Medical Emergency (Section M)

(M-1) Abdominal Pain

1) Standard vital status support
2) Orthostatic vitals as patient condition permits
3) R/O possible cause and syndrome
4) O2, IV, Monitor as assessment warrants
5) Patient specific; 12 lead EKG to R/O AMI (diabetics patients are classic abnormal presentation for AMI)
6) Remember Morphine is contraindicated in patients with undiagnosed abdominal pain

(M-2)Adult Failed Airway

There should be no more than three attempts to achieve successful endotracheal intubation. These should be performed by the most proficient or experienced paramedic on scene.

KEEP IN MIND THAT AIRWAY MAINTANCE IS THE GOLDEN STANDARD AND THIS DOES NOT ALWAYS INCLUDE ENDOTRACHEAL INTUBATION.

1) Airway maintenance is defined as a patient that has a SaO2 and an EtCO2 that is appropriate for the condition based on underlying pathophysiological processes.
2) Every patient that requires advanced airway procedures should receive continuous EtCO2 monitoring
3) If the patient requires ETT and it is unsuccessful follow the guidelines below;
    i) If able to maintain a seal, bag with a BVM and maintain EtCO2 that is acceptable for patient condition continue with BVM and document accordingly.
    ii) If unable to successfully ventilate with BVM then insert an LMA and ventilate patient through it.

(M-3) Allergic Reaction & Anaphylaxis

1) Remove patient from environment.
2) Support patient vital status
3) O2, IV, Monitor
   a) Patient position trendelenberg as necessary
   b) Volume replacement as necessary (bolus 300-500ml of NS)
4) Administer **Epinephrine 1:1000 0.3-0.5mg** IM or SubQ.
   a) May repeat dose @ 20 minutes.
5) **Diphenhydramine 25-50mg** IV or IM
6) **Albuterol nebulizer 2.5-5.0 mg** for bronchospasm
   a) May repeat @ 5 minutes
7) Severe reactions consider **EPI 1:10,000 0.5mg** IV Push
   a) Hemodynamically unstable

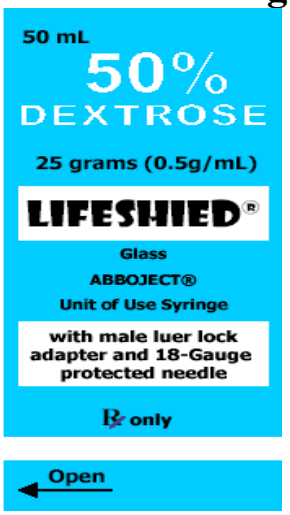
(M-4) Altered Mental Status

1) Scene safety for crew and patient
2) General assessment to R/O causes; OD, diabetic, etc.
3) General vital status support
4) Orthostatic Vitals
5) O2, IV and cardiac monitor
6) Reversal agent if applicable i.e. Narcan for narcotic, Bicarb for Tricyclic, Glucagon for Beta Blocker etc. Refer to (M-20)
7) Refer to appropriate protocol as cause is identified
8) For chemical or physical restraint see restraint policy

(M-5) Carbon Monoxide Poisoning

1) Scene safety. Remove from the environment as rapidly as possible. Open and ventilate home or environment as well as possible.
2) Support vital status.
3) IV, O2 (high flow), cardiac monitor and draw labs.
   a) Remember that pulse ox will not be accurate.
   b) High flow O2 via whatever method necessary greatly reduces half life of carboxyhemoglobin
4) Transport to SRMC or GMH to receive Hyperbaric Oxygen therapy.

(M-6) Diabetic Emergencies



Hypoglycemia

1) General assessment
2) BGL less than 50 mg/dl and patient passes dysphagia exam can consider Oral Glucose 15g by mouth
   a) If Oral Glucose is used the patient must be able to self-administer by holding and squeezing the tube.
3) If patient unable to self administer the oral glucose administer D50W @ 25g slow IV push
   a) May repeat in 10 minutes if patient condition does not improve
   b) Neither of the above require a physician order/signature to leave at home if the following criteria is met
      i) The patient must have no major underlying medical conditions that may have precipitated the hypoglycemia
      ii) The patient must have another person there that will be responsible for watching the patient for at least 12 hours
      iii) The patient should be completely alert and oriented to the situation and willing to cooperate with the caretaker
      iv) Patient vital status must normalize with just Glucose
4) Consider Thiamine 100 mg on patients who appear malnourished or thought to be chronic alcoholic
5) If unable to establish an IV or patient is extremely combative consider Glucagon 1mg IM
   a) Patient must be transported to hospital if Glucagon is used

