250 ml.** at wide open rate (500 ml = 50 gm of Dextrose)
 - P **D10, 5 ml/kg, max single dose 250 ml**
 - Document amount of **D10** administered in milliliters.
- If unable to establish vascular access, **Glucagon, 1 mg IM.**
- **D10** may be continued in ten minutes if blood sugar remains < 60.
- In a diabetic patient with an insulin pump and a glucose < 60, disconnect patient from the pump or “suspend” the device if familiar with its operation.
- Maintain normothermia.
- Consider patient restraint before administration of **Naloxone**.
- After administration of **Naloxone**, patient must be transported by EMS.
- A If respirations are impaired, or there is a high index of suspicion of narcotic overdose and patient does not respond to **D10**, administer **Naloxone, up to 2 mg IV**, titrated to achieve adequate respirations.
- P **Naloxone:**
 - o ≤ 20 kg 0.1 mg/kg IV/IN/IM/SQ/IO (Max Dose 2 mg) may repeat x one
 - o > 20 kg 2 mg, IV/IN/IM/SQ/IO, may repeat x one
 - o Naloxone IV is preferred, but it may be given IN before IV is established.
 - o Titrate to adequate respirations.
- P If using IN route, if respirations don’t improve after 3 minutes, establish IV and administer IV dose.
- A As an alternative to IV Naloxone, **Naloxone 2 mg IN, IO or SQ or up to 4 mg IM.**

Oral Glucose Administration: Oral glucose is indicated for any awake but disoriented patient with BS < 60 or a 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

- Patients **18 years of age** or older may be permitted to refuse. Follow these guidelines:
 - o Repeat physical examination and vital signs. Patient must be A&O x3.
 - o Warn the patient that there is a significant risk of going back into hypoglycemia, especially if on oral hypoglycemics.

- o Advise the patient to eat something substantial immediately.
- o Advise the patient to contact their family physician as soon as possible to minimize future episodes.
- o Advise the patient to stay with someone.
- o Follow normal patient refusal procedures including documentation of above points.
- o Continue **D10** infusion during the refusal process to provide a “buffer” and reduce the risk of refractive hypoglycemia.

NOTE: Send a copy of the run sheet to the EMS Coordinator of the hospital that replaces your Drug Bag.

SEIZURES

- BVM and nasopharyngeal airway *during* seizure as needed
- If seizing, **Diazepam 5 mg, slow IV/IO or {Midazolam 10 mg, IN (5 mg in each nostril)} or Midazolam 2 mg, slow IV/IO, or Midazolam 4 mg, IM**
- Persistent seizing, repeat **Diazepam 5 mg, slow IV/IO, or Midazolam {5 mg IN, (2.5 mg in each nostril)} or 2 mg, slow IV/IO or 4 mg, IM.**
- If no vascular access or {MAD}, **Diazepam 10 mg PR**

NOTE: The IM route of Midazolam should be a last resort.

- P If seizing, **Diazepam 0.2 mg/kg (Max Dose 5 mg) ,slow IV, or Midazolam 0.15 mg/kg IN, (Max IN dose 4 mg) or Midazolam 0.15 mg/kg slow IV, (Max IV dose 2 mg) or Midazolam 0.15 mg/kg , IM (Max IM Dose 4 mg)**
- P If still seizing, repeat **Diazepam 0.2 mg/kg, slow IV, or repeat one-half of all initial Midazolam doses except NO IM REPEAT.**
- P If no vascular access or {MAD}, **Diazepam 0.5 mg/kg PR (Max Dose 10 mg)**
- If glucose < 60, or there is strong suspicion of hypoglycemia despite glucometer readings
 - A Administer **D10, 250 ml.** at wide open rate (500 ml = 50 gm of Dextrose)
 - P **D10, 5 ml/kg , max single dose 250 ml**
 - Document amount of **D10** administered in milliliters.
- If unable to establish vascular access, **Glucagon, 1 mg IM.**
- **D10** may be continued in ten minutes if blood sugar remains < 60.
- In a diabetic patient with an insulin pump and a glucose < 60, disconnect patient from the pump or “suspend” the device if familiar with its operation.
- Maintain normothermia.
- When obtaining history be sure to include the following:
 - o Description of seizures, areas of body involved, and duration
 - o **Other known medical history; (e.g., head injury, diabetes, drugs, alcohol, stroke, heart disease).**

POISONING/OVERDOSE

EMS personnel should contact MCP for suspected poisonings. Poison Control is intended for use by the general public.

Narcotic Overdose:

- Consider patient restraint before administration of **Naloxone.**
- After administration of **Naloxone**, patient must be transported by EMS.
- A **Naloxone, up to 2 mg IV**, titrated to achieve adequate respirations.
- P **Naloxone:**
 - o ≤ 20 kg 0.1 mg/kg IV/IN/IM/SQ/IO (Max Dose 2 mg) may repeat x one
 - o > 20 kg 2 mg, IV/IN/IM/SQ/IO, may repeat x one
 - o Naloxone IV is preferred, but it may be given IN before IV is established.
 - o Titrate to adequate respirations.
- P If using IN route, if respirations don’t improve after 3 minutes, establish IV and administer IV dose.
- If patient has a pulse, **Naloxone** can be administered *before* inserting an ETT
- A As an alternative to IV **Naloxone**, **Naloxone 2 mg IN.**
- If no arousal occurs after three minutes, establish an IV and administer IV **Naloxone.**
- A If unable to establish an IV and no {MAD}, **Naloxone up to 4 mg IM.**

Crack/Cocaine:

- If chest pain:
 - A Nitroglycerin 0.4 mg SL, if SBP >100.
 - A Diazepam 5 mg slow IV, if SBP > 100 or {Midazolam {10 mg, IN (5 mg in each nostril)} or Midazolam 2 mg slow IV, or Midazolam 4 mg IM
 - A Repeat Diazepam 5 mg slow IV, or Midazolam {5 mg IN (2.5 mg in each nostril)} or Midazolam 2 mg slow IV or Midazolam 4 mg IM.

NOTE: THE IM ROUTE OF MIDAZOLAM SHOULD BE A LAST RESORT.

Tricyclic Overdose:

- Tricyclic Antidepressant Examples:
 - o Amitriptyline (Elavil, Endep, Etrafon, Limbitrol)
 - o Nortriptyline (Pamelor, Aventyl)
 - o Amoxapine (Asendin)
 - o Clomipramine (Anafranil)
 - o Desipramine (Norpramine)
 - o Doxepin (Sinequan)
 - o Imipramine (Tofranil)
 - o Protriptyline (Vivactil)
 - o Trimipramine (Surmontil)

NOTE: Overdose with tricyclic antidepressant medications may be evidenced by bradycardia, tachycardia, hypotension and prolongation of the QRS complex. Risk of rapid deterioration or sudden onset V. Fib is high.

Calcium Channel Blocker Overdose

- ♦ **Glucagon 1 mg IM or IV**
- Calcium Channel Blocker Examples:
 - o Amlodipine (Norvasc)
 - o Diltiazem (Cardizem, Dilacor)
 - o Felodipine (Plendil)
 - o Isradipine (Dynacirc)
 - o Nifedipine (Procardia, Adalat)
 - o Verapamil (Calan, Isoptin, Verelan)

Beta Blocker Overdose

- ♦ **Glucagon 1 mg, IM or IV.**
- Beta Blocker Examples:
 - o Acebutolol (Sectral)
 - o Atenolol (Tenormin)
 - o Carvedilol (Coreg)
 - o Corzide, Inderide, Lopressor, HCT, Tenoretic, Timolide, Ziac
 - o Labetalol (Normodyne, Trandate)
 - o Metoprolol (Topral, Lopressor)
 - o Nadolol (Corgard)
 - o Pindolol (Viskin)
 - o Propranolol (Inderal)
 - o Sotalol (Betapace)
 - o Timolol (Blocadren)

ABDOMINAL PAIN

- Use inspection, auscultation, and palpation to assess the patient with abdominal pain.
- Assess and document pain using the OPQRST acronym:
 - o O = Onset
 - Was the onset sudden or gradual?

- o P = Provocation and Palliation
 - What causes it?
 - What makes it better or worse?
 - o Q = Quality
 - What kind of pain is it?
 - o R = Region and Radiation
 - Where is the pain located?
 - Does it radiate?
 - o S = Severity and Scale
 - Does it interfere with activities?
 - How does it rate on a severity scale of 1 to 10?
 - o T = Timing and Type of Onset
 - How often does it occur?
 - When did it begin?
- A For pain relief, including unilateral flank pain, when the patient is conscious and alert, not hypotensive, and complaining of severe pain, consider **Fentanyl, up to 50 mcg slow IV**, based on patient weight, provided SBP > 100. If unable to obtain IV, give **Fentanyl 50 mcg IM**.
- A May repeat **Fentanyl, up to 50 mcg, slow IV**, after 5 minutes provided SBP > 100.
- A Repeat dose of **Fentanyl 50 mcg IM** (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.
- ♦ For pain relief, call MCP for orders

OBSTETRICAL EMERGENCIES

- Consider the possibility of Ectopic Pregnancy in females of child-bearing age.
- Aggressively 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 to the hospital.
- Ask for first day of last menstrual period.
- Pregnant patients of any age ≥ 20 weeks gestation should be taken to maternity department; < 20 weeks gestation should go to the emergency department.

CARDIAC ARREST IN PREGNANCY

- Causes of cardiac arrest include: pulmonary embolism, trauma, hemorrhage and 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 pillow under the right abdominal flank and hip.
- Administer chest compressions slightly higher on the sternum than normal.

THIRD TRIMESTER BLEEDING

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

CHILDBIRTH

General Considerations

- Transport to a hospital with obstetrical capabilities unless delivery is imminent (the baby is crowning during a contraction).
- Visualize the perineal area only when contractions are less than five minutes apart.
- Establish an IV for patients in active labor.
- Apply gentle pressure on the baby's head with a flat hand to prevent an explosive delivery.
- Run reports must be completed for each patient. The newborn is a separate patient from the mother.

Specific Care

- 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, possible complications, and drug use.
- Keep newborn warm.
- Cut the umbilical cord and then place the baby to suckle at the mother's breast.
- Obtain one and five minute APGAR scores if time and patient condition permit.

NOTE: fundal height refers to the level of the upper part of the uterus.

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

DELIVERY COMPLICATIONS

- Place mother on **O₂** 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 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 cord, distribute pressure evenly if occiput presents.
 - Do not attempt to reinsert cord.

APGAR scores at 1 minute and 5 minutes post delivery

SCORE	0	1	2
Appearance	Blue or pale	Body pink; extremities blue	Completely pink
Pulse	Absent	Slow (< 100)	> 100
Grimace	No response	Grimace	Cough or sneeze
Activity	Limp	Some flexion of extremities	Active motion
Resp. effort	Absent	Slow or Irregular	Good crying

NEWBORN CARE & RESUSCITATION

General Considerations

- P As soon as the baby is born:
 - Dry.
 - Warm.
 - Maintain airway.
 - Place in the sniffing position (1" towel under shoulders).

- Suction infant until airway is clear of all secretions.
- P If the newborn delivers with meconium-stained amniotic fluid, but is vigorous, with strong respirations, good muscle tone, and heart rate > 100 BPM; follow the same suctioning procedures as for infants with clear fluid.
- P 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.
- P Bulb suctioning is preferred. Mechanical suction may be used on infants only if the suction pressure does not exceed 100 mmHg or 136 cmH₂O.
- P If drying and suctioning has not provided enough tactile stimulation, try flicking the infant's feet or rubbing the infant's back. If this stimulation does not improve the infant's breathing, then BVM assist may be necessary.
- P Avoid direct application of cool oxygen to infant's facial area as this may cause respiratory depression due to a strong mammalian dive reflex present immediately after birth.
- P Use length-based resuscitation tape (e.g., Broselow Tape).

Specific Care

- P After delivery of the infant;
 - o Assess the airway and breathing.
 - o Dry.
 - o Position head lower than body.
- P Ventilate with BVM 40-60/min:
 - o To increase HR if < 100
 - o For apnea or persistent central cyanosis.
- P HR < 60 begin CPR.
 - o Compress at 120/min.
 - o Compression to Ventilation ratio of 3:1
- P If hypovolemic, NS **10 ml/kg** over 5-10 minutes.
- P Consider **Naloxone 0.1 mg/kg, IV/IO/IM** every 3 minutes until respirations improve.
- P **NEWBORN: D10 (2 ml/kg)** if blood glucose < 40

SAFE HARBOR

- P Voluntary Separation of Newborn Infant
- P Safe Harbor (Ohio House Bill 660) is designed to allow desperate parents to separate from their babies to hospitals, EMS, or law enforcement agencies confidentially.
- P Stipulations of separation:
 - o Infant can be no more than 30 days old.
 - o Infant can have no signs of abuse or neglect.
- P History which should be obtained:
 - o Date and time of birth
 - o Any pertinent family medical history
 - o Information regarding prenatal care
 - o Information about birth.
 - o 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.
- P Transport the infant to the hospital.

FEVER

- P Transport all infants < 2 months of age with a history or reported temperature of > 38.⁰C (100.4 ⁰F) or < 35.6⁰C (96.0⁰F).

CHILD ABUSE/NEGLECT

- P Report all alleged or suspected child abuse or neglect to the appropriate agency. Ohio Revised Code 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.

- P Simply notifying hospital personnel about concerns of maltreatment does not meet mandated EMS reporting responsibilities.

Pediatric Public Social Services Agencies			
County	Phone	After Hours Phone	Fax
Butler	(513) 887-4055	(513) 868-0888	(513) 887-4260
Champaign	(937) 484-1500	Contact County SO (937) 484-6092	(937) 484-1506
Clark	(937) 327-1700	(937) 324-8687	(937) 327-1910
Darke	(937) 548-7129	(937)-548-2020	(937) 548-8723
Greene	(937) 562-6600	(937) 372-4357	(937) 562-6650
Miami	(937) 335-4103	Contact County SO (937) 440-3965	(937) 339-7533
Montgomery	(937) 224-5437	(937) 224-5437 (same as daytime)	(937) 276-6597
Preble	(937) 456-1135	(937) 456-1135 (same as daytime)	(937) 456-6086
Shelby	(937) 498-4981	Contact County SO (937) 498-1111	(937) 498-1492
Warren	(513) 695-1558	(513) 695-1600	(513) 695-1800

ELDER ABUSE NEGLECT

- A EMS MUST, by law, report all alleged or suspected adult abuse or neglect to the appropriate agency. Ohio Revised Code requires providers to report incidents of abuse to their county's adult protective services agency, or local law enforcement as soon as possible. Simply notifying hospital personnel about concerns of maltreatment does NOT meet the mandated EMS reporting responsibilities.
- A Hospitals have copies of the EMS Social Services Referral Form, supplied by GDAHA, for documenting cases of abuse. Use this form to provide information to the appropriate agency so the receiving hospital social services staff can provide a continuum of care. GDAHA (228-1000 or www.gdaha.org) can also send this form to each department to have on hand.
- o White copy—send to the appropriate agency (call as well).
 - o Yellow copy—leave with the hospital records.
 - o Pink copy—retain with EMS copy of run sheet.
- A Document all efforts that EMS made to report the suspected abuse on the run sheet; include name of agency notified, method used, and name of person contacted.

Adult Public Social Services Agencies			
County	Phone	After Hours Phone	Fax
Butler	(513) 887-4081	Not Listed (County SO: 513-785-1000)	(513) 785-5969
Champaign	(937) 484-1500	Contact County SO (937) 484-6092	(937) 484-1506
Clark	(937) 327-1700	(937) 324-8687	(937) 327-1910
Darke	(937) 548-7129	(937)-548-2020	(937) 548-4928
Greene	(937) 562-6315	Not Listed (County SO: 937-562-4800)	(937) 562-6177
Miami	(937) 440-3471	Contact County SO (937) 440-3965	(937) 335-2225
Montgomery	(937) 225-4906	Not Listed (County SO: 937-225-4357)	(937) 496-7464
Preble	(937) 456-1135	(937) 456-1135 (same as daytime)	(937) 456-6086
Shelby	(937) 498-4981	Contact County SO (937) 498-1111	(937) 498-1492
Warren	(513) 695-1420	(513) 425-1423	(513) 695-2940

PATIENT COMPETENCY/CONSENT, PSYCHIATRIC and COMBATIVE PATIENTS

Per Ohio Revised Code, an EMT-B, EMT-I, or EMT-P may not “pink slip” an individual (transport a person to the hospital against their will for mental health evaluation) who is alert and oriented even if they are threatening harm to themselves or others. Only a health officer such as a police officer, crisis worker, psychiatrist, or licensed physician can “pink slip” a person. The GMVEMSC strongly recommends that each EMS department, in consultation with its medical director/advisor and local law enforcement, and have a procedure to deal with these types of situations.

This does not preclude EMS from taking action to prevent imminent harm to the patient or others, if it is safe to do so.