Hyperglycemia

General assessment

1) O2, IV, Monitor, and draw labs
2) Patients with BGL over 300mg/dl administer 1000ml of NS over 30-60 minutes
3) Use caution with patient with potential for fluid overload

(M-7) Diving Illness/Injury

1) Trauma assessment
2) Spinal precaution, utilizing appropriate method to remove from water
3) Support vital status
4) O2, IV, Monitor as appropriate
5) Be ready to support B/P as near drowning tends to cause large fluid shifts see hypotension protocol (M-10)
6) Consider the need for hyperbaric therapy. If so transport to SRMC or GMH.
7) Consider hypothermia (consult SRT technician for water temperature)
8) Consider dive related injuries (Bends, Emboli, etc.)
9) If in arrest see appropriate algorithm

(M-8) Drowning/Submersion

1) Remove from water in appropriate manner to protect patient c-spine
2) Assess vital status (assess for hypothermia)
3) See SRT tech for water temp and condition
4) If hypothermic see appropriate algorithm
5) Remove wet clothing and provide a warm environment
6) O2, IV, Monitor
7) If in arrest refer to appropriate algorithm

(M-9) Epistaxis

1) Medical assessment (remember orthostatic vitals if appropriate)
2) O2, IV, monitor and position as appropriate
3) Ice packs, compressing the nostrils and tilt head forward as appropriate
4) If hypotension/tachycardia noted refer to non-traumatic hemorrhage (M-12)

(M-10) Heat Related Emergencies

1) Perform medical assessment, consider environment
   a) Try to obtain an accurate body temperature if mental status allows
2) Move to a cooler environment and remove clothing

Heat Cramps

1) Attempt oral rehydration with isotonic solution or water
2) If patient unable to handle oral intake then establish IV access and infuse NS.

Heat Exhaustion

1) Cool patient with ice packs, cool wet towels, or fans (Apply to carotid, femoral, brachial and groin area)
2) Be cautious not to cool patient too fast or too extreme. Remove cooling agents once patient temperature is @ 100f or shivering begins
3) O2, IV, monitor
4) Fluid infusion of 10-20ml/kg over 30-60 minutes

Heat Stroke

1) Same as above
2) Cautious with fluid resuscitation, 250ml/hr initially as long as hemodynamically stable

(M-11) Hypertensive Crisis

1) Assess vital status
2) O2, IV, Monitor
3) Place in fowlers position
4) Perform 12 lead to R/O ischemic heart disease

*****Pre-hospital care should not be focused on B/P reduction as the reduction in B/P must be a controlled process in order not to induce a stroke****

(M-12) Hypotension {Non-Traumatic}

1) Medical assessment (remember orthostatic vitals if appropriate)
2) O2, IV, monitor and position as appropriate
3) R/O reversible causes
   a) Heart rate refer to bradycardia/tachycardia algorithm
   b) Pump problem refer to cardiogenic shock algorithm
   c) Look for Nitro patches or paste and remove promptly
4) Fluid therapy **10-20ml/kg** over 15-30 minutes
5) If unresponsive to fluid therapy and volume status is assured consider **Dopamine5-20mcg/kg/min**. Maintain pressure of above 90 mm/hg

(M-13) Hyperthermia

1) Medical assessment
   a) If hyperthermia is suspected then try to obtain body temperature
   b) O2. IV and Cardiac Monitor
      i) IV bolus of 500ml NS
   c) Remove from environment
2) Aid heat loss remove clothing and apply room temperature water to skin
3) Increase air flow around patient to increase heat loss from convection

(M-14) Hypothermia

4) Medical assessment
   a) If hypothermia is suspected then try to obtain body temperature
   b) Remember to assess longer for a pulse 30-60 seconds
   c) Assess for hypoglycemia treat if below 50mg/dl refer to diabetic protocol
5) If patient in cardiac arrest then refer to the hypothermic arrest algorithm
6) Avoid further heat loss (remove wet clothing etc)
7) Layer patient with several blankets
   a) Make sure to turn heat on in back of unit en route to call
   b) O2, IV, cardiac monitor and position supine if possible
   c) If intubation is warranted be cautious as it may precipitate V-fib

(M-15) Nausea and Vomiting

1) Scene safety for crew and patient
2) General assessment to R/O causes; OD, diabetic, etc.
3) General vital status support
4) Orthostatic Vitals
5) O2, IV and cardiac monitor
6) **Emesis**--Administer 4-8mg Zofran IV slow IV push.
   a) Watch for headache, fatigue, dizziness.

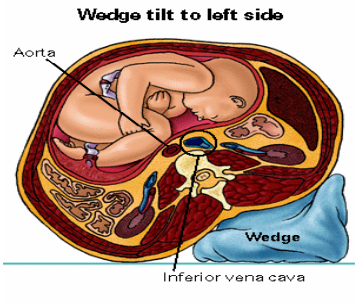
(M-16) Non-Traumatic Hemorrhage

1) Medical assessment (remember orthostatic vital signs)
2) O2, IV, cardiac monitor and appropriate position
3) Fluid therapy as indicated. 10-20ml/kg over 30 minutes
   a) Be cautious, remember hemodilution and blowing a clot
4) R/O causes

(M17) Obstetrical Emergencies

General guidelines

i) If over 20 weeks gestation remember to tilt board at 15 degrees if on spine board
ii) Try to assess fetal heart sounds with Doppler or stethoscope
iii) Collect any aborted tissue and transport to hospital with patient
iv) Transport on left side to avoid supine hypotension syndrome



Normal Birth

Ask four M's {will get adequate history}

(a) Maturation (how far along)
(b) Medication (prenatal care, legal and illegal drugs)
(c) Multiples (more than one fetus)
(d) Meconium (stressed fetus)

1) Place mother in position for delivery
2) If time permits O2, IV, and cardiac monitor
3) Coach mother on appropriate breathing pattern (pant-breathe with each contraction)
4) Gently press on perineum as head presents and assist to avoid explosive delivery
5) Check for nuchal cord (cord around neck)
   a) If present then attempt to slip cord around neck however if too tight clamp and cut cord immediately
   b) If no complication once head presents suction the mouth then nose with bulb suction
6) Normally the anterior shoulder will present as baby rotates, the posterior shoulder will deliver next
7) Once delivered keep baby at the level of the vagina and clamp and cut cord. Avoid milking the cord as it will cause destruction of blood cells.
8) If mother is going to breast feed allow the baby to do so as this will cause mother to release Pitocin
9) A Fundal massage will help to control hemorrhage (normal blood loss 500ml)
10) Don't delay transport awaiting placenta delivery

Prolapsed Cord

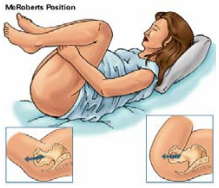
1) Do not try to place cord back into vagina
2) Two gloved fingers should be placed into the vagina to attempt to lift baby off cord
3) If mother will tolerate then place her in the knee chest position
   a) Alternate position if she will not tolerate knee chest is trendelenberg
4) Use saline soaked dressing to keep the cord moist

Breech Delivery

1) With imminent delivery place mother on edge of bed or firm surface if safe and possible
2) Do not pull on infant as it delivers
3) As head begins to pass the pubis apply gentle upward traction until baby's mouth appears
4) If baby's head does not deliver then use a gloved hand and form a V with two fingers to try and create an airway.
5) Emergent to L & D

Shoulder Dystocia

1) Beware with diabetic mothers, obese mothers and late deliveries
2) Do not pull baby by the head instead have mother flex thighs upward to facilitate delivery (McRobert's position)
3) If delivery does occur immediately transport to hospital