- Determine patient competency and consent.
 - Obtain medical history:
 - Suicidal or violent history
 - Previous psychiatric hospitalization, when and where
 - Location where 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 threats to the health and well being of others are considered not rational.
 - Consider a patient to be incapable to make medical decisions if they are:
 - Suicidal
 - Confused
 - Severely developmentally or mentally disabled
 - Intoxicated
 - Injured/ill with an altered mental status
 - Physically/verbally hostile
 - Unconscious
 - Consider and treat possible medical causes for patient’s condition:
 - Hypoxia
 - Hypoglycemia
 - Drug intoxication/side effects/drug withdrawal
 - Seizures and postictal states
 - Intracranial hemorrhages
 - Consider staging until police have made the scene safe.
 - Have patient searched for weapons.
 - Do not transport a restrained patient in the prone position with hands and feet behind their back or sandwiched between backboards or other items.
 - Recheck often a restrained patient’s ability to breathe.
 - Have the ability at hand to remove restraints if the patient vomits or develops respiratory distress.
 - Explain the need for restraint to the patient. Severe agitation is a medical emergency, and should be treated aggressively with medication.
 - Document thoroughly the restraints used, on which limbs, and justification for restraints
- A A patient may be combative due to either a medical condition or an injury.
- **{Midazolam 10 mg IN (5mg in each nostril)}, 2 mg slow IV, or 4mg IM or Diazepam 5 mg slow IV** may be needed to transport a patient who is violent.
- P ♦ Consider **{Midazolam 0.15 mg/kg IN}** (Max dose 4 mg) or **Midazolam 0.15 mg/kg slow IV** (Max dose 2 mg) or **Midazolam 0.15mg/kg IM** (Max dose 4 mg) or **Diazepam 0.2 mg/kg slow IV (Maximum dose 5 mg)** or **Diazepam 0.5 mg/kg PR (Max dose 5 mg)** as a chemical restraint.
- Midazolam or Diazepam may be repeated for combative patients.
- P ♦ Call MCP for repeat **Midazolam**.

{SPINAL INJURY CLEARANCE}

Spinal injury clearance may be utilized for events minor in nature when authorized by the Medical Director and the patient is **16 or over**. 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 is unconscious with potential mechanism of injury: immobilize.
2. If patient is not alert, is disoriented, or has GCS < 15: immobilize.
3. If suspicion of ETOH or drug intoxication: immobilize.
4. If possible acute stress reaction: immobilize.
5. If other painful or distracting injury: immobilize.
6. If cervical pain or other spinal column pain (patient complaint) is present: immobilize.
7. If neurological deficit (motor or sensory): immobilize.
8. If cervical tenderness (on palpitation) or deformity: immobilize.
9. 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.

DELETE START TRIAGE SECTION

INSERT PAGES 30-A, 30-B, 30-C, 30-D

SALT TRIAGE SYSTEM (MCI)

The **SALT** (Sort, Assess, Life-Saving Intervention, Treatment/Transport) triage system was developed by the Centers for Disease Control and Prevention (CDC) to address limitations in START and other triage systems. It has been endorsed by numerous national EMS groups. It is designed to reduce triage time and has an additional triage category to better utilize resources.

Use **SALT** triage to assess any significant number of victims rapidly. It can be used easily and effectively by all EMS personnel. Triage materials, such as new tags, will be provided to EMS agencies in Ohio Homeland Security Region 3 by a federal grant through Dayton MMRS.

Primary and Secondary Triage Prior to Transport

- Initial Triage
 - Utilize triage ribbons (color-coded strips). One should be tied to an upper extremity in a **VISIBLE** location (on the right wrist, if possible).
 - **RED** – Immediate
 - **YELLOW** – Delayed
 - **GREEN** – Minimal
 - **GRAY** – Expectant*
 - **BLACK** – Dead (Black & White Zebra striped used on Triage Ribbons for low light visibility; Black or Zebra used on Triage Tags)
 - **ORANGE** Ribbon - used in addition to one of the above ribbons to indicate victim has been contaminated with a hazardous material.
 - Move as quickly and safely as possible, making quick decisions. Remember that the victim will be re-triaged, probably multiple times, and the category will be revised, up or down, whenever needed.
 - Over-triage can be as harmful as under-triage. If everyone is tagged red, those who are truly red will receive delayed treatment, delayed transport, and delayed definitive care.
 - *Note: Expectant does NOT mean dead.
 - It means the patient is unlikely to survive given the current resources.
 - Treatment and transport should be delayed until more resources, field or hospital, are available. If there are delays in the field, consider requesting orders for palliative care, e.g., pain medications if time and resources allow.
- Secondary Triage
 - Secondary Triage **must** be performed on all victims prior to transport.
 - Treatment Area may also be the Casualty Collection Point (CCP), or the CCP may be separate.
 - Patients should be reassessed periodically, including when moved to a CCP, or when their condition or resources change.
 - Utilize Triage Tags and complete pertinent and available information on the tag.
 - Affix the tag to the victim and remove ribbon.
 - This is **not** done at the initial triage site, but after patients enter the Treatment Area, or by Transport Group if the patient is being directly removed without going to Treatment Area.
 - Orange Ribbons (indicating contaminated patients) are removed during decon.
 - EMS always has responsibility for performing primary decontamination prior to transport, however, the hospital must be aware of both contamination and decontamination.
 - Be sure to note Decon on the Triage Tag.
 - **Notify hospitals of an MCI involving victim contamination.** Consider use of the Regional Hospital Notification System.

- Use Triage Tags with individual barcodes consistent with this Standing Order and the Ohio patient tracking system (OHTrac).
- Priority for transport is determined in the Treatment Area or by the Transport Group.
- Patient allocation, that is, distribution of patients among various hospitals, is one of EMS' most crucial tasks.
 - **Do not overload any hospital**, regardless of transport distance to other hospitals.
 - In an MCI, many trauma patients will need to be transported to non-Trauma Centers. All hospitals will accept and stabilize trauma patients during MCIs.
 - As Transport Group assigns patient allocation, consider the likelihood that the closest hospital(s) may be overwhelmed by patients who were not transported by EMS.
 - In large scenarios, consider activation of the Forward Movement of Patients Plan.
 - Forward Movement of Patients is also mentioned in the GMVEMSC Standing Orders under the heading Crisis Standards of Care in Massive Events. Full information on the process can be found in the Dayton MMRS Regional MCI Plan Template.

SORT, ASSESS, LIFE-SAVING INTERVENTION, TREATMENT/TRANSPORT PROCESS

S – Sort

- Global Sorting: Action 1
 - Action: “Everyone who can hear me please move to [designated area] and we will help you” (use loud speaker if available)
 - Goal: Group ambulatory patients using voice commands
 - Result: Those who follow this command – last priority for individual assessment (Green)
 - Assign someone to keep them together (e.g., PD, FD, a bystander) and notify Incident Command or EMS Group/Branch of number of patients and their location. ***Do not forget these victims.*** Someone should re-triage them as soon as possible.
 - In smaller incidents, such as a motor vehicle crash with a few victims where you do not want any of them to move on their own, skip Action 1, and go to Global Sorting Action 2
- Global Sorting: Action 2
 - Action: “If you need help, wave your arm or move your leg and we will be there to help you as soon as possible”
 - Goal: Identify non-ambulatory patients who can follow commands or make purposeful movements
 - Result: Those who follow this command – second priority for individual assessment
- Global Sorting: Result
 - Casualties are now prioritized for individual assessment
 - Priority 1: Still, and those with obvious life threat
 - Priority 2: Waving/purposeful movements
 - Priority 3: Walking
- Begin assessing all non-ambulatory victims where they lie. Each victim should be triaged as quickly as possible.

Assess:

1. Is the patient breathing?

- If not, open the airway. In children, consider giving two rescue breaths.
- If the patient is still not breathing, label them as **BLACK**. Do not move the patient except to gain access to a living patient.
- If patient is breathing, conduct next assessment.

2. Assess for the following:

- 1. Can the patient follow commands or make purposeful movements?**
- 2. Does the patient have a peripheral pulse?**
- 3. Is the patient not in respiratory distress?**
- 4. Is hemorrhaging under control?**
 - If the answer to **any** of those questions is no and the patient **IS likely to survive** given current resources, tag them as **RED (Immediate)**.
 - If the answer to **any** of those questions is no and the patient is **NOT likely to survive** given current resources, tag them as **GRAY (Expectant)**.
 - If the answer to **all** of those questions is yes but injuries are not minor and require care, tag patient as **YELLOW (Delayed)**.
 - If the answers to **all** of those questions is yes and the injuries are minor, tag patient as **GREEN (Minimal)**.

A mnemonic for the four Assess Questions is CRAP:

- C – Follows Commands
- R – No **R**espiratory Distress
- A – No (uncontrolled) **A**rterial bleeding
- P – **P**eripheral **P**ulse **P**resent

Life Saving Interventions:

- **Only** correct life-threatening problems during triage.
 1. Control major hemorrhage
 2. Open airway (if child, consider giving two rescue breaths)
 3. Needle chest decompression
 4. Auto injector antidotes

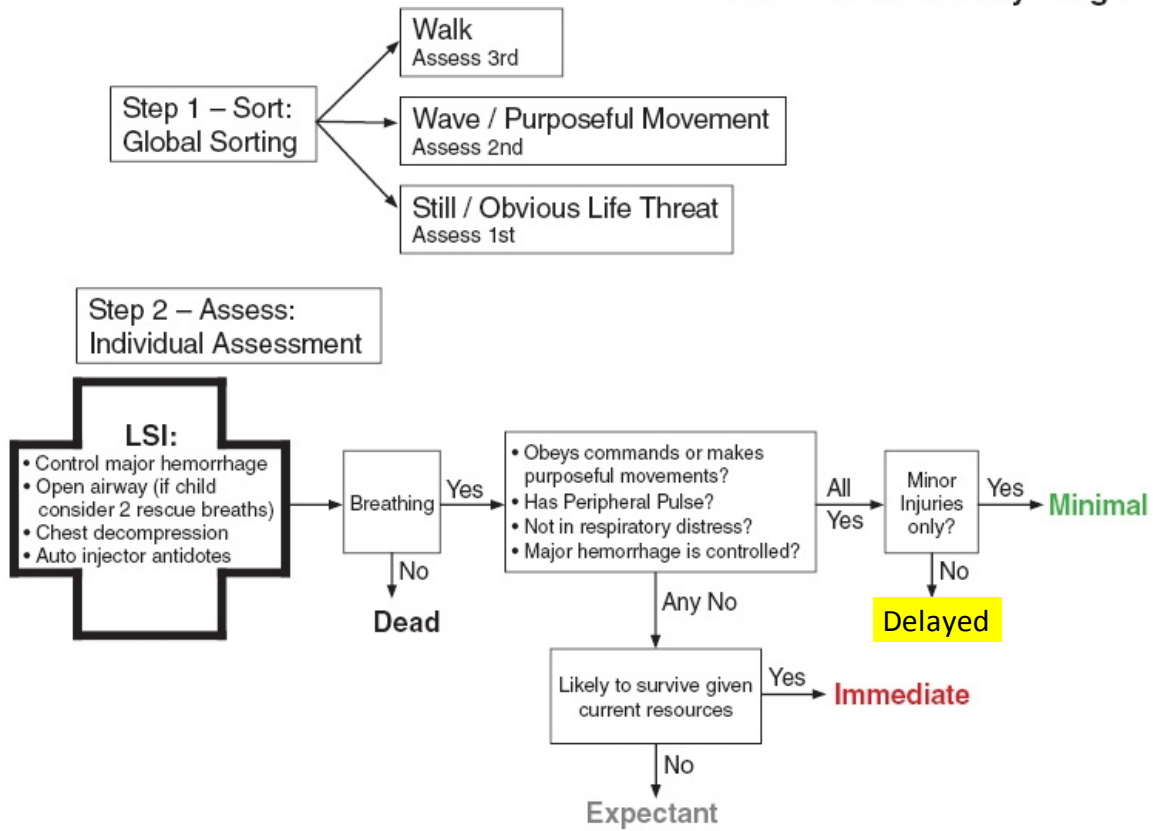
Treatment/Transport:

1. Transport/treatment priority is typically given to **RED (Immediate)**, **YELLOW (Delayed)**, then **GREEN (Minimal)**.
 - **GRAY (Expectant)** patients should be treated/transported as resources allow.
2. Patients should be reassessed periodically, including when moved to the CCP, or when their condition or resources change.

Special Considerations

- When using Triage Tags, if the patient's condition or the triage priority changes, indicate that on the tag. If necessary, add a new tag to identify the new triage priority, and if time permits, the reason for the change.

SALT Mass Casualty Triage



CRISIS STANDARDS OF CARE IN MASSIVE EVENTS

Some incidents are so large as to require extraordinary EMS procedures. Those scenarios are sometimes referred to as Mass Casualty Events (MCEs), instead of Mass Casualty Incidents (MCIs). This Standing Order introduces EMS procedures which could be utilized in very large emergency scenarios, or when the duration is extended.

“Crisis Standards of Care” is a new term, but not a new concept. EMS uses altered standards during triage. With concerns about pandemics, there is more planning for possible crises. Crisis Standards of Care during an MCE may be partially issued by the State, and could result in a temporary expansion of the EMS scope of practice.

In some circumstances, EMS may be authorized to triage selected patients for transport to other healthcare facilities. These could include Urgent Care Centers, an “Acute Care Center” (ACC) or a “Neighborhood Emergency Help Center” (NEHC), or a Disaster Medical Assistance Team (DMAT).

Dayton MMRS is required to have a plan called, “Forward Movement of Patients.” The intent of this plan is to relieve the burden on local hospitals by transporting patients, possibly directly from the scene, to more distant hospitals.

In the event of an MCE, especially one lasting days or longer, Greater Miami Valley EMS Council, with the approval of the Regional Physicians Advisory Board (RPAB), may promulgate “Just in Time Standing Orders” (JITSO). With approval from Ohio Department of Public Safety, these orders might include triage standards for transport to other healthcare facilities and other crisis standards of care; possibly exceeding the standard scope of practice for EMS.

A regional protocol for Functional Needs Shelter Triage has been added to the Optional Standing Orders Manual and is also available at gmvemsc.org on the Training Materials page. The protocol is used to help determine whether individuals with functional needs can be safely sheltered in a Red Cross Shelter during a disaster.

This Shelter Triage Protocol is a pre-approved Just-In-Time Standing Order (JITSO), authorized by the RPAB for use by an EMS agency assisting the Red Cross with shelter Triage. It is intended to be printed and given to paramedics, nurses, and other healthcare personnel at the time of a shelter operation.

At the option of local department chiefs and medical directors, the same protocol can be used during a disaster to determine patients who would be more appropriate for transport to Red Cross Shelters than to hospitals. That concept was endorsed by RPAB, and was used on the East Coast during Hurricane Sandy. In those cases, EMS should, if possible, contact the shelter before transporting. If locations or contact information for shelters is not known, contact the County EMA or the Red Cross. When transporting these non-emergency patients to shelters, it is critical that the patients bring their medications and medical equipment with them.

HAZ-MAT

Initial Actions

- Personnel safety
 - Consider potential for secondary devices.
 - PPE
 - Personnel & Equipment staging
- Call for additional resources.
 - (Medic Units, Engines for personnel/resources/Decon, **Haz-Mat**, Law Enforcement, etc.)
- Field Decontamination
 - Remove **all** contaminated clothing. This action may remove as much as 85% of solid or liquid and virtually all of gaseous contaminants.

- Thoroughly wash with {Dawn} dishwashing detergents paying special attention to skin folds and other areas where simple irrigation may not remove it.
- If a patient has been contaminated with any fuel, irrigate well. For example, diesel fuel can cause chemical burns if left in contact with the skin.
- Do not transport a patient until gross decon is completed.
- Obtain permission from any hospital upon arrival **before** entering with a potentially contaminated patient or crew.
- Decontaminate EMS vehicle prior to leaving hospital.
- Contact Medical Control and the hospital immediately to allow time for their set-up of decontamination equipment.
 - Provide the following information:
 - Estimated number of confirmed or potential adult and pediatric patients
 - Signs and symptoms exhibited by the patients
 - Name and identification information of the contaminant if known, or as much information as possible
 - Form of the contaminant (liquid, gas, etc.) if known
 - Routes of exposure of the patients (percutaneous, inhalation, ingestion, etc.) if known
 - Additional anticipated decontamination needs if necessary
 - ♦ In the event of a large MCI involving cyanide or nerve agents, request an “Antidote free” order, allowing you to treat all of the patients on the scene with the appropriate antidote, rather than calling for patient orders individually.

HAZARDOUS DRUG: EXPOSURES AND SPILLS

- Hazardous drug situations include:
 - Patients who have continuous IV chemotherapy at home.
 - 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 taking oral chemotherapy drugs.
- Potential routes of exposure include:
 - Absorption through skin or mucous membranes
 - Accidental 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
- EMS should don PPE whenever there is a risk of hazardous drug being released into the environment.
 - 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
- Guidelines for PPE:
 - Gloves: Double gloves are recommended. Latex gloves provide no chemical protection. Nitrile gloves are recommended for routine patient care of Haz-mat patients including chemo patients. Change gloves every 30 minutes.
 - Disposable non-permeable gowns
 - Respirators: NIOSH-approved respirator mask
 - Eye and face protection: wear a face shield whenever there is a possibility of splashing.
- Procedures:
 - Use universal precautions when handling any body fluids of a patient who has received chemotherapy within 48 hours.
 - Accidental skin exposure: Remove contaminated garments, place in leak-proof plastic bag, and immediately wash contaminated skin with soap and water. Rinse thoroughly.
 - Accidental eye exposure: immediately flush eye with saline solution or water for at least 30 minutes or until patient transport is completed.
 - Wipe up liquids with an absorbent pad or spill-control pillow.
 - Disposal of hazardous drugs and materials contaminated with hazardous drugs per MSDS or Haz Mat Team direction

- Report and document spills as required.
- For more information, contact:
 - The homecare agency that is supplying the infusion.
 - The physician who ordered the infusion.
 - A hospital pharmacy, if necessary (there should be a label on the IV bag with the drug's name, concentration and dosage).
 - Consult with the appropriate Haz-Mat team.