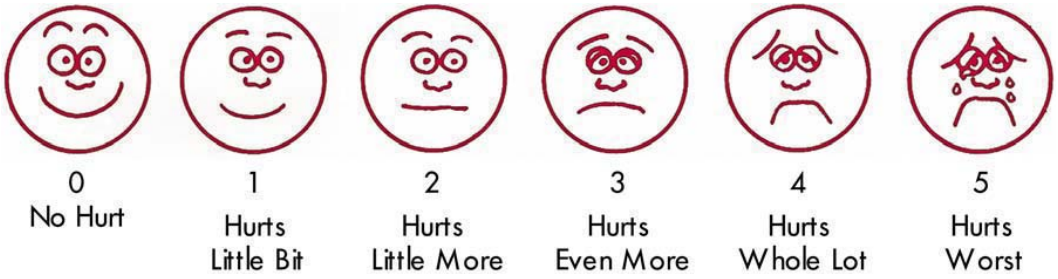
Vaginal Hemorrhage

1) Medical assessment
2) O2, IV, cardiac monitor
3) Support Vital status
   a) Consider fluid infusion of N/S 10-20ml/kg
   b) Maintain a pressure of 90 systolic

Preeclampsia and Eclampsia

1) For patients who are suspected to be preeclamptic look for the following:
   a) Headache
   b) Dizziness
   c) Confusion
   d) Blurred vision
   e) Diplopia
   f) Nausea and vomiting
   g) Hypertension/edema
2) Position patient in the left lateral recumbent position
3) Handle gently and avoid sensory stimulation as this will cause seizures
4) O2, IV, and cardiac monitor
5) If patient seizes then consider Magnesium Sulfate 2-4g given at 1 gram a minute IV push
6) If not responsive to Magnesium then refer to seizure protocol

(M-18) Pain Management Guidelines



Pain control at SEMS will be primarily handled with Morphine Sulfate. As per state DHEC, on line medical control has to be utilized in making the decision as to the appropriate use and dose. In order to facilitate your request have a brief history and rationale for the requested drug. Also be clear as to what and how much you would like to have.

1) N2O2 (Nitronox) can be self-administered on standing order.
   a) Pt has to hold the mask to administer and can continue to receive N2O2 as long as they can hold it
2) Morphine is contraindicated in undiagnosised abdominal pain.
3) Contact medical control for orders to give Morphine, it may be given in 2-4 mg increments every 5 minutes up to 16 mg cumulative dose
4) Contact medical control for orders to give Fentanyl 1-2mcg/kg slow IV push
   a) May repeat in 10 minutes
   b) An average adult dose is 50-100mcg

(M-19) Psychiatric Emergencies

1) Assess for scene safety for crew and patient
2) Medical assessment if possible
   a) Assess BGL
   b) Orthostatic Vitals
   c) R/O other possible causes
3) For physical or chemical restraint see restraint policy

(M-20) Reactive Airway Disease (Adult)

(Asthma, COPD, Emphysema)

1) Medical assessment
2) O2, IV, and cardiac monitor
3) Consider O2 therapy in most appropriate manner;
   a) Nebulizer
   b) BVM
   c) Non-rebreather mask
4) Consider CPAP
5) If wheezing present consider the following regimen
   a) Administer Albuterol 5mg or Xopenex 1.25mg
   b) If partial response then repeat therapy
   c) If no response, consider Racemic Epinephrine 0.75ml (dilute0.75ml of Racemic Epi in 3ml of NS or sterile water (this will be one and one half vials of Racemic Epi)) the following criteria have to be met.
      i) -Patient less than 50 years old
      ii) -No previous cardiac history
6) If still unresponsive to therapy consider Epinephrine 1:1000 SubQ 0.3-0.5mg
      i) -Patient has to be less than 50 years old
      ii) -Patient has a clean cardiac history
7) If patient not a candidate for Epinephrine contact medical control for direction.
8) If fluid develops after wheezes are corrected as with cardiac asthma refer to CHF/Pulmonary edema protocol

(M-21) Seizures and Status Epilepticus

1) Medical assessment
2) O2, IV and cardiac monitor
3) If patient's actively seizing consider the following:
   a) Diazepam 5-10mg IV push at 2mg/min
   b) May repeat initial dose to a total cumulative dose up to 15mg
   c) Can consider Lorazepam 2-4mg IV over 2 minutes (2mg/min)
   d) Can repeat the initial dose up to a 4mg cumulative dose
4) If unable to establish IV access then consider Lorazepam 2-4mg IM
5) May consider rectal administration of Diazepam 10mg in patient where IV's cannot be established
6) If pregnant and seizing refer to the Eclampsia protocol.