HAZMAT: BIOLOGICAL

- ♦ {In preparation for the possibility of a bioterrorist attack, Departments may store a supply of **Ciprofloxacin (Cipro)** or **Doxycycline**. They can provide prophylaxis against Anthrax, Cholera, and some protection against Plague.}
- Dayton MMRS maintains a supply of **Cipro** and **Doxy** sufficient to provide treatment for the first three days for all firefighters, EMS personnel, law enforcement officers, EMA personnel, public safety dispatchers, and their immediate families for use in a bioterrorist attack. These may be obtained when needed by contacting **937-333-USAR (8727)**.

HAZ-MAT: CYANIDE

In any case of known or strongly suspected cyanide intoxication:

- Provide 100% **O₂**
 - If unconscious, provide 100% **O₂** by BVM, preferably via endotracheal tube.
 - CPR if indicated.
 - If possible establish two IV lines, one for standard code drugs, and one for cyanide antidotes.
- It is critical to control any seizure activity, using **Diazepam** or **Midazolam**
- In MCIs with suspected cyanide poisoning:
 - Control any seizure activity, using **Diazepam** or **Midazolam**

HAZ-MAT: HYDROFLUORIC ACID (HF)

- Deaths have been reported from burns involving < 3% Body Surface Area. Ensure safety of EMS.
- Begin decon and irrigate the chemical burn with water as quickly as possible.
- Flush affected eyes and skin with copious amounts of water or **Normal Saline** for a minimum of 30 minutes or until patient transport is completed.
- If ingested, do not induce vomiting. Dilute with water or milk,
- Intubate if apneic.
- {Perform a 12-lead EKG, transmit to hospital} and monitor for cardiac arrest.
- A For pain relief when the patient is conscious and alert, consider **Fentanyl 50 mcg slow IV**, provided SBP > 100.
- A If unable to obtain IV, give **Fentanyl 50 mcg IM**.
- A May repeat **Fentanyl 50 mcg slow IV**, after 5 minutes provided SBP > 100.
- A Repeat dose of **Fentanyl 50 mcg IM** (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.
- P For severe pain relief when the patient is conscious and alert, consider **Fentanyl, 1 mcg/kg, slow IV** (Max dose 50 mcg) provided appropriate normal SBP.
- P If unable to obtain IV, give **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg).
- P **FENTANYL IS NOT TO BE ADMINISTERED TO ANYONE < 2 YEARS OF AGE.**
- P ♦ May repeat **Fentanyl 1 mcg/kg, slow IV after 5 minutes** (Max dose 50 mcg) if still in pain and SBP > 100.
- P ♦ Repeat dose of **Fentanyl 1 mcg/kg IM** (Max dose 50 mcg) (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.

HAZMAT: ORGANOPHOSPHATE/NERVE AGENT ORGANOPHOSPHATE/NERVE AGENT EXPOSURE TREATMENT

General Considerations:

- Signs and Symptoms:
 - SLUDGEMM: Salivation, Lacrimation, Urination, Defecation, GI Upset, Emesis, Miosis, Muscle Twitching

- Recognize that patients with severe poisoning may or may not be bradycardic.
- Mild to moderate cases should be treated with one or two doses of **Atropine** and **2-PAM**
- Severe cases will generally require repeating every 5 minutes up to 3 doses.
- Atropine in these circumstances is **not** for bradycardia, which may or may not be present.
- Primary endpoints for treatment are diminished airway secretions (lungs are clear to auscultation), hypoxia improves, airway resistance decreases, and dyspnea improves
- Organophosphate poisonings may require more Atropine (> 3 Mark I Kits or 3 DuoDotes).
- Ohio law and GMVEMSC Standing Orders permit First Responders and EMT-Basics to administer Organophosphate/nerve agent antidotes by autoinjector only.
- Nerve agent/organophosphate antidotes are to be used to treat symptomatic patients, not given prophylactically

Specific Care: Organophosphate or Nerve Gas Poisoning

- DECON. Removing contaminated clothing may remove as much as 85% of solid or liquid contamination, and virtually all gas.
- Oxygen
- Treat any case of known or suspected Organophosphate or Carbamate (e.g., insecticides such as Parathion or Malathion); or nerve agent (e.g., Tabun, Sarin, Soman, VX) exposure as below:
- ♦ Administer **Atropine** every 5 minutes, as available until lungs are clear to auscultation. **Atropine** may be given IV, IM, IO or by **Mark I** autoinjector #1 (adults and children weighing over 90 pounds), by **AtroPen** autoinjector for children, or by **DuoDote**.
- ♦ Adults and children > 90 pounds, give Mark I **Atropine autoinjector**, **DuoDote**, or **Atropine 2 mg , IV, IO, IM**
- P ♦ Children weighing 40 - 90 pounds, give **1.0 mg Atropine**, or the **1.0 mg AtroPen autoinjector**.
- P ♦ Children weighing less than 40 pounds, give **0.5 mg Atropine**, or the **0.5 mg AtroPen autoinjector**.
- ♦ Follow **Atropine** with **2-PAM (Pralidoxime) 600 mg IM**, which is **Mark I autoinjector Item 2** for older children and adults, or **1 gram IV drip or IM**. If **DuoDote** was used, no second autoinjector is needed.
- P ♦ Infants and young children should receive **Pralidoxime, 25-50 mg/kg IV drip or IM, if available**.
- Treat seizures with **Diazepam**, **Midazolam**, or **Diazepam Autoinjector (CANA)**.

Administering the Nerve Agent Antidote Auto-Injector Kit:

- Anterolateral thigh is the recommended auto-injector site for both adults and pediatrics.
- Using the Mark I
 1. Grasp syringe #1 (**Atropine**) and position the green tip of the AtroPen on victim's outer thigh. Push firmly until auto-injector fires. Hold in place for 10 seconds to ensure Atropine has been properly delivered.
 2. Grasp syringe #2 (**2-Pam**) and position the black tip of the Combo Pen on victim's outer thigh. Push firmly until auto-injector fires. Hold in place for 10 seconds to ensure Pralidoxime has been properly delivered
- Procedures for DuoDotes, pediatric AtroPens, and **Diazepam** autoinjectors are similar.

Antidote Resources:

- EMS Departments are authorized to stockpile large quantities of **Atropine**, **2-PAM**, autoinjectors, and supplies (e.g., needles, syringes).
- GMVEMSC drug bags include:
 - o **2 DuoDotes (Atropine (2 mg) and 2-PAM (600 mg) administered through a single auto-injector).**
 - o **2 Pediatric AtroPens (1 each: 0.5 mg, 1.0 mg)**
 - o **1 Multi-dose 1 mg vial of Atropine**
 - o **Sodium Thiosulfate 12.5 gm/50 ml vial**
- **Dayton MMRS maintains a supply of organophosphate and cyanide antidotes in each county in Ohio Homeland Security Region 3.**
 - o To obtain Dayton MMRS antidotes: call **937-333-USAR (8727)**.

- o Dayton MMRS antidotes may be requested for incidents too small to require a CHEMPACK.
- o If requesting a CHEMPACK, **simultaneously call 937-333-USAR (8727)** and request MMRS antidotes.

Chempack Resources:

- Containers with enough antidotes to treat about 500 victims of a nerve agent or organophosphate incident
- CHEMPACK procurement:
 - o ♦ Obtain MCP approval
- ♦ In an MCI, contact OSP Central Dispatch **866-599-LERP (5377)** and request a CHEMPACK and indicate that it meets both of the following criteria:
 - o The Organophosphate or nerve agent has been identified, or patients are exhibiting signs and symptoms of exposure.
 - o **AND** the need for antidotes is greater than the available resources.
 - o Simultaneously contact **937-333-USAR(8727)** and request additional Nerve Agent Antidotes:
 - Regional drug cache to be used for incidents too small for a CHEMPACK
 - Has additional drugs that are not available in the CHEMPACK (e.g., Cyanide antidotes)
- OSP Central Dispatch will:
 - o Notify closest CHEMPACK hospital
 - o Dispatch Troopers to deliver the CHEMPACK to the MCI's staging area.
 - o Troopers will expect EMS to sign a form indicating receipt.
- CHEMPACK contains:
 - o **Atropine**—blocks effects of excess acetylcholine
 - 0.5 mg AtroPen autoinjectors (for patients < 40 pounds)
 - 1.0 mg AtroPen autoinjectors (for patients 40-90 pounds)
 - Multi-dose vials
 - o **Pralidoxime Chloride (2-PAM)**—reduces levels of acetylcholine
 - 600 mg autoinjectors
 - Multi-dose vials
 - o **Diazepam (Valium)**—treats seizures.
 - **Convulsive Antidote, Nerve Agent (CANA)** (10mg **Diazepam** autoinjector)
 - Multi-dose vials
 - o Mark I Kits (for patients > 90 pounds)
 - 2 mg **Atropine** autoinjector
 - 600 mg **2-Pam** autoinjector
- CHEMPACK types (both contain same drugs)
 - o Hospital CHEMPACK contains more multi-dose vials for more precise dosing of children and long-term patients. Hospital CHEMPACKs are partitioned into thirds, each being marked with a red, yellow, or blue dot. Hospitals have the option to keep the red dot materials for potential use at their hospital. If a hospital opens its CHEMPACK, it must notify OSP Central Dispatch. (Hospitals may also request material from Dayton MMRS by calling **937-333-USAR (8727)**).
 - o EMS CHEMPACK contains more auto-injectors for ease of administration in the field.
- Limitations of CHEMPACKs:
 - o Only useful against nerve agents or organophosphate
 - o Only to be utilized when other resources are inadequate for number of victims.
 - o CHEMPACKs opened contrary to guidelines will not be replaced by CDC and will result in the loss of a \$250,000 asset.

HAZMAT: PEPPER SPRAY

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

REGIONAL HOSPITAL NOTIFICATION SYSTEM (RHNS)

Our area now has a Regional Hospital Notification System. The purpose is to provide one number for EMS, hospitals, and EMAs to call that will make rapid, simultaneous notifications in a Mass Casualty Incident/Event (MCI/MCE), or other major emergency.

The system can be used when an incident could involve a significant number of the region's hospitals. To activate the system, an incident commander calls **937-333-USAR (8727)**, and requests a "Regional Hospital Notification." The agency calling must ask for a Dispatch Supervisor, and should provide the information below:

- Name of agency
- Nature of emergency
- Location of emergency
- General statement on severity, such as approximate number of victims

The Montgomery County Regional Dispatch Center (RDC) will immediately put out a computerized message to the RHN Group with that information.

Activation of the RHNS will send simultaneous notifications to all of the following:

Good Samaritan Hospital	Wilson Memorial Hospital
Grandview Hospital	Atrium Medical Center
Children's Medical Center	Reid Memorial Hospital
Miami Valley Hospital	Kindred Hospital
Upper Valley Medical Center	Lifecare Hospital
Greene Memorial	Veterans Administration Medical Center
88 th medical, WPAFB	Community Blood Center
Kettering Medical Center	Regional Public Health Coordinator
Southview Hospital	Regional MMRS/RMRS Coordinator
Sycamore Medical Center	Regional Healthcare Systems Coordinator
Miami Valley Hospital South	GDAHA
Springfield Regional Medical Center	Dayton MMRS Medical Director
Mercy Hospital	Montgomery County Office of Emergency
Wayne Hospital	Management

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.

abdomen	ABD
abdominal aortic aneurysm	AAA
abortion	Ab
acute coronary syndrome	ACS
acute myocardial infarction	AMI
acute pulmonary edema	APE
acute renal failure	ARF
acute respiratory distress/syndrome	ARD/ARDS
administer rectally	p.r.
advanced cardiac life support	ACLS
advanced directive	AD
advanced life support	ALS
after	$\bar{p}$
against medical advice	AMA
alcohol	ETOH
alert & oriented	A&O
alert/verbal/pain/unresponsive	AVPU
antecubital fossa	AC
arteriosclerotic heart disease	ASHD
as necessary or needed	prn
as soon as possible	ASAP
aspirin	ASA
at	@
at bedtime	h.s.
atrial fibrillation	a-fib
atrial flutter/ tachycardia	AF/AT
atrioventricular	AV
automatic external defibrillator	AED
automatic transport ventilator	ATV
backboard	BB
bag-valve mask	BVM
basic life support	BLS
before	$\bar{a}$
below the knee amputation	BKA
births, number of	para
black	B
blood pressure	BP
blood sugar	BS
body substance isolation	BSI
body surface area	BSA
bowel movement	BM
bradycardia	brady
breaths per minute	bpm
by mouth	PO
by or through	per
cancer	CA
capillary refill time	CRT
carbon dioxide	CO ₂
carbon monoxide	CO
centimeter	cm.

cerebral palsy	CP
cerebrospinal fluid	CSF
cerebrovascular accident	CVA
cervical immobilization device	CID
cervical spine	C-spine
change	Δ
chest pain	CP
chief complaint	CC
chronic obstructive pulmonary disease	COPD
chronic renal failure	CRF
circulatory/sensory/motor	CSM
clear to auscultation bilaterally	CTAB
complaining of	c/o
congestive heart failure	CHF
coronary artery bypass graft	CABG
coronary artery disease	CAD
cubic centimeter	cc.
date of birth	DOB
day	D
dead on arrival	DOA
decreasing	$\downarrow$
degree(s)	$^{\circ}$
delirium tremens	DT's
dextrose in water - 10%	D10
diabetes mellitus	DM
diagnosis	Dx
dilation & curettage	D&C
discontinue	d/c
do not resuscitate	DNR
drop	gtt
dyspnea on exertion	DOE
electrocardiogram	ECG / EKG
emergency department	ED / ER
endotracheal tube	ETT
epinephrine	EPI
Equal to or greater than	$\geq$
Equal to or less than	$\leq$
esophageal detection device	EDD
esophageal obturator airway	EOA
estimated	Est.
estimated time of arrival	ETA
every	$\bar{q}$
external jugular vein	EJV
fever of unknown origin	FUO
for example	e.g.
foreign body	FB
four times a day	q.i.d.
fracture	fx
French	Fr.

gallbladder	GB
gastrointestinal	GI
gauge	Ga
Glasgow coma scale	GCS
gram	Gm
greater than	>
gunshot wound	GSW
hazardous materials	HazMat
head, ears, eyes, nose, throat	HEENT
Headache	H/a
heart block	HB
heart rate	HR
history	Hx
hypertension	HTN
increasing	↑
inferior	inf.
insulin dependent diabetes	IDDM
intercostal space	ICS
intracranial pressure	ICP
intramuscular	IM
Intranasal	IN
intraosseous	IO
intravenous	IV
intravenous push	IVP
joule	J
jugular venous distension	JVD
Kendrick extrication device	KED
kilogram	kg.
labor & delivery	L&D
last normal menstrual period	LNMP
left	(L)
Left lower/upper extremity	LLE/LUE
Left lower/upper lobe	LLL/ LUL
left lower/upper quadrant	LLQ/LUQ
left bundle branch block	LBBB
less than	<
lidocaine	LIDO
lights and siren	L&S
liters per minute	lpm
liter	L.
loss or level of consciousness	LOC
mass casualty event	MCE
mechanism of injury	MOI
medial	med.
medical control physician	MCP
metered dose inhaler	MDI
microgram	mcg.
milliequivalent	mEq
milligram	mg.
milliliter (same as cc.)	ml.
motor vehicle collision	MVC
multiple casualty incident	MCI
multiple sclerosis	MS

myocardial infarction	MI
nasal cannula	NC
nasopharyngeal airway	NPA
nausea & vomiting	N&V
newborn	NB
nitroglycerine	NTG
no known drug allergies	NKDA
non-rebreather mask	NRM
nonsteroidal anti-inflammatory	NSAID
normal saline	NS
normal saline lock	NSL
normal sinus rhythm	NSR
not applicable / available	n/a
nothing by mouth	NPO
O2 % of arterial blood	SpO2
obstetrics	OB
oropharyngeal airway	OPA
over the counter	OTC
overdose	OD
packs per day	p/d
parts per million	ppm
past medical history	PMH
patient	pt.
pelvic inflammatory disease	PID
penicillin	PCN
peptic ulcer disease	PUD
peripheral inserted central cath	PICC
pharyngo tracheal lumen airway	PtL
pregnancies, number of	Gravida
premature ventricular complex	PVC
prior to my arrival	PTA
pulmonary embolism	PE
pulse	P
pulse, motor, sensation	PMS
pulseless electrical activity	PEA
pupils (=) round reactive to light & accommodation	PERRLA
right bundle branch block	RBBB
right lower/upper extremity	RLE/RUE
right lower/upper lobe	RLL/RUL
right middle lobe	RML
rapid sequence induction	RSI
rate	R
respiratory rate	RR
returned to service	RTS
rheumatic heart disease	RHD
right	(R)
right lower/upper quadrant	RLQ/ RUQ
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
standard operating procedure	SOP
standing orders	SO
subcutaneous	SQ
sublingual	SL
sudden infant death syndrome	SIDS
supraventricular tachycardia	SVT
symptoms	Sx
systolic blood pressure	SBP
tachycardia	tach(y)
temperature	T
temporomandibular joint	TMJ
three times a day	t.i.d.
tibia	tib
times	×
to keep open	TKO
tourniquet	TQ
tracheal deviation	TD
transport	Tx
transcutaneous pacing	TCP
transfer	x-fer
transient ischemic attack	TIA
treatment/medication	Rx
tuberculosis	TB
twice a day	b.i.d.
unconscious	unc.
unequal / not equal	≠
unknown	unk.
upper/lower	U/L
upper respiratory infection	URI
urinary tract infection	UTI
ventricular fibrillation	VF/ VFIB
ventricular tachycardia	VT/ VTACH
vital signs	VS
warm & dry	w/d
week	wk.
weight	wt.
white	W
with	$\bar{c}$
within normal limits	WNL
without	$\bar{s}$ or w/o
Wolff Parkinson-White	WPW
year	yr.
years old	y/o or y.o.

Greater Miami Valley EMS Council & Ohio EMS Region 2
EMS CHECKLIST: SUSPECTED Stroke/CVA/TIA

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

Glasgow 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 patient and HISTORIAN WITHOUT DELAY to most appropriate hospital.**

NOTIFY hospital ASAP

Contact hospital and advise them of a "Stroke Alert" *if* you can arrive within **two hours** of time patient was last seen normal. Select groups of patients may receive thrombolytics after as much as six hours.

Consider air transport for Stroke patients with long transport times.

- _____ **6. POTENTIAL CONTRAINDICATIONS to Thrombolytic Therapy (i.e. tPA) to be**

Communicated to hospital (no influence on transport destination): (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.
- _____ **h)** History of intracranial hemorrhage.
- _____ **I)** Abnormal blood glucose (< 60 or > 400 mg/dl).
- _____ **j)** Recent major surgery or trauma (< 2 months).
- _____ **k)** BP > 200/ > 120.
- _____ **l)** Active peptic ulcer or guaiac positive stools (GI or GU bleeding).
- _____ **m)** Recent prolonged or traumatic CPR.
- _____ **n)** Hx of CVA, or brain tumor/injury/surgery.
- _____ **o)** Current use of anticoagulants (i.e., Coumadin)

RIGHTS OF MEDICATION ADMINISTRATION

1. Right Medication
 - a. Make sure that the medication is the correct medication indicated by the GMV Standing Orders and check it against the medication label.
 - b. Double-check the generic vs. non-generic names of medications. Many names are similar and have a potential for error. If not sure, reference SO Manual or Quick Reference Guide.
 - c. Check the expiration date on the label
2. Right Patient:
 - a. Confirm patient ID and confirm absence of allergies or other contraindications for the patient.
 - b. Confirm that the medication is appropriate for the patient per the GMV Standing Orders.
 - c. In multiple patient or mass casualty situations, confirm that the medication is being delivered to the correct patient.
3. Right Dose:
 - a. Check the SO dose against the medication label for the correct concentration.
 - b. Recheck dosage calculations and verify accuracy.
 - c. Confirm that the correct dose has been drawn.
 - d. If not familiar with the medication, use references!
4. Right Route:
 - a. Check the standing order and the medication label for the correct route.
 - b. Confirm the route of administration for the medication; IM, SQ, IV, PO, IN, ETT, Neb
 - c. Confirm that the dose is correct for the chosen route, since some dosages will vary depending on the route.
 - d. Make sure the route is accessible; is the IV site patent?
5. Right Time:
 - a. Give the medication over the proper time duration per the Standing Orders.
6. Right Documentation:
 - a. Document medication, dose, and time of administration and duration of administration, route, and patient response.

**ALBUTEROL
(Proventil)**

PACKAGED: 2.5 mg in 3 ml plastic ampule

INDICATIONS:

Asthma/Emphysema/COPD
Bronchospasm in Asthma/COPD
Allergic reaction with wheezing

ADULT:

2.5 mg (3 ml), nebulized with O₂ at 8-10 LPM
Combine Ipratropium with first dose of Albuterol.
May repeat Albuterol up to 2 times for a total of 3 doses

PEDI:

2.5 mg (3 ml), nebulized with O₂ at 8-10 LPM
Combine Ipratropium with first dose of Albuterol.
May repeat Albuterol up to 2 times for a total of 3 doses

THERAPEUTIC ACTION:

Bronchodilator

CONTRAINDICATIONS:

Prior hypersensitivity reaction to Albuterol,
Cardiac dysrhythmias associated with tachycardia.

PRECAUTIONS AND SIDE EFFECTS:

Breathing treatments should be started en route and once initiated the patient must be removed by EMS.
Usually dose related. Restlessness, apprehension, dizziness, palpitations, tachycardia, dysrhythmias
May precipitate angina pectoris and dysrhythmias

REQUIRES MCP:

ADULT: No

PEDI: No

ASPIRIN
(Abbreviated as ASA)

PACKAGED: 81mg. tablets in blister pack, times 4

INDICATION:

Suspected Cardiac chest pain, patient must be at least 25 years old.
Give as soon as possible to the patient with AMI

ADULT:

324 mg. = 4 chewable 81 mg tablets – MUST CHEW.

PEDI:

N/A

THERAPEUTIC ACTION:

Anti-platelet

CONTRAINDICATIONS:

Hypersensitivity to salicylates,
GI bleeding
Active ulcer disease
Hemorrhagic stroke
Bleeding disorders

PRECAUTIONS AND SIDE EFFECTS:

Stomach irritation, heartburn or indigestion, nausea or vomiting, allergic reaction

REQUIRES MCP:

ADULT: No

PEDI: N/A

ATROPINE

PACKAGED: 1mg in 10ml prefilled syringe; (3 in drug bag)
1 mg in 1 ml vial; (HM bag in drug bags)
2 mg auto injector; (in Chempack)
1 mg auto injector; (in Chempack, Drug Caches and HM bag in drug bags)
0.5 mg auto injector; (in Chempack, Drug Caches and HM bag in drug bags)
Multidose vial 8 mg in 20 ml, 0.4 mg/ml; (in Chempack)

NOTE:

Atropine is also one component of the Mark 1 kits or as a DuoDote (in with the Haz-Mat Drugs in GMVEMSC Drug Bags).

INDICATION:

Organophosphate or Nerve Agent poisoning (regardless of cardiac rate)

ADULT:

Organophosphate or Nerve Gas poisoning: Mark 1 Kit Item one, 2 mg until lungs are clear to auscultation. There is no max dose for Atropine for Organophosphate or Nerve Agent poisoning.

PEDI:

Organophosphate or Nerve Gas poisoning: Atropine or (Atro-Pen) autoinjector
< 40 lbs: 0.5 mg Atropine, IV/IO/IM or (Atro-Pen) Autoinjector
40 lbs to 90 lbs: 1.0 mg Atropine, IV/IO/IM or (Atro-Pen) Autoinjector
> 90 lbs: 2.0 mg Atropine, IV/IO/IM or (Atro-Pen) Autoinjector
There is no max dose for Atropine for Organophosphate or Nerve Agent poisoning.

THERAPEUTIC ACTION:

Anticholinergic

CONTRAINDICATIONS:

Tachycardia
Hypersensitivity to atropine
Obstructive disease of GI tract
Obstructive neuropathy
Unstable cardiovascular status in acute hemorrhage with myocardial ischemia
Narrow angle glaucoma
Thyrotoxicosis

PRECAUTIONS AND SIDE EFFECTS:

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.

Atropine causes papillary dilation rendering the pupils nonreactive. Pupil response may not be useful in monitoring CNS status.

REQUIRES MCP:

ADULT:

Organophosphate Nerve Agent Poisoning-Yes

PEDI:

Organophosphate Nerve Agent Poisoning-Yes

D10

PACKAGED: 500ml of D10W, contains 50 mg Dextrose

INDICATIONS:

Diabetic with mental status changes
Evidence of hypoglycemia in cardiac arrest
Generalized hypothermia with or without arrest
Altered level of consciousness of unknown cause
Seizures with BS < 60
No blood sugar monitor is available or a strong suspicion of hypoglycemia despite BS readings.

ADULT;

D10, 250 ml IV, at wide open rate
May repeat in 10 min. if pt. fails to respond or BS remains < 60.
Max total dose is 500 ml.

PEDI:

D10, 5ml/kg (Max single dose is 250 ml)
Max total dose is 500 ml

NEWBORN:

D10 2 ml/kg if BS < 40

THERAPEUTIC ACTION:

Principal form of carbohydrate utilized by the body

CONTRAINDICATIONS:

Intracranial hemorrhage
Increased intracranial pressure
Known or suspected CVA in the absence of hypoglycemia

PRECAUTIONS AND SIDE EFFECTS:

Warmth, pain, burning from medication infusion, hyperglycemia, thrombophlebitis
May precipitate severe neurologic symptoms in thiamine deficient patients

REQUIRES MCP:

ADULT: No

PEDI: No

**DIAZEPAM
(Valium)**

PACKAGED: 10 mg in 2 ml vial, 5 mg/1ml

INDICATION:

Seizures

Chemical restraint in combative patient

Recent cocaine/crack use with significant hypertension (SBP > 100) or hemodynamically significant tachycardia (HR > 100)

ADULT:

Seizures: 5 mg slow IV; may repeat dose once.

{If unable to start IV, consider Diazepam 10 mg rectally using syringe with needle removed.}

As chemical restraint and cocaine/crack use: 5 mg slow IV; may repeat dose once.

PEDI:

Seizures: 0.2 mg/kg slow IV over 2 min. (Max dose 5 mg IV)

OR {0.5 mg/kg rectally (Max dose 10 mg. rectally)}

May repeat 0.2 mg/kg slow IV over 2 min up to 5 mg max slow IV

THERAPEUTIC ACTION:

Treats alcohol withdrawal and grand mal seizure activity, used to treat anxiety and stress

CONTRAINDICATIONS:

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

PRECAUTIONS AND SIDE EFFECTS:

Hypotension, reflex tachycardia (rare), respiratory depression, ataxia, psychomotor impairment, confusion, nausea

May cause local venous irritation

REQUIRES MCP:

ADULT: No

PEDI: No

DIAZEPAM

(Valium) CANA Pen

PACKAGED: 10mg autoinjector

Seizures associated with Organophosphate or Nerve Agent MCI.

NOTE: Available in CHEMPACK and Drug Cache.

DOSE:

ADULT: 10 mg IM Autoinjector.

PED: 10 mg IM Autoinjector.

REQUIRES MCP:

ADULT: Yes

PEDI: Yes

**DIPHENHYDRAMINE
(Benadryl)**

PACKAGED: 50 mg in 1ml vial

INDICATION:

Allergic Reaction/Anaphylaxis

In anaphylaxis patient who goes into arrest if not already given.

ADULT:

50 mg IM or slow IV

PEDI:

1 mg/kg (Max dose 50 mg) IM or slow IV

THERAPEUTIC ACTION:

Prevents the physiologic actions of histamine by blocking histamine receptors

CONTRAINDICATIONS:

Patients taking monoamine oxidase (MAO) inhibitors

Hypersensitivity

Narrow angle glaucoma (relative)

Newborns and nursing mothers

PRECAUTIONS AND SIDE EFFECTS:

Dose related drowsiness, sedation, disturbed coordination, hypotension, palpitations, tachycardia, bradycardia, thickening of bronchial secretions, and dry mouth and throat. Use cautiously in patients with CNS depression or lower respiratory diseases such as asthma.

REQUIRES MCP:

ADULT: No

PEDI: No

DUODOTE

PACKAGED: Autoinjector 2 mg Atropine and 600 mg Pralidoxime Chloride (2-Pam)

NOTE: Available in CHEMPACK, Haz-Mat drugs in drug bag and Drug Cache.

INDICATION:

Organophosphate or Nerve Agent Poisoning

ADULT:

Single Autoinjector containing 2 mg Atropine and 600 mg 2-Pam
(See individual drug listing for specific information on drugs)

PEDI:

Single Autoinjector containing 2 mg Atropine and 600 mg 2-Pam

THERAPEUTIC ACTION:

Anticholinergic as a result of WMD MCI
Also reactivates cholinesterase

CONTRAINDICATION:

Tachycardia, hypersensitivity to atropine, obstructive disease of GI tract, obstructive uropathy, unstable cardiovascular status in acute hemorrhage with myocardial ischemia, narrow angle glaucoma, thyrotoxicosis
Hypersensitivity to 2-PAM

PRECAUTIONS AND SIDE EFFECTS:

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. Atropine causes papillary dilation rendering the pupils nonreactive. Pupil response may not be useful in monitoring CNS status. Use with caution in myasthenia gravis, renal impairment, pregnancy, lactation or children.

REQUIRES MCP:

ADULT: Yes **PEDI:** Yes

EPINEPHRINE/EPIPEN

PACKAGED: 30 ml vial, 1 mg/ml
Autoinjector 0.3 mg or 0.15 mg

INDICATIONS:

Asthma in severe distress
Anaphylaxis Allergic Reaction/Anaphylaxis in patients who remain hypotensive after fluid bolus.

ADULT:

Asthma, Anaphylaxis: EpiPen 0.3 mg of 1:1,000 IM OR 0.3 mg of 1:1000 SQ

PEDI:

Asthma: 0.01 mg/kg of 1:1,000 SQ; may be repeated during transport
or Asthma, Anaphylaxis: Patient > 30 kg EpiPen 0.3 mg of 1:1,000 IM
Patient < 30 kg EpiPen Jr. 0.15 mg of 1:1,000 IM

THERAPEUTIC ACTION:

Directly stimulates alpha and beta adrenergic receptors in dose-related fashion, causes bronchodilation, vasoconstriction, and increased cardiac output

CONTRAINDICATIONS:

Hypersensitivity (not an issue especially in emergencies—the dose should be lowered or given slowly in non-cardiac arrest patients with heart disease)
Hypovolemic shock (as with other catecholamines, correct hypovolemia prior to use)
Coronary insufficiency (use with caution)

PRECAUTIONS AND SIDE EFFECTS:

Headache, nausea, restlessness, weakness, dysrhythmias, including ventricular tachycardia and ventricular fib, hypertension, precipitation of angina pectoris, tachycardia
May increase myocardial oxygen demand
Syncope has occurred following epinephrine administration to asthmatic children.

REQUIRES MCP:

ADULT: For repeat in asthmas – Yes

PEDI: For repeat in asthmas – Yes

FENTANYL

PACKAGED: 100 mcg/2 mL (50 mcg/mL) vial

INDICATIONS:

Suspected Cardiac Chest Pain, Trauma Emergencies, Extremity Fractures, Dislocations, Sprains, Frostbite, Abdominal Pain, Haz-Mat: Hydrofluoric Acid (Hf)

ADULT:

Fentanyl administered up to 50 mcg slow IV/IO provided SBP>100.

Repeat Dose: May repeat up to 50 mcg after 5 minutes

If unable to establish IV, **Fentanyl** 50 mcg IM; Repeat no sooner than 30 minutes and is only indicated when transport is greater than 30 minutes.

PEDI:

- P** For severe pain relief when the patient is conscious and alert, not hypotensive, and complaining of severe pain, consider **Fentanyl, up to 1 mcg/kg, slow IV (Max dose 50 mcg)** provided appropriate normal SBP.
- P** If patient meets criteria for **Fentanyl** and unable to obtain IV, give **Fentanyl 1 mcg/kg IM (Max dose 50 mcg)**.
- P** **FENTANYL IS NOT TO BE ADMINISTERED TO ANYONE < 2 YEARS OF AGE.**
- P** ♦May repeat **Fentanyl 1 mcg/kg, slow IV after 5 minutes** if still in pain and SBP > 100. (**Max dose 50 mcg**).
- P** ♦Repeat dose of **IM Fentanyl 1 mcg/kg IM (Max dose 50 mcg)** (repeat no sooner than 30 minutes) is only indicated when transport is greater than 30 minutes.

THERAPEUTIC ACTION:

Provides analgesia, reduces cardiac preload by increasing venous capacitance and decreasing afterload

CONTRAINDICATIONS:

Hypersensitivity to drug/class/components

PRECAUTIONS AND SIDE EFFECTS:

Apnea

CNS depression

Chest wall rigidity ("wooden chest syndrome") may occur preventing adequate chest wall excursion and ventilation. This syndrome typically occurs with high doses (6-7 mcg/kg) or with rapid administration. Reversible with naloxone.

Bradycardia which may be transient. Ensure adequate ventilation and oxygenation first. Treat with atropine only after these have been ensured. Use atropine only if the bradycardia is symptomatic and hemodynamically significant, and per the bradycardia protocol.

REQUIRES MCP:

ADULT: No

PEDI: Yes for repeat doses

GLUCAGON

PACKAGED: 1 mg dose; combine liquid and powder vials, then administer.

INDICATIONS:

Hypoglycemia if no IV access

Generalized hypothermia without arrest

Altered level of consciousness of unknown cause

Seizures with BS < 60

No a monitor is available or a strong suspicion of hypoglycemia despite BS reading and no IV access

Calcium Channel Blocker or Beta Blocker OD

ADULT:

Hypoglycemia with no IV: 1 mg IM

Calcium Channel Blocker or Beta Blocker OD: 1 mg IV or IM

.

PEDI:

Hypoglycemia with no IV: 1 mg IM

Calcium Channel Blocker or Beta Blocker OD: 1 mg IV or IM

THERAPEUTIC ACTION:

Increases breakdown of glycogen to glucose and stimulates glucose synthesis thereby raising blood sugar

CONTRAINDICATION:

Hypersensitivity (allergy to proteins)

PRECAUTIONS AND SIDE EFFECTS:

Tachycardia, hypotension, nausea and vomiting, urticaria

Should not be considered a first line choice

REQUIRES MCP:

ADULT:

Hypoglycemia: No

Calcium Channel Blocker or Beta Blocker OD: Yes

PEDI:

Hypoglycemia: No

Calcium Channel Blocker or Beta Blocker OD: Yes

IPRATROPIUM
(Atrovent)

PACKAGED: 0.5 mg in 2.5 ml plastic ampule

INDICATIONS:

Bronchospasm in Asthma /COPD

Allergic Reaction/Anaphylaxis with wheezing

ADULT:

0.5 mg (2.5 ml), nebulized with O2 at 8-10 LPM

Combined with first dose of Albuterol

PEDI:

0.5 mg (2.5 ml) nebulized with O2 at 8-10 LPM

Combined with first dose of Albuterol

THERAPEUTIC ACTION:

Causes bronchodilation by anticholinergic effect

CONTRAINDICATION:

Hypersensitivity to Atropine, Ipratropium, or derivatives

PRECAUTIONS AND SIDE EFFECTS:

Use with caution in patients with narrow-angle glaucoma, prostatic hypertrophy, or bladder neck obstruction, and lactating mothers.

REQUIRES MCP:

ADULT: No

PEDI: No

LIDOCAINE 2%

PACKAGED: 100 mg in 5 ml syringe, 20 mg/ml

INDICATIONS:

For pain caused by pressure of intraosseous fluid administration

ADULT:

Pain associated with IO infusion: 1.5 mg/kg up to 100 mg via {IO}

PEDI:

Pain associated with IO infusion: 0.5 mg/kg up to 100 mg via {IO}

THERAPEUTIC ACTION:

Decreases automaticity

CONTRAINDICATION:

Hypersensitivity

Adams-Stokes syndrome

Second or third degree heart block in absence of an artificial pacemaker

PRECAUTIONS AND SIDE EFFECTS:

Lightheadedness, confusion, blurred vision, hypotension, cardiovascular collapse, bradycardia, altered

level of consciousness, irritability, muscle twitching, seizures with high doses

Use extreme caution in patients with hepatic disease, heart failure, marked hypoxia, severe respiratory

depression, hypovolemia or shock, incomplete heart block or bradycardia and atrial fib.

REQUIRES MCP:

ADULT: No

Pedi: No

**MIDAZOLAM
(Versed)**

PACKAGED: 10 mg in 2 ml vial, (5 mg/ml) (2 in drug bag)

INDICATIONS:

For seizure IN via {MAD}

After intubation, if patient is resisting and SBP is normal for age.

As chemical restraint for combative patient

ADULT:

Seizures: 10 mg IN using {MAD} (5 mg in each nostril) or 2 mg slow IV or 4 mg IM

If seizure persists: Repeat 5 mg IN or 2 mg slow IV or 4 mg IM.

Chemical restraint: 2 mg slow IV OR 10 mg IN using {MAD} or 4 mg IM

NOTE: The IM route should be the last resort route.

PEDI:

Sedation: 0.15 mg/kg slow IV

Seizures: 0.15 mg/kg IN using {MAD} (Max dose 4 mg) or 0.15 mg/kg slow IV (Max dose 2 mg) or 0.15 mg/kg IM (Max dose 4 mg)

If still seizing: Repeat one-half of initial Midazolam doses except **NO IM ROUTE REPEAT**

♦ Chemical restraint: Call MCP for initial and repeat doses. 0.15 mg/kg IN (0.1 mg/kg each nostril) using {MAD} or 0.15 mg/kg slow IV (Max dose 2 mg), or 0.15 mg/kg IM (Max dose 4 mg)

THERAPEUTIC ACTION:

Provides sedation

CONTRAINDICATIONS:

Hypersensitivity to benzodiazepines

Acute narrow glaucoma

Do not use in obstetrics, coma, shock or acute alcohol intoxication where vital signs are depressed.

PRECAUTIONS AND SIDE EFFECTS:

Be prepared to monitor respirations and intubate and ventilate if necessary.

Use with caution with lactating mothers.

Geriatric & debilitated patients require lower doses & are more prone to side effects.

Provide continuous monitoring of respiratory & cardiac function.

Can cause respiratory depression

REQUIRES MCP:

ADULT: No

PEDI: No

JITSO

MORPHINE

PACKAGED: 5 mg in 1ml vial

INDICATIONS:

Pain relief in AMI and other acute painful conditions excluding back pain

ADULT:

Up to 5 mg slow IV based on patient's weight, provided SBP > 100

Repeat dose: May repeat up to 5 mg after 5 minutes.

If unable to establish IV, Morphine SQ 5 mg.

Repeat SQ is indicated no sooner than 30 minutes.

PEDI:

Pain relief in peds at least 2 years old

0.1 mg/kg slow IV (Max dose 5 mg) provided appropriate SBP

Repeat dose: May repeat up to 5 mg after 5 minutes

If unable to establish IV, Morphine SQ 5 mg

Repeat SQ is indicated no sooner than 30 minutes.

THERAPEUTIC ACTION:

Provides analgesia, reduces cardiac preload by increasing venous capacitance and decreasing afterload.

CONTRAINDICATIONS:

Hypersensitivity to narcotics

Hypovolemia

Hypotension

Head injury, increased ICP

Severe respiratory depression

Patients who have taken MAO inhibitors within 14 days

PRECAUTIONS AND SIDE EFFECTS:

Hypotension, tachycardia, bradycardia, palpitations, syncope, facial flushing, respiratory depression, euphoria, bronchospasm, dry mouth, allergic reaction

Use with caution in the elderly, those with asthma, and in those susceptible to CNS depression.

May worsen bradycardia or heart block in inferior MI (vagotonic effect)

REQUIRES MCP:

ADULT: Initial dose: No Repeat SQ dose: Yes

PEDI: Initial dose: No Repeat dose: Yes

NALOXONE (Narcan)

PACKAGED: 2 mg in 2 ml vial, 1 mg/ml

NOTE: Naloxone administration should be to improve respirations in an unresponsive patient with a hypoventilation condition and not to awaken an unconscious patient. It should be given slowly. Narcan can precipitate narcotic withdrawal with all of its problems. If the patient has a pulse, Naloxone should be given before intubation. Once Naloxone is administered, the patient must be removed by EMS.

INDICATIONS:

Respirations depressed or high index of suspicion of narcotic overdose.
Suspicion of drug abuse in cardiac arrest

ADULT:

Up to 2 mg IV, IO or SQ. If IV unsuccessful, up to 4 mg IM. Titrate to adequate respirations.

OR {2 mg intranasally using MAD}

If respirations don't improve after 3 minutes, establish IV and administer IV dose. Repeat doses may be given.

PEDI:

P Naloxone:

- ≤ 20 kg 0.1 mg/kg IV/IN/IM/SQ/IO (Max Dose 2 mg) may repeat x one
- > 20 kg 2 mg, IV/IN/IM/SQ/IO, may repeat x one
- Naloxone IV is preferred, but it may be given IN before IV is established.
- Titrate to adequate respirations.
- If using IN route, if respirations don't improve after 3 minutes, establish IV and administer IV dose.

THERAPEUTIC ACTION:

A competitive narcotic antagonist

CONTRAINDICATIONS:

Hypersensitivity

Use with caution in narcotic-dependent patients who may experience withdrawal syndrome (including neonates of narcotic-dependent mothers).

PRECAUTIONS AND SIDE EFFECTS:

Tachycardia, hypertension, dysrhythmias, nausea and vomiting, diaphoresis, blurred vision, opiate withdrawal

May not reverse hypotension

Caution should be exercised when administering to narcotic addicts (may precipitate withdrawal with hypertension, tachycardia and combative behavior).

After administration of Naloxone, patient must be transported by EMS.

REQUIRES MCP:

ADULT: No

PEDI: No

NITROGLYCERINE
(Abbreviated as NTG in the orders)
(Nitrostat)

PACKAGED: Glass bottle, 0.4 mg SL tablet

INDICATIONS:

Use only on patients who are at least 25 years old or have been prescribed Nitroglycerine.

Cardiac related chest pain

Pulmonary edema with systolic BP over 100 mmHg Crack/Cocaine Overdose with chest pain

ADULT:

0.4 mg SL every 5 min for continued chest pain up to a total of 3 tablets.

PEDI:

N/A

THERAPEUTIC ACTION:

Vasodilator which decreased preload and to a lesser extent, decreased afterload

CONTRAINDICATIONS:

Hypersensitivity

Hypotension

Use of sexual enhancement drugs in last 24 hours

Taking Revatio (a pulmonary hypertension medication)

Head injury

Cerebral hemorrhage

PRECAUTIONS AND SIDE EFFECTS:

Transient headache, reflex tachycardia, hypotension, nausea & vomiting, postural syncope, diaphoresis

REQUIRES MCP:

ADULT: No

PEDI: N/A

ORAL GLUCOSE

PACKAGED: Tube; concentration varies, check label

INDICATIONS:

Hypoglycemia, if no IV access or available Glucagon

Generalized hypothermia without arrest

Altered level of consciousness of unknown causes

Seizures with BS < 60, no BS monitor available or strong suspicion of hypoglycemia despite BS reading and no IV access

ADULT:

1 tube

May be repeated in 10 min. if BS remains < 60

PEDI:

1 tube

May be repeated in 10 min. if BS remains < 60

THERAPEUTIC ACTION:

Raise blood glucose concentration

CONTRAINDICATION:

None if blood glucose level is low

PRECAUTIONS AND SIDE EFFECTS:

Inability to control the airway

REQUIRES MCP:

ADULT: No

PEDI: No

PRALIDOXIME (2-PAM)
(Mark I Autoinjector, Item 2)

PACKAGED: 600 mg Autoinjector

INDICATION:

To be used following Atropine in Organophosphate, or Nerve Gas Poisoning; both for treatment of civilian patients at the scene, as well as for protection of public safety personnel who walk into scene & become unexpectedly contaminated.

ADULT:

600 mg IM Autoinjector

PEDI:

Children >20 kg: 600 mg IM Autoinjector

THERAPEUTIC ACTION:

Reactivates cholinesterase after poisoning with anticholinesterase agents (Organophosphate or Nerve Gas)

Reverses muscle paralysis after organophosphate poisoning.

CONTRAINDICATION:

Hypersensitivity

PRECAUTIONS AND SIDE EFFECTS:

Use with caution in myasthenia gravis, renal impairment, pregnancy, children. Can spread to child through breast feeding

REQUIRES MCP:

ADULT: Yes

PEDI: Yes

GREATER MIAMI VALLEY EMS COUNCIL

2013 INTERMEDIATE SKILL SHEETS

Revised 9/2012

EMT-INTERMEDIATES: 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 Intermediate Mega Code sheets used for testing.

Manual External Defibrillator (covered in Mega Code)

Orotracheal Intubation of Non-trauma Patient ----- 59

Automated External Defibrillator ----- 63

Pediatric Mega Code - Separate Intermediate Mega Code sheets used for testing.

Orotracheal Intubation ----- 61

Laryngeal Mask Airway ----- 69

Intraosseous Infusion ----- 64

Use of Length / Weight Based Tape (covered in Mega Code)

IV and Medications

Nebulizer with Bag-Valve Device ----- 65

Medication Administration ----- 66

Trauma

Inline Orotracheal Intubation of the Trauma Patient ----- 60

Chest Decompression ----- 62

Optional Skills

Acquisition of 12-lead EKG ----- 68

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

NAME _____

DATE _____

LEVEL: _____ Paramedic

_____ Intermediate

STEPS	1 st Test	2 nd Test	3 rd 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 proper size 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 {Capnography, Colorimetry or EDD}. Be able to discuss the indications and limitations of each device.			
P. Confirm tube placement with at least 5 methods of verification and document the outcomes. • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords A Depth of insertion of 20-22 cm marking at the teeth • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
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 | 4. Magill forceps | 9. Commercial tube holder or proper taping method. |
| 2. Stylet | 5. 10 ml. syringe | 10. Confirmation Device |
| 3. Laryngoscope Blade & handle | 6. Suction equipment | 11. C-collar |
| | 7. Stethoscope | 12. Adult Intubation Manikin |
| | 8. Gloves & Eye protection | |

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: IN-LINE OROTRACHEAL INTUBATION OF THE TRAUMA PATIENT

NAME _____

DATE _____

LEVEL: _____ Paramedic

_____ Intermediate

STEPS	1 st Test	2 nd Test	3 rd 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 using c-spine precautions.			
E. Pre-oxygenate patient during preparations to intubate.			
F. Demonstrate 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 {Capnography, Colorimetry, or EDD}. Be able to discuss the indications and limitations of each device.			
P. Confirm tube placement with at least 5 methods of verification and document the outcomes. • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords A Depth of insertion of 20-22 cm marking at the teeth • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
Q. Secure tube in place & reassess placement after any movement of patient.			
R. Apply cervical collar.			

EQUIPMENT:

- | | | |
|----------------------------------|--|------------------------------|
| 1. Proper size endotracheal tube | 5. 10 ml. syringe | 10. Confirmation device |
| 2. Stylet | 6. Suction equipment | 11. C-collar |
| 3. Laryngoscope blade & handle | 7. Stethoscope | 12. Adult intubation manikin |
| 4. Magill forceps | 8. Gloves & eye protection | |
| | 9. Commercial tube holder or proper taping method. | |

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

PEDIATRIC PROTOCOL SKILL EVALUATION
SUBJECT: PEDIATRIC OROTRACHEAL INTUBATION

NAME _____

DATE _____

LEVEL: _____ Paramedic

_____ Intermediate

STEPS	1 st Test	2 nd Test	3 rd 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, select proper size ETT and laryngoscope blade (use length-based tape).			
G. Insert laryngoscope.			
H. Elevate the mandible.			
I. Insert the ET tube.			
J. Remove the stylet.			
K. Document ETT depth at front teeth. Tube marking at teeth = 3 x tube size			
L. Ventilate the patient.			
M. Confirm tube placement, using {Capnography, Colorimetry, or EDD}. Be able to discuss the indications and limitations of each device. • EDD is contraindicated in pregnancy, or children under 5 y/o or 20 kg.			
N. Confirm tube placement with at least 5 methods of verification and document the outcomes. • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords P Depth of insertion = tube size x 3 • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
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 | 6. Stethoscope |
| 2. Proper size stylet | 7. Gloves & eye protection |
| 3. Laryngoscope blade & handle | 8. Commercial tube holder or proper taping method. |
| 4. Magill forceps | 9. Confirmation Device |
| 5. Suction equipment | 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: CHEST DECOMPRESSION

NAME _____

DATE _____

LEVEL: _____ Paramedic _____ Intermediate

INDICATION IS A HEMODYNAMICALLY UNSTABLE PATIENT.

STEPS	1 st Test	2 nd Test	3 rd Test
A. List inclusion criteria: • MOI • Respiratory Distress or Failure • Diminished or absent breath sounds • Hemodynamic instability: • Trauma arrest ○ Potential chest injury MOI with diminished/absent breath sounds • Cardiac arrest in the asthmatic patient with diminished breath sounds either unilateral or bilateral			
B. List exclusion criteria • Lack of inclusion criteria • Needle decompression is not to be performed unless patient is hemodynamically unstable			
C. BSI			
D. Prepare equipment.			
E. Explain procedure to the patient.			
F. Administer high concentration Oxygen			
G. If patient has a sucking chest wound, place non-porous dressing taped on 3 sides over wound so air can escape.			
H. Identify landmarks: 2nd or 3rd intercostal space at the mid-clavicular line on the affected side. Insertion site should be just superior to the rib margin.			
I. Prepare the skin with antiseptic.			
J. Insert the needle at a 90 degree angle into the pleural cavity, just above the rib margin. Puncture the skin and advance the needle (perpendicular to chest) until you encounter a “pop” or rush of air.			
K. Remove the needle, keeping the catheter in place. Securely tape the catheter. Watch for kinks			
L. Reassess the patient for signs of improvement or complications • Possible complications: ○ Local hematoma ○ Pneumothorax/Hemothorax ○ Infection NOTE: Insert the needle over (superior to) the rib to avoid striking vital structures such as nerves and vascular structures that lie at the inferior margins of the ribs.			

EQUIPMENT:

1. 14 ga 3 1/4” Angiocatheter (preferred)
2. Safety glasses and gloves
3. Stethoscope
4. Alcohol preps
5. Tape

AUTOMATED EXTERNAL DEFIBRILLATORS

NAME _____

DATE _____

LEVEL: ____ Paramedic ____ Intermediate ____ Basic ____ First Responder

STEPS	1 st Test	2 nd Test	3 rd Test
A. Perform an initial assessment of the patient.			
B. Begin CPR with 100% oxygen while preparing AED.			
• CPR continuously until AED is set-up and attached to patient			
o If witnessed arrest: Defibrillate immediately.			
o If unwitnessed arrest: Perform CPR for 1-2 minutes prior to defibrillation.			
• CPR continuously until AED is attached to patient.			
C. Turn on the AED.			
D. Place the defibrillator pads on the patient.			
E. Stop CPR. Allow AED to analyze rhythm.			
F. If shock is advised, clear all personnel from around the patient, and administer a shock.			
G. Resume CPR with compressions immediately if there is no patient response to the shock.			
H. Repeat steps E, F and G in 1-2 minutes if needed.			

EQUIPMENT:

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

OPTIONAL PROTOCOL SKILL EVALUATION
SUBJECT: INTRAOSSEOUS INFUSION

NAME _____

DATE _____

LEVEL: _____ Paramedic

_____ Intermediate

STEPS	1 st Test	2 nd Test	3 rd Test
A. List the indications for intraosseous infusion.			
B. List the potential complications of intraosseous infusion.			
C. Select the appropriate site for children: Anteromedial aspect of proximal tibial shaft, two fingerbreadths below the tibial tuberosity.			
D. Position leg for IO.			
E. Prepare the skin with appropriate antiseptic.			
F. Adjust the depth guard on the needle.			
G. Demonstrate proper insertion of the needle using the device approved by your department.			
H. Remove inner stylet and attach 10 cc syringe with 5 ml IV fluid. Aspirate for blood/marrow. Inject 5 ml of fluid to insure free flow.			
I. Attach IV tubing. Infuse fluid or medication using pressure infuser.			
J. Secure the I.O. Tape the tubing to the skin.			
K. List the signs of possible infiltration.			
L. Indicate proper site and positioning for adult insertion: • Proximal tibia: - o Two fingerbreadths below the patella and 1-2cm medial to tibial tuberosity • Distal tibia: - o Flat portion of the distal tibia, just proximal to medial malleolus • Humeral head: - o 90° angle directly into greater tuberosity • Distal femur—site of last resort: - o Anterior midline above external epicondyles, 1-3 cm above femoral plateau.			

EQUIPMENT:

1. Bone Marrow Aspiration needle (or BIG, EZ IO)
2. Alcohol prep
3. Towels
4. IV Solution and tubing
5. 10 ml. syringe
6. Tape, 4x4s
7. Gloves & eye protection
8. 2 rolls of Kerlix.
9. IO manikin

When preparing for this skill evaluation, be sure that you are able to meet the objectives A, B, C, G, and K. If you need a reminder, the material is readily available in any standard textbook. This skill sheet is a guideline to use; you may tailor it to the appropriate I.O. device carried by your department. Follow manufacturer's recommendations for the device.

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: USE OF NEBULIZER WITH BAG-VALVE DEVICE

NAME _____

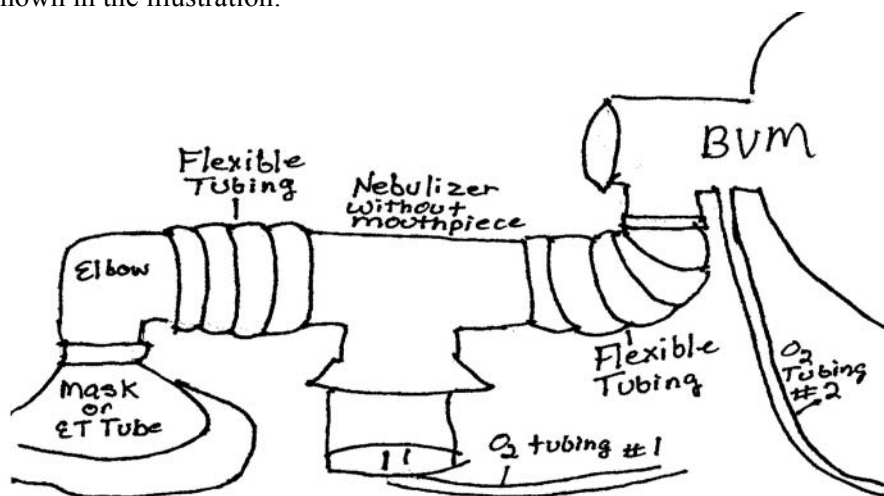
DATE _____

LEVEL: _____ Paramedic

_____ Intermediate

STEPS	1 st Test	2 nd Test	3 rd Test
A. List the indications for the use of nebulized drugs with bag-valve device.			
B. Connect bag-valve to nebulizer unit without mouthpiece as shown in drawing.			
C. Connect mask to elbow, then connect elbow to nebulizer as shown in drawing.			
D. Place medications and saline solution in the reservoir well of the nebulizer.			
E. Connect 1st oxygen supply to nebulizer @ 8-10 LPM. and. 2nd oxygen supply to bag-valve @ 12-15 LPM. (If only one oxygen source, attach it to nebulizer.)			
F. Use mask with non-intubated patient or attach elbow to endotracheal tube of intubated patient.			
G. Begin bagging patient, being careful to keep reservoir well of the nebulizer in an upright position.			
H. If only one oxygen source is available, reconnect oxygen tubing to bag-valve device after medication has been administered.			
I. Monitor patient for effects of medications.			

Equipment as shown in the illustration:



Note: It is recommended that departments have the inline nebulizer set prepackaged and available for providers.

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: COMPLEX MEDICATION ADMINISTRATIONS

NAME _____ DATE _____

LEVEL: _____ Paramedic _____ Intermediate _____ Basic

STEPS	1 st Testing Comments	2 nd Testing Comments
MIDAZOLAM		
A. List the indications of Midazolam, and the “six rights”.		
B. Discuss contraindications & precautions regarding Midazolam.		
C. Discuss the issue of drug concentration (10 mg/2m) with Midazolam.		
D. Using a TB syringe, demonstrate drawing up an appropriate amount of simulated Midazolam, and correct administration: 0.4 ml = 2 mg 0.8 ml = 4 mg		
E. Discuss timing for administration of Midazolam (over 1-2 minutes).		
MARK I KITS		
A. List the indications of Mark I Kit or DuoDote, and the “six rights”.		
B. Explain the difference between a Mark I Kit and a DuoDote, and how to use each. Note: both have same meds and same doses. Mark I Kits are in the CHEMPACKs; DuoDotes are in the Drug Bags.		
C. Don appropriate PPE. If pt. or public safety worker exhibits symptoms of nerve gas exposure, utilize Mark 1 Kit.		
D. Remove Mark 1 simulation kit from protective pouch.		
E. Hold unit by plastic clip.		
F. Remove AtroPen Simulator from slot #1 of the plastic clip. The yellow safety cap will remain in the clip & the AtroPen will now be armed. DO NOT hold unit by GREEN tip. The needle ejects from the GREEN tip.		
G. Grasp unit & position green tip of AtroPen Simulator on victim’s outer thigh.		
H. Push firmly until auto-injector fires.		
I. Hold in place for 10 seconds to ensure Atropine has been fully delivered.		
J. Remove 2-PAM CI Combo Pen Simulator from slot #2 of the plastic clip. The gray safety cap will remain in the clip, and the Combo Pen will now be armed. DO NOT hold the unit by the BLACK tip. Needle ejects from the black tip.		
K. Grasp unit and position black tip of the Combo Pen simulator on victim’s thigh.		
L. Push firmly until auto-injector fires.		
M. Hold in place for 10 seconds to ensure 2-PAM has been properly delivered.		
N. If nerve agent symptoms are still present after 5 minutes, repeat injections. If symptoms still exist after an additional 5 minutes, repeat injections for a third time. If after the third set of injections, symptoms remain, do not give any more antidotes. Seek medical help.		
EPINEPHRINE 1:1,000 30 ml MULTI-DOSE VIAL		
A. List the indication(s) for subcutaneous administration of Epinephrine		
B. Demonstrate or voice infection precautions.		
C. Select the proper vial and concentration		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Calculate the volume of medication needed.		
F. Select a TB syringe and needle of appropriate gauge.		
G. Leave the cap on the needle and attach it to the syringe.		

H. Prepare the vial: Remove cap Cleanse with alcohol prep Inject air and withdraw proper amount of medication		
I. Hold the syringe with the needle pointed straight up and depress the plunger until all air is ejected.		
J. Check the label and desired dosage again.		
K. Protect the needle until ready to administer the medication.		
L. Dispose of used ampule and remaining glass in appropriate container.		
M. Gently grasp the skin over the injection site and pinch it away from the underlying muscle.		
N. Insert the needle into the injection site at a 45 degree angle to the skin with the bevel up. Insert the needle quickly to minimize any pain.		
O. Pull back slightly on the plunger to ascertain that there is no blood return. Presence of blood return indicates that if the medication were given, it would be injected intravenously.		
P. Inject the contents of the syringe at a slow, steady rate.		
Q. Withdraw the needle quickly and smoothly at the same angle in which it was inserted.		
R. Apply direct pressure over the injection site with a sterile 2x2, then apply a sterile adhesive strip.		
S. Dispose of equipment appropriately.		
T. Note any effect of medication on the patient.		
U. Document on run report - time medication given; name, concentration, and dosage given; and medication's effect on patient.		
EPIPEN ADMINISTRATION		
A. Evaluate the patient, with attention to S&S of anaphylaxis.		
B. Demonstrate or voice infection precautions.		
C. Obtain the EpiPen auto-injector. (Indicate Adult / Pedi doses)		
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.		
J. Discuss precautions and side effects		
D10		
A. List the indication for use		
B. Demonstrate or voice infection precautions.		
C. Indicate dose and administration Adults/Peds		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Discuss precautions and side effects (administer in continuously running IV)		
GLUCAGON		
A. List the indication for use		
B. Demonstrate or voice infection precautions.		
C. Indicate dose and administration Adults/Peds		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Discuss precautions and side effects		

NALOXONE		
A. List the indication for use		
B. Demonstrate or voice infection precautions.		
C. Indicate dose and administration Adults/Peds		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Discuss precautions and side effects		
FENTANYL		
A. List indications for use		
B. Demonstrate or voice infection precautions		
C. Indicate dose and routes of administration for Adults/Peds		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Discuss precautions and side effects		
LIDOCAINE		
A. List indications for use		
B. Demonstrate or voice infection precautions		
C. Indicate dose and routes of administration for Adults/Peds		
D. Check the medication for expiration date and for cloudiness or discoloration.		
E. Discuss precautions and side effects		

Revised: 11/2012

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: 12-Lead EKG Acquisition

NAME _____

DATE _____

LEVEL: ____Paramedic ____Intermediate ____Basic

STEPS	1st Test	2nd Test	3rd Test
Student will demonstrate how to acquire a 12-lead EKG, completing the following steps within two minutes:			
Expose chest			
Limb lead placement, and placement options			
Precordial (chest) lead placement, with <u>no</u> deviation			
Speed (all ten leads must be placed within two minutes)			
When to acquire according to optional Standing Orders			
Interface with hospital:			
Notify if you or machine suspect MI			
Rapid transport			
Monitor quality vs. Diagnostic quality			
Frequency response			
Must use printed EKG for ST segment analysis			
Calibration			
Paper speeds			
Various limb lead placements			
Importance of anatomical uniformity with precordial leads			
Need for note on chart and EKG if non-standard position			
Negative complex in aVR as “test” for lead placement			
Hair removal			
Artifact, and what to do about it:			
Skin prep			
Electrode attachment			
Patient movement			
Cable movement			
Vehicle movement			
EMI			

{LARYNGEAL MASK AIRWAY}

NAME _____ DATE _____

LEVEL: _____ Paramedic _____ Intermediate _____ Basic

STEPS	1 st Test	2 nd Test	3 rd Test
A. List the indications for insertion of an LMA.			
B. Select correct size LMA (See guidelines below).			
C. Check cuff by inserting air, then withdraw air.			
D. Deflate the cuff so that it forms a smooth “spoon-shape”.			
E. Lubricate the posterior surface of the mask with water-soluble lubricant.			
F. Hold the LMA like a pen, with the index finger placed at the junction of the cuff and tube.			
G. Non-Trauma Patient: With the head extended and the neck flexed, carefully flatten the LMA tip against the hard palate. Trauma Patient: With second person maintaining inline stabilization, carefully flatten the LMA tip against the hard palate.			
H. Use the index finger to push cranially, maintaining pressure on the tube with the finger.			
I. Advance the mask until definite resistance is felt at the base of the hypopharynx.			
J. Gently maintain cranial pressure with the non-dominant hand while removing the index finger.			
K. Without holding the tube, inflate the cuff with just enough air to obtain a seal (to a pressure of approximately 60 cm. H ₂ O). See the instructions for appropriate volumes. Never overinflate the cuff.			
L. Ventilate & check breath sounds			
M. Confirm sufficient cuff inflation using the End Tidal CO ₂ Detector (EDD cannot be used). CAUTION: Do Not give medications via the LMA.			

EQUIPMENT:

1. LMA (correct size)
2. Water-soluble lubricant
3. 50 ml. syringe
4. Bag-valve mask
5. Stethoscope
6. End tidal CO₂ detector
7. Suction

LMA SELECTION GUIDELINES		
LMA Airway Size	Patient Size	Maximum Cuff Inflation Volumes
1	Neonates/Infants up to 5 kg. (11 lb.)	4 ml. air
1.5	Infants 5 - 10 kg. (22 lb.)	7 ml. air
2	Infants/Children 10 - 20 kg. (44 lb.)	10 ml. air
2.5	Children 20 - 30 kg. (66 lb.)	14 ml. air
3	Children 30 - 50 kg. (110 lb.)	20 ml. air
4	Adults 50 - 70 kg. (154 lb.)	30 ml. air
5	Adults 70 - 100 kg. (220 lb.)	40 ml. air
6	Adults > 100 kg. (220 lb.)	50 ml. air

DRUG BAG EXCHANGE PROGRAM

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 BAG EXCHANGE COMMITTEE

Co-Chairpersons: 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/BLS 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 bag.
- 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:
 - o Notification of the Fire Chief, EMS Administrator, or Private Ambulance Administrator.
 - o The governing agency, e.g., city council, trustees, OMTB for private ambulance service, will be notified that action is being initiated for the Fire/EMS/Private ambulance service.
 - o All drug bags will be removed from all locations of said Fire/EMS/Private ambulance service.
 - o The GMVEMS Council will distribute written notification to the following that the said service is in violation of the operating policy of the Drug Bag Exchange Program:
 - Medical Director
 - Regional Physician Advisory Board
 - OH State Pharmacy Board
 - OH Division of EMS
 - All hospitals participating in the drug bag exchange program
- GMVEMS Council maintains an information database for all EMS personnel authorized to participate in the Drug Bag Exchange Program.
- Rosters with certification expiration dates for EMS providers are available via an online database for review and updates.

PARTICIPATION REQUIREMENTS

- Active membership in the GMVEMS Council.
- Area hospital participation according to Council guidelines. (See Addendum B).
- 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. Notarized letter is not required for renewal unless new medication or a change in Medical Director from previous year.

- Signed agreement to abide by the GMVEMS Council Operating Guidelines for the Drug Bag Exchange Program (see Addendum C).
- Agreement to complete an annual skills check and annual written test between 1 January and 31 May unless otherwise scheduled by Council (see Non-Compliance Procedures).
- Maintain all drugs in a clean, temperature-controlled environment per Rule 4729-33-03(E) of the OH State Pharmacy Board Administrative Code. The rules can be seen at: <http://pharmacy.ohio.gov/rules/4729-33-03.pdf>
- The ideal temperature span is 59-86 degrees F.
- In order to utilize an ALS/BLS 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 (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 GMVEMS Council office. It is the responsibility of the Agency to keep the DEA license current and submit a renewed copy to Council.***
- EMS providers are required to inventory each opened pouch, discard any used sharps and clean any contaminants from bag used and apply a red seal before exchanging for replacement bag. The red seal will be looped through the proximal portion of the zipper tab (not the outermost portion of the zipper tab).
- Any discrepancies (missing meds, expired meds, wrong meds or dose, altered or tampered meds, drug bag number discrepancy, etc.) that are identified shall be reported to the GMVEMSC using the Drug Bag Discrepancy Report. (See discrepancy procedure)

LEVELS OF PARTICIPATION

- **Paramedic Level**
 - Each drug bag consists of a navy, standard issue drug bag. A Paramedic can access any of the compartments of bag to obtain medications per his/her protocol.
 - Each standard issue bag is labeled with a metal tag from 850 – up.
 - Upon completion of a transport, the entire bag is exchanged at the receiving hospital *with the appropriate paperwork.*
 - When you open a controlled drug compartment, keep the blue seal in your possession until you have verified the contents are accounted for. Once you have verified the contents, seal compartment with RED tag. **DO NOT** throw blue seals in drug bag
- **Intermediate Level**
 - ⊕ *A side compartment labeled “intermediate”*
 - The Intermediate can access all outside compartments to obtain medications per their protocol. They cannot access the Center inside compartment or Center Controlled medication compartment.

- When you open the controlled drug compartment, keep the blue seal in your possession until you have verified the contents are accounted for. Once you have verified the contents, seal compartment with RED tag. DO NOT throw blue seals in drug bag
- **Basic Life Support**
 - **The RED BLS compartment on an ALS/BLS bag or BLS fanny-pack style bag** will carry the following medications ONLY: Nitrostat, EpiPen, EpiPen Jr. and baby Aspirin. The Basic EMT can only access this compartment to treat his/her patient per protocol.
 - 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*.
 - DO NOT throw the blue seal in drug bag. Once you have verified the contents and seal compartment with RED tag you can then dispose of blue seal.

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 bags may be exchanged one-for-one with another ALS/BLS 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 when exchanging a drug bag.
- EMS Providers are responsible for ensuring that all blue seals are intact when logging out an exchanged bag.
- When you open a controlled drug compartment, keep the blue seal in your possession until you have verified the contents are accounted for. Once you have verified the contents, seal compartment with RED tag. DO NOT throw blue seals in drug bag.

DOCUMENTATION OF DRUG USAGE

- Fentanyl, Ketamine, Morphine, Versed and Valium are scheduled drugs, which means they must be tracked from the time they are dispensed into the drug bag through the time of administration.
- To insure the medications are properly accounted for, all Intermediate/Paramedics will document:
 - The drug name
 - The amount used
 - The amount wasted
 - The signature of the two witnesses if wastage (the person wasting the medication can 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 Drug Usage Form in addition to documentation on the run sheet. This GMVEMSC approved form must be filled out for any scheduled drug use, even if there is no wastage.** This information shall be on both the original EMS department form and the hospital copy for reference if needed.

WASTED DRUG PROCEDURE

- Fentanyl, Ketamine, Morphine, Versed and Valium are scheduled drugs. If a medication is only partially administered then the paramedic or intermediate must account for the all of the unused portion.
- It is preferred to have a nurse or physician witness the waste of the drug. A pharmacist can also be a witness if a nurse or physician is not available. Using another EMS provider to witness wastage should be avoided unless the EMS provider cannot obtain a nurse, physician, or pharmacist to witness same. If a certified EMS person does witness the wastage, they can be of higher, equal or lower certification level.

- To insure the medications are properly accounted for, all paramedics and intermediates will document:
 - o The drug name
 - o The amount used
 - o The amount wasted
 - o The signature of a second witness if there is wastage.
- One witness will be the paramedic or intermediate wasting the medication and the second witness signature will be the nurse/physician/pharmacist or EMT 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 Drug Usage Form in addition to documentation on the run sheet. This GMVEMSC approved form must be filled out for any scheduled drug use even if there is no wastage. 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 director(s) will be notified that the annual written 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 written 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 test 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, may be taken
- If copy of drug license(s) is not received by due date, GMVEMS Council notifies EMS department medical director. GMVEMS Council reserves the right to initiate the non-compliance action process for any Fire/EMS/Private Ambulance service that does not 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 director. GMVEMS Council reserves the right to initiate the non-compliance action process for any Fire/EMS/Private Ambulance service that does not provide documentation for drug license(s) renewal.

DRUG BAG DISCREPANCIES

- **EMS providers are required to inventory each opened pouch prior to applying the red seal.**
- All discrepancies (missing meds, expired meds, wrong med or dose, altered or tampered meds, drug bag number discrepancy, etc.) that are identified shall be reported to the GMVEMSC using the Drug Bag Discrepancy Report (Addendum E).
- **If at any time, an EMS provider encounters a discrepancy he/she will:**
 - o Notify his/her EMS Officer of the discrepancy.
 - o If the discrepancy was discovered after opening the bag, retain the blue seal and the hospital sticker that was attached to the drug bag in question.
 - o If the EMS provider is at the hospital, he/she will log the bag in using the normal procedure at that hospital.
 - o He/she will advise the pharmacist or EMS Coordinator of the discrepancy and that he/she will be initiating the Discrepancy form as described below (pharmacist may request a copy of the Discrepancy form).
 - o The EMS Officer may contact the EMS Coordinator if assistance is needed.

Discrepancies Involving Controlled Drugs and/or Potential Tampering:

- When an issue arises concerning:

- A controlled drug (Valium, Versed, Fentanyl, Ketamine or Morphine)
- A stolen, missing or lost bag
- Any medication that appears to have been altered or tampered with.
- A collaborative effort between the EMS organization/provider and the Hospital EMS Coordinator/Pharmacist shall be made in an attempt to resolve the issue.
- If the issue cannot be resolved the following steps shall be taken:
 - If the discrepancy was discovered by the EMS organization/provider, the person designated by the organization/provider shall comply with the requirements of OAC 4729-9-15 and GMVEMSC requirements as indicated below.
 - If the discrepancy was discovered by the hospital, the person designated by the hospital shall comply with the requirements of OAC 4729-9-15 and GMVEMSC requirements as indicated below.
- Required reporting for unresolved issued involving Controlled Drug or potential/suspected tampering or lost or stolen drug bags pursuant Federal and State Laws and GMVEMSC Protocol:
 - Contact the Ohio State Board of Pharmacy by telephone at (614) 466-4143. Advise them you want to report a dangerous drug discrepancy. They will connect you with the appropriate person. (OAC 4729-9-15)
 - File a report with the appropriate law enforcement authorities (ORC 2921.22).
 - Notify the Drug Enforcement Agency (DEA) within 30 days of discovery using DEA Form 106 available electronically at: <https://www.deadiversion.usdoj.gov/webforms/app106Login.jsp> a 30-day extension may be requested in writing from the DEA. (CFR 1301.76(b)).
 - Submit a completed GMVEMSC Drug Bag Discrepancy Report located at Addendum #E, with appropriate supporting documentation, to the GMVEMSC.

Discrepancies Not Involving Controlled Drugs and/or Potential Tampering

- Examples may include:
 - Non-controlled drugs not in the bag
 - Wrong number of medications doses
 - Wrong drug concentration
 - Expired medications found
 - No expiration date on tag
 - Medications improperly labeled
 - Empty vials/packaged left in bag
 - Unsealed medications
 - Wrong medication administered
 - Unsealed pouch discovered
 - Bag logged out with red seal (used bag)
- If discovered by EMS, the EMS Officer will initiate the Discrepancy form. He/she shall provide a copy of the form and the Blue Seal to the Hospital EMS Coordinator and shall fax a copy of the report to the GMVEMSC (937-228-1035).
- If the Hospital discovers the discrepancy, the EMS Coordinator will initiate the Discrepancy Form and submit to GMVEMSC. If the EMS Coordinator is able to determine which EMS agency/hospital is responsible for the discrepancy, the agency/hospital will be notified and will receive a copy of the Discrepancy Form and the Blue Seal if applicable.

The GMVEMSC will:

- Maintain a record of all discrepancies that occur.
- Follow up with the agencies involved as needed.
- Advise the Drug Bag Chairperson of any and all discrepancies and action taken.

The Drug Bag Committee Chairperson will:

- Will report all at the bi-annual Drug Bag 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 BAG BLUE 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). EMS should verify the blue seal is intact and has an expiration date before accepting. When EMS opens a controlled drug compartment keep the blue seal in your possession until you have verified the contents are accounted for. Once you have verified the contents, seal compartment with RED tag. **DO NOT throw used blue seals in drug bag.**
- **Red Seals:**
 - Red seals identify ALS/BLS bags as being used. EMS providers are required to inventory each opened pouch, discard any used sharps and clean any contaminants from bag used and will then take red seal from the inside compartment (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:
 - Determine if drug bag was left at the scene.
 - Determine if drug bag was not exchanged on last run.
 - Determine if drug bag is in the wrong vehicle.
 - Interview all personnel who had access to the drug bag.
- The GMVEMSC will seek the assistance of the Drug Bag Co-Chair to check with all hospitals to determine if the bag might be in inventory or be alerted if it shows up at one of the hospitals.
- EMS Officer will initiate the Drug Bag Discrepancy Form and follow instructions for reporting lost or stolen drug bags. Completed paperwork and reports will be submitted to GMVEMSC.
- The GMVEMSC will contact the hospital EMS Coordinator with whom the EMS Department is assigned to work out a drug bag replacement. The EMS Coordinator will contact *GMVEMSC for a drug bag replacement after all paperwork is submitted and GMVEMSC will assess a fee for replacement bag to be paid for by the EMS Department receiving the replacement bag.*

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 Licenses for all participants in the DBEP.
- Furnish hospital pharmacy with a current listing of all departmental personnel authorized to access the GMVEMSC drug bags 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 Bag Exchange Program and Standing Orders operating guidelines.

SIGNATURE: _____

Fire Chief, EMS Administrator, or Private Ambulance Administrator

DATE: _____

Return to:

GMVEMSC

2 Riverplace, Suite 400

Dayton OH 45405

Phone: 937-228-1288

Fax: 937-228-1035

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 Medical Transportation Board (OMTB) 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.
6. Medical Director must submit a notarized letter to the State Pharmacy Board with License application stating they approve their department to use the GMVEMSC protocols.
 - i. Medical Directors have the right to limit their personnel from using certain medications or procedures within the scope of the GMVEMSC protocols.
 - ii. Medical Directors may elect to change or add medications or procedures to the protocol. The Medical Director must include those protocols in addendum to the GMVEMSC, be responsible for the training and documentation of training in of their protocol as well as purchasing and maintaining those drugs that are not included in the standard inventory of the GMVEMSC ALS or BLS.

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 OMTB 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.

ADDENDUM # E

GMVEMSC Drug Bag Discrepancy Report

If at any time an EMS provider encounters a discrepancy he/she will notify their EMS Officer of the discrepancy. If the discrepancy was discovered after opening the bag, retain the blue seal and the hospital sticker that was attached to the drug bag in question. If the EMS provider is at the hospital, they will log the bag in using the normal procedure at that hospital. They will advise the pharmacist or EMS Coordinator of the discrepancy and that they will be initiating the Discrepancy form as described below (pharmacist may request a copy of the Discrepancy form).

Date of report: _____ Bag Number: _____ Date Discrepancy discovered: _____
Discovered by: _____ Hospital/EMS Dept making discovery: _____

Have blue Hospital seal? YES/NO If yes - Attach seal to report

Tracking:

Date bag was logged out: _____ from (hospital) _____ To (EMS agency) _____
Date Bag turned in: _____ to (hospital) _____

Description of the discrepancy: (Attach addendum if additional space needed)

Describe efforts to resolve the discrepancy: (Attach addendum if additional space needed)

Was the discrepancy satisfactorily resolved? _____ If not, what steps are to be taken: _____

Who will be responsible for any required reporting: _____

Reporting requirements:

Was a police report filed? _____ Date: _____ by whom? _____

Was a DEA report filed? _____ Date: _____ by whom? _____

Required documents submitted to GMVEMSC By: _____ Date: _____

For Drug Bag committee use:

Wrong Med stocked		Bag logged out with red seal	
Expired meds found		Empty vials/packages found	
Wrong dose packaged		Open pouch found	
Missing Meds		Unsealed bottles found	
Wrong number packaged		Med found in wrong compartment	
No exp date on tag		Wrong med administered	
Atrovent/Albuterol not labeled		Lost or stolen bag	
Damaged medications		Other:	
Other:			

GMVEMSC – White

Pharmacy - Yellow

EMS Department - Blue

ADDENDUM # F

OAC 4729-9-15

Report of theft or loss of dangerous drugs, controlled substances, and drug documents.

(A) Each prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs shall notify the following upon discovery of the theft or significant loss of any dangerous drug or controlled substance, including drugs in transit that were either shipped from or to the prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs:

- (1) The state board of pharmacy, by telephone immediately upon discovery of the theft or significant loss;
- (2) If a controlled substance, the drug enforcement administration (DEA) pursuant to section 1301.76(b), Code of Federal Regulations;
- (3) Law enforcement authorities pursuant to section 2921.22 of the Revised Code.

(B) Controlled substance thefts must also be reported by using the Federal DEA Report form whether or not the controlled substances are subsequently recovered and/or the responsible parties are identified and action taken against them. A copy of the federal form regarding such theft or loss shall be filed with the State Board of Pharmacy within thirty days following the discovery of such theft or loss.

- (1) An exemption may be obtained upon sufficient cause if the federal form cannot be filed within thirty days.
- (2) A request for a waiver of the thirty-day limit must be requested in writing.

(C) Each prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs immediately upon discovery of any theft or loss of:

- (1) Uncompleted prescription blank(s) used for writing a prescription, written prescription order(s) not yet dispensed, and original prescription order(s) that have been dispensed, shall notify the state board of pharmacy and law enforcement authorities.
- (2) Official written order form(s) as defined in division (Q) of section 3719.01 of the Revised Code shall notify the state board of pharmacy and law enforcement authorities, and the drug enforcement administration (DEA) pursuant to section 1305.12(b), Code of Federal Regulations.

ADDENDUM # G
OAC 4729-33-03 Security and storage of dangerous drugs

- (A) Overall supervision and control of dangerous drugs is the responsibility of the responsible person. The responsible person may delegate the day-to-day tasks to the emergency medical service (EMS) organization personnel who hold appropriate certification to access the dangerous drugs for which they are responsible.
- (B) All dangerous drugs must be secured in a tamper-evident setting with access limited to EMS personnel based on their certification status except for sealed, tamper-evident solutions labeled for irrigation use. All registrants shall provide effective and approved controls and procedures to deter and detect theft and diversion of dangerous drugs.
- (C) Only emergency medical technician-paramedics, emergency medical technician-intermediates, registered nurses, physicians, and pharmacists who are associated with that EMS organization may have access to any controlled substances maintained by the EMS organization. Other persons employed by the EMS organization may have access to controlled substances only under the direct and immediate supervision of an emergency medical technician-paramedic, an emergency medical technician-intermediate as defined in rules 4765-16-01 and 4765-16-02 of the Administrative Code, a registered nurse, or a physician in emergency situations.
- (D) Administration of dangerous drugs by EMS personnel is limited to the scope of practice, as determined by the State Board of Emergency Medical Services, for the individual's certification level and the protocols as established by the medical director or when the individual is acting within their certification level pursuant to direct prescriber's orders received over an active communication link.
- (E) All dangerous drugs will be maintained in a clean and temperature-controlled environment.
- (F) Any dangerous drug that reaches its expiration date is considered adulterated and must be separated from the active stock to prevent possible administration to patients.
- (G) Any non-controlled dangerous drug that is outdated may be returned to the supplier where the drug was obtained or may be disposed of in the proper manner.
- (I) Destruction of outdated controlled substances may only be done by a State Board of Pharmacy agent or by prior written permission from the State Board of Pharmacy office.
- (J) Destruction of partially used controlled substances can be accomplished, with the appropriate documentation, by two licensed health care personnel, one of which must have at least an emergency medical technician-intermediate, as defined in rules 4765-16-01 and 4765-16-02 of the Administrative Code, level of training.
- (K) Any loss or theft of dangerous drugs must be reported upon discovery, by telephone, to the State Board of Pharmacy, local law enforcement and, if controlled substances are involved, to the Drug Enforcement Administration. A report must be filed with the State Board of Pharmacy of any loss or theft of the vehicle or storage cabinets containing dangerous drugs used by the EMS organization.
- (L) Any dangerous drug showing evidence of damage or tampering shall be removed from stock and replaced immediately.

**GREATER DAYTON AREA HOSPITAL ASSOCIATION
GREATER MIAMI VALLEY EMERGENCY MEDICAL SERVICES COUNCIL
GREATER MONTGOMERY COUNTY FIRE CHIEFS' ASSOCIATION
POLICY STATEMENT FOR
TEMPORARY REROUTING OF EMERGENCY PATIENTS**

To avoid misunderstanding, all parties are cautioned to use the word “rerouting,” never “closed.”

Patients are never rerouted for patient’s economic considerations.

The following patients are NOT rerouted:

**RESPIRATORY AND/OR CARDIAC ARREST
CARDIAC & STROKE ALERT CRITERIA PATIENTS
MAJOR TRAUMA
MATERNITY
SERIOUS BURNS
HIGH RISK NEONATAL
DIALYSIS PATIENT
AIR MEDICAL TRANSPORT
HYPERBARIC
RECENTLY DISCHARGED PATIENTS (48 hours)**

When conditions exist that may hinder the timely treatment of additional emergency cases, the Designated Hospital Official will declare the “Rerouting of Emergency Patients to be in Effect.” The hospital will update the “GDAHA SurgeNet Web Page.” The Hospital will notify their appropriate dispatch center, identify the hospital, name and title of caller, as needed. The hospital will then notify (by prior agreement, this can be via the SurgeNet Web Page) at least the following organizations:

1. The emergency department of each metropolitan hospital:
 - a. The Children’s Medical Center
 - b. Good Samaritan Hospital
 - c. Grandview Medical Center
 - d. Kettering Medical Center
 - e. Miami Valley Hospital
 - f. Miami Valley Hospital South
 - g. Southview Medical Center
 - h. Sycamore Medical Center
2. The appropriate emergency medical services – refer to individual hospital call list
3. The emergency department of non-metropolitan hospitals:
 - a. Wayne Hospital, Greenville
 - b. Atrium Medical Center, Middletown
 - c. Wilson Memorial Hospital, Sidney
 - d. Springfield Regional Medical Center
 - e. Mercy Memorial Hospital, Urbana
 - f. Upper Valley Medical Center, Troy
 - g. Greene Memorial Hospital, Xenia
 - h. Department of Veterans Affairs - Medical Center
 - i. 88th Medical Center, WPAFB

Communicate the following information:

Rerouting of emergency patients is requested by _____ name _____ hospital due to overcrowding. One of the following categories of rerouting may be requested. Hospitals MUST specify what category is being rerouted using the following options:

**Reroute all Emergency Patients
Reroute all but major trauma (Trauma Centers Only)
Reroute Intensive and/or Coronary Care Patients Only.**

After two (2) hours hospitals will be notified by page and/or email to review their reroute status.

It will be the responsibility of the **rerouting hospital to cancel their rerouting status and:**

1. Update the GDAHA SurgeNet Web Page
2. Use the same notification protocols used to initiate the rerouting procedure as appropriate

LOCKDOWN: the hospital has activated its disaster plan because of an internal emergency, bomb threat, or other situation rendering it unable to accept patients.

INFORMATIONAL CATEGORIES:

On occasion, hospitals will not be able to handle a certain category of patients. For example:

- CAT Scan is not available; stroke or head trauma patients should be diverted;
- Haz-mat patients should be diverted;
- A physician specialty is not available;

The hospital that is diverting this certain category of patients will not be considered rerouting in these circumstances. This will be shown on the web page as SPECIAL SITUATION – see Notes/Call.

THREE HOSPITALS NEED TO REROUTE

In the event that overcrowding and rerouting exists at the same time at two (2) hospitals in close geographic proximity (Addendum A) and the third hospital in the same geographic area needs to reroute, by prior agreement, all hospitals will terminate their rerouting **for a minimum of two hours (Forced Open)**. It will be the responsibility of the third hospital to initiate communication with the other rerouting hospitals' individuals responsible for reroute to review the situation. If any of the rerouted hospitals can stop rerouting they will do so, to avoid all hospitals having to stop rerouting.

REROUTING EMERGENCY

If none of the three hospitals can stop rerouting, then a “rerouting emergency” will be declared and the following procedures will be followed.

1. Update the GDAHA SurgeNet Web Page
2. All three hospitals will call previously notified agencies and inform them that rerouting emergency has been declared.
3. When a rerouting emergency is declared, Children’s Medical Center will remain available to accept patients up to 21 years of age (*no maternity patients*).
4. Squads should transport patients to their assigned reroute emergency “home base” hospital(s) (See Addendum B):

Note: During mutual aid or out of district transport as aided agency/district.

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 and consult with a Medical Control physician in the emergency department of the rerouted hospital.**

All concerned parties should acknowledge the situation in which emergency medical services personnel (in the absence of a physician’s judgment) may determine the victim to be in critical need of immediate medical care and decide to transport the victim to the nearest hospital, even though overcrowded conditions exist in the hospital. Any discussion concerning the decision of the emergency medical services personnel should be done privately and after the patient care has been initiated.

Emergency medical service personnel should use their radios, cellular phone or dispatcher to notify the rerouting hospital in unusual circumstances (critical illness or injury, multi-victim incidents, etc.).

GREATER DAYTON AREA HOSPITAL ASSOCIATION

POLICY STATEMENT FOR TEMPORARY REROUTING OF EMERGENCY PATIENTS

ADDENDUM A

Geographic Areas:

1. In the event that overcrowding and rerouting exists at the same time at two (2) hospitals in the list below and a third hospital in the list below needs to reroute, by prior agreement no hospitals will reroute for two (2) hours.
 - a. Good Samaritan Hospital
 - b. Grandview Medical Center
 - c. Kettering Medical Center
 - d. Miami Valley Hospital
2. In the event that overcrowding and rerouting exists at the same time at two (2) hospitals in the geographic groups below and a third hospital needs to reroute, by prior agreement no hospitals will reroute for two (2) hours.
 - a. Greene Memorial and two (2) of the following: Miami Valley, Kettering, Grandview, Southview or Miami Valley Hospital South.
 - b. Upper Valley Medical Center and two (2) of the following: Good Samaritan, Grandview, Miami Valley, or Wilson Memorial Hospital in Sidney.
 - c. Any three (3) of the following: Atrium Medical Center, Southview, Sycamore, Kettering and Miami Valley South.
 - d. Wayne Hospital, Good Samaritan and Grandview.

PKB/pbt
8-24-09

**ADDENDUM B
GREATER DAYTON AREA HOSPITAL ASSOCIATION**

**REROUTE EMERGENCY
EMS – HOSPITAL PROPOSED PAIRING**

Reroute Emergency is declared when three or more hospitals in the same geographic area are extremely overcrowded and none of the three hospitals feel that they can stop rerouting. When a rerouting emergency is declared the following procedures will be followed.

1. The third rerouting hospital will coordinate communications with the designated administrative person in charge, at the other rerouting hospitals.
2. **Each GDAHA hospital** will notify the home base EMS agencies assigned to them, as well as other squads that they normally notify out of the GDAHA service area, and inform them that a **Rerouting Emergency** has been declared. Squads should transport patient to their assigned “home base” hospital. Only Good Samaritan Hospital will notify Harrison Township. Only Miami Valley Hospital will notify Dayton Fire Department. Only Sycamore Hospital will notify Miami Township.
3. Following notification of EMS, hospitals able to maintain Normal Operation should not change their status on the web page to Reroute Emergency, until conditions warrant that change.
4. Squads should CONSIDER utilizing outlying hospitals or other hospitals in normal status.
5. Children’s Medical Center will remain available to accept patients up to 21 years of age. *(No maternity patients.)*
6. Rerouting Emergency **DOES NOT** apply to the following categories of patients: respiratory and/or cardiac arrest; Trauma, maternity, serious burns, high risk neonatal, dialysis patient, air medical transport, hyperbaric, **cardiac or stroke** alert patients, or recently discharged patients (48 hours).
7. **After a maximum of two (2) hours all hospitals in Reroute Emergency must reevaluate their status.**
8. ***Squads should transport patients to their assigned reroute emergency “home base” hospital(s) as follows:***
Note: During mutual aid or out of district transport as aided agency/district

Good Samaritan Hospital

Brookville
Clayton, Englewood, Union
Dayton Fire Department #16
Eaton
Harrison – Turner Road
New Lebanon
Lewisburg
Trotwood
West Alexandria
North Central
Phillipsburg

McCullough Hyde Hospital-Oxford

Camden

Upper Valley Medical Center

Miami County Squads

Greene Memorial Hospital

Cedarville Township
Cedarville University
Central State University
Jefferson Township
Miami Township
New Jasper Township
Silvercreek Township
Spring Valley
Xenia
Xenia Township

Grandview Medical Center

Box 21
Butler Township
Dayton Fire Department #2, 8, 13, 14
Harrison – I-75 & Needmore
Vandalia

Kettering Medical Center

Dayton Fire Department #15, 18
Kettering (4 units)
Miami Valley Fire District #55
Moraine (4 units)

Miami Valley Hospital

Dayton Fire Department #11, 10
Jefferson Township
Oakwood
Riverside
University of Dayton Public Safety

Miami Valley Hospital South

Bellbrook
Kettering #36
Sugarcreek (2 units)
Washington Township #44

Southview Medical Center

Clearcreek Township
Miami Valley Fire District #52
Washington Township #41, 42, 43, 45
Wayne Township

Sycamore Medical Center

Farmersville
Miami Valley Fire District #51, 53, 54
West Carrollton
Germantown
JEMS

Springfield Reg. Med Center

Hustead EMS
Madison Township
Harmony Township
Springfield Township
Pleasant Township
SFRD Medic
German Township
Pike Township
Bethel Township
Mad River Township
Moorefield Township

Wayne Healthcare

Darke County Squads

Wilson Memorial Hospital

Shelby County Squads

Atrium Medical Center

Gratis
Lebanon
Mason
Monroe
Turtlecreek
Middletown

Clinton Memorial Hospital-Wilmington

Massie Township

Reid Hospital-Richmond, Indiana

NW Fire – New Paris

Huber Heights Emergency

Huber Heights
New Carlisle
Bethel Miami

Soin Medical Center

Beavercreek
Fairborn

Pkb/pbt
8-24-09

ADDENDUM C

GREATER DAYTON AREA HOSPITAL ASSOCIATION EMS REROUTE PAGER

A summary of the hospital reroute status is sent every 15 minutes. The following is an explanation of the abbreviations used

HOSPITAL NAME ABBREVIATIONS

CMC – Children’s Medical Center
GSH – Good Samaritan Hospital
GVH – Grandview Medical Center
GMH – Greene Memorial Hospital
KMC – Kettering Medical Center
SRMC – Springfield Regional Medical Center
MVH – Miami Valley Hospital
MVS – Miami Valley Hospital South
AMC – Atrium Medical Center, Franklin
SVH – Southview Medical Center
SYC – Sycamore Medical Center
UV – Upper Valley Medical Center
VA – Department of Veterans Affairs Medical Center
WAY – Wayne Hospital, Greenville
WMH – Wilson Memorial Hospital
WP – 88th Medical Center, WPAFB

HOSPITAL STATUS ABBREVIATIONS

NORM – Normal Operations
ALL – Reroute all Emergency Patients
MTO – Reroute all but major trauma (Major Trauma Only)
ICOR - Reroute Intensive and/or Coronary Care Patients Only
FO – Forced Open
EMR – Emergency Reroute
CALL – Special Situation Call the ED
LOCK – Internal Emergency ED is Closed

Hospital Capabilities Chart Below is a list of hospitals and the specialty capabilities of each (Stroke, PCI, Trauma, etc.)							
Hospital	Adult Trauma Center	Pedi Trauma Center	Inpatient Burn Center	Interventional Cath Lab 24/7	Labor & Delivery	Stroke (Thrombolytics only)	Other
Atrium	Level 3			Cardiac only	Y	Y	2,3,4
Children's		Level 2	Y				2
Good Sam				Cardiac only	Y	Y	2,3,4
Grandview				Cardiac only		Y	1,2,3,4,8
Greene	Level 3					Y	1,2,3
Huber Heights-GVH							2,3,6
Kettering	Level 2			Cardiac, Stroke	Y	Y	1,2,3,4
Mercy-Urbana						Y	3,5
Miami Valley	Level 1		Y	Cardiac, Stroke	Y	Y	2,4,5
Miami Valley South					Y	Y	2,6
Reid				Cardiac only	Y	Y	2,3,5
Soin Medical	Level 3				Y	Y	1,3,5,7
Southview				Cardiac only	Y	Y	1,3,4,8
Springfield RMC				Cardiac only	Y	Y	2,3,5
Sycamore						Y	1,2,3,4,7
Upper Valley					Y	Y	3
VA							
Wayne					Y	Y	2,3
Wilson					Y	Y	2,3,5
WPAFB							2

1. Accredited Chest Pain Evaluation Center
2. Sexual Assault Nurse Examiners 24/7
3. Treats Superficial Burns
4. Self Reported Accredited Stroke Center
5. Pediatric Capability
6. No Alerts to Facility
7. Has a "Cardiac Alert Program" No Cath lab on site
8. Hand Trauma Center

Step	Atrium	CMC	GSH	GVH/SVH	GMH	KMH/SYC	MVH	MVH South	UVMC	SRMC	MMH	Wayne	Wilson
Updated	May-09	Sep-04	Sep-07	Sep-07	Sep-07	Sep-07				Sep-07	Sep-07	Sep-07	Jul-09
Wash Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Notify EMS Supervisor	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Report to hospital	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hospital Contact	ED Charge Nurse > EMS Coordinator	NICU Charge Nurse	ED staff or Infection Control	ED Staff -> EMS Coord.	ED Staff -> EMS Coord.	ED Staff -> Infection Control	Security -> AOC	Charge Nurse	Resource Supervisor	Infection Control	Infection Control	Infection Control	ED Staff
Complete "Request for Information Form for HCWs"	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Register w/ ED	Encouraged	If desired	If desired	Y	Y	If desired	If desired	If desired	Y	Y	Y	Y	Y
Have your lab drawn	If Desired	If source is high risk (not routine)	If indicated	Y	Y	If desired	If desired	If desired	If desired	If Indicated	If indicated	If indicated	If indicated
Have source lab drawn (HIV, Hep B, Hep C)	Y (Rapid HIV Available)	Y	Y (Rapid HIV avail.)	Y (Rapid HIV avail.)	Y	Y	Y (Rapid HIV avail)	Y (Rapid HIV avail)	Y (Rapid HIV avail.)	Y (Rapid HIV avail.)	Y	Y	Y (Rapid HIV available)
Follow-up Consult <u>YOUR Fire/EMS</u> Dept policies/procedures	EMS Coordinator	Follow dept policy	Infection Control	EMS Coord. or designee & Follow dept policy	Work Plus Dept	Infection Control & Follow dept policy	Infection Control or Admin Officer	Infection Control or Admin Officer	Occupational Health	Infection Control	Infection Control	Infection Control	Follow EMS policy
Comments	Have request for information forwarded to EMS Coordinator Anti-Viral medication available in ER if indicated	Infection Control Doc available 24/7 for RN contact if needed	Infection Control is notified of Exposure Incident by EMS coordinator	EMS Coord. is to be paged 24/7 by ED or Prehospital care provider	Give form to EMS Coord. Who forwards to Infection Control for follow up	Infection Control to be paged 24/7 by ED	Security page Infection Control Mon-Fri 8-4. Admin Officer to be paged at all other times including holidays	Charge Nurse to page Infection Control M-F 8-4 Admin officer to be paged at all other times including holidays	Place form in locked box in EMS Room for EMS Managr to forward to Occupational Health	Give form to EMS Coord who forwards to Infection Control for follow up	Give form to EMS Coord who forwards to Infection Control for follow up	Give form to Infection Control, ED Manager or House Supervisor	Hosp ED sends white copy of "Request for Info by EMS Worker" to Inf. Preventionist. Yellow copy to EMS coordinator. Inf. Preventionist oversees communication of results & related documentation has been completed per policy.

Hospitals' Guide for Public Safety Workers' (PSW) Exposures
Updated 10-6-11(Data subject to change – check periodically to ensure most current)

Region 2 EMS Providers,

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 into this document. The groups have responded to changes in medication availability and have received your input to improve these documents.

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 2012. The first of those is the “2012 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 Steve Stein and David Gerstner who has worked on the Standing Orders Committee for 30 continuous years. A special debt of gratitude is owed to Pat Kincer, who has not only provided utterly invaluable feedback for the Intermediate Orders, but contributed literally hundreds of hours to make all four of our Standing Orders books better, more concise and eminently more readable. Thank you all.

Additionally, I would like to extend some special thanks to the following persons whose tireless efforts have improved this manual:

Michelle Bizarro
Jennifer Eury
Dixie Kirkland
Mike Guadagno
Ken Livingston
Brian Kuntz
Terri Norris

John Larch
Heather Koss
Tammy Beanblossom
Doug Baumgartner
Tony Stringer
Bill Mangas

Dr. Randy Marriott and all RPAB members

All those persons who have reviewed and critiqued these manuals

Sincerely,
Jack A. Mix
Standing Orders Co-Chair

CHANGES FOR 2012

Scope of Practice Changes

- Future changes in titles of responders noted.
- Intubation is not in the scope of practice for Basics which would include using a laryngoscope for confirmation of ETT placement or FBO.
- Maintenance of Existing Med pumps no longer in Basic scope of practice.
- EMS providers including first responders can witness drug wastage.
- DNR now applies to Peds.

Drug bag changes:

- **D50** replaced by **D10** infusion
- **Glucagon** reduced to one vial/dose
- **Vasopressin** removed
- **Amiodarone** changed to three 150mg vials

Medication changes:

- **Narcan** is titrated slowly to achieve adequate respirations and blood pressure, not slammed or automatically dosing 2 or 4 mg. This patient **MUST** be transported for evaluation.
- Pediatric **Narcan** dose change: pt $\leq$ 20 kg: 0.1mg/kg, pt $>$ 20 kg 2.0 mg (adult dose)
- **Lidocaine** no longer has a range; Dosage is set at 1.5 and 0.75 mg doses.
- Anaphylaxis: **Epinephrine** 3 mg IV for cardiac arrest removed
- Anaphylaxis; **Glucagon** 2mg for patients who do not respond to Epinephrine modified to 1 mg.
- **Aspirin** (like NTG) not indicated for those patients $<$ 25 years old.
- **Vasopressin** removed from our protocol
- Administration of **D10** replaces injection of **D50**.
- Newborn **D10** dose 2 ml/kg.
- Emphasize that **Amiodarone** is mixed with 250 ml **NS** infused through 18ga catheter over 8-10 minutes

Procedure changes

- Nebulized meds to be delivered with Oxygen at flow rate 8-10
- PATH protocol
- Bleeding control: two steps, direct pressure to tourniquet.
- Peds Defib settings changed to 2,4,6,8, 10 J subsequently, with 10 J the max.
- Deletion of LOC under c-spine clearance algorithm
- Chest pain protocol, ASA for 25 y. o. and older.
- Verbiage change in SVT to caution against cardioversion.
- Indications for relief of tension pneumothorax have been better defined and skill sheet revised
- For Stroke:
 - o Historian must accompany patient to hospital.
 - o Stroke patients are transported supine
 - o Stroke section updated to include improvements in treatment capabilities.
 - o Stroke center capabilities of KMC and MVH.
- For Trauma Alert: include GCS in reporting (verbal and written)
- Emphasize slow IV is over 2 minutes

Clarification and typographical change and Miscellaneous

- Entire medication section has been reformatted.
- CPR chart updated with 2011 changes.
- Jump Start Triage section deleted.
- MCP permission not required for dystonic reactions.

- Under stipulations, some bold bullets A, P and G
- Red phone numbers were all updated.
- New section on communicating with hospitals to give more guidance on what to include with call in reports to emphasize GCS components.
- Regional Hospital Notification System
- Hospital Capabilities List with several hospitals added
- Altered Standards of Care have been changed to Crisis Standards of Care.
- Android Application of the protocol is available at GMVEMSC.org website

2013 CHANGES

EMT-Advanced Orders

- 1) Removed START triage from the protocol, and replaced with SALT triage.
 - The change to SALT (for Sort, Assess, Life-saving Interventions, and Treatment/Transport) Triage was recommended unanimously by the Dayton MMRS Triage Committee, the GMVEMSC Standing Orders Committee, and the RPAB.
 - SALT was developed by the Centers for Disease Control after they found that **no current triage model or system was supported by adequate evidence** and has been recommended by FICEMS and NEMSAC of the U.S. Department of Transportation for national adoption.
 - SALT is easy to remember and apply to all hazards and all types of patients. SALT is simple. Perhaps most importantly, SALT is much faster.
- 2) EMT-Advanceds (formerly EMT-Intermediates) will now be authorized to use Lidocaine after inserting an IO, consistent with changes in the Ohio Scope of Practice.
- 3) Morphine has been removed from the protocol, and replaced with Fentanyl.
 - However, a Morphine JITSO has been added to the book in case of drug shortages with Fentanyl, and the Morphine Drug Chart will **not** be deleted for the same reason
 - If no IV, Fentanyl will be given IM, not SQ.
 - Pay attention to repeat times for Fentanyl.
- 4) Added use of clot control-soaked gauze as an option {bracketed} for Hemorrhage Control for departments who wish to purchase it. Granular clotting agents are **not** to be used by EMS.
- 5) The GMVEMSC QA Committee discovered that there have been numerous errors in drug calculations and dosing over the past year. Dosing and calculations, especially relating to epinephrine, versed, and the new drugs will be emphasized in written testing and in skills stations.
- 6) Recent evidence shows that effective CPR and good teamwork significantly impact survival rates from prehospital cardiac arrest. Mega-code skills stations will emphasize those aspects.
- 7) Fentanyl has been added to the Complex Medication Administrations Skill Sheet. Expect to see emphasis during testing on the dosing and calculation issues discussed above.
- 8) A Dosage Calculator has been added to the GMVEMSC protocol app for your benefit.
- 9) There is an updated Hospital Capabilities Chart.
- 10) There is an updated Hospital Phone List.
- 11) There is an updated list for reroute home hospitals.