(M-22) Stroke Care

1) Medical assessment
   a) R/O diabetic, seizure and other stroke mimics
   b) Treat BGL if below 50mg/dl
2) If stroke suspected then follow the MEND exam and code stroke recommendations
3) O2, IV, and cardiac monitor
   a) Limit IV sticks and only stick good sites as the thrombolytic will make them leak
   b) Consider 12 lead to R/O AMI being masked by Stroke
4) Complete EMS code stroke survey
   a) If the patient meets the **CODE STROKE** criteria limit scene time to less than 15 minutes as TIME IS BRAIN
      i) 18 y/o or older
      ii) Onset is less than 2 ½ hours
   b) 3 hour window exist for reperfusion therapy
   c) <u>CODE stroke is an emergent return</u>

(M-23) Toxicological Emergencies/Poisoning

1) Scene safety
   a) Appropriately attired and trained personnel to remove and decontaminate as necessary
   b) If necessary flush patient with appropriate solution
   c) Try to obtain MSDS information on substance if indicated

2) O2, IV, monitor and position as appropriate

3) Administer appropriate reversal agents
   a) Naloxone 0.4-2mg IV, IM, SubQ for narcotic or unknown with Respiratory depression.
      i) Titrate to ventilation and be cautious of dysrhythmias and withdrawals
      ii) May administer up to 10 mg cumulative dose.
      iii) Remember that half life of Narcan may be less than the narcotic the patient has on board

4) Activated Charcoal 1g/kg mixed with water for OD's involving ASA, Amphetamines, Dilantin, Phenobarbital, and Strychnine
   a) Patient must be alert and oriented and able to control their airway

5) Diphenhydramine 25-50mg IV or IM for dystonic reaction related to phenothiazine ingestion
6) Ipecac 15-30 ml may be considered with certain poisonings. Contact medical control for orders. Must be followed with several glasses of warm water.

7) **Tricyclic Antidepressant overdose** consider Sodium Bicarbonate 1Meq/kg IV bolus over 2 minutes
   a) Look for sustained tachycardia > 120 and/or QRS complex greater than 0.10 sec and/or hypotension not responsive to fluid therapy

8) For **Calcium Channel Blocker overdose**, consider Atropine 1mg IV push for symptomatic bradycardia. Calcium Gluconate 10% 10-20 ml or 1-2grams over 5 minutes
   a) Look for the following signs and symptoms
      i) Bradycardia
      ii) Conduction delays
      iii) Hypotension
      iv) Slurred speech
      v) Nausea and vomiting

9) For **Organophosphate Poisoning** consider, Atropine 2mg IV bolus repeated at 5 minute intervals up to total of 6mg. Look for decrease in SLUDGE
   a) SLUDGE
      i) Salivation
      ii) Lacrimation
      iii) Urination
      iv) Diarrhea
      v) GI cramping
      vi) Emesis

10) **Cocaine Overdose** is evident by history and the following S&S;
      i) Agitation
      ii) PVC's
      iii) Dilated Pupils
      iv) Tachycardia
      v) Hypertension
      vi) Hyperthermia
   b) If patient is having a seizure or chest pain then **Versed 2-5 mg** should be considered in addition to the appropriated algorithm

11) **Beta Blocker OD** consider **Glucagon 3mg** IV push

(M-24) WMD Information

In any situation where these or other agents of mass destruction are suspected the safety of our crews are the primary concern. PPE guidelines should be followed

Bioterrorist agents

1) Anthrax-(inhalation, cutaneous, and gastrointestinal)
    i) Inhalation-Flu-like symptoms, fever, chest pain, Headache, respiratory failure
    ii) Cutaneous- Itching, popular lesions, vesicular lesion which develops into eschar surrounded by edema
    iii) Gastrointestinal-Abdominal pain, N/V, diarrhea, GI bleed and fever
    b) Treat with Ciprofloxacin/Doxycycline.

2) Botulism
    a) Excessive mucous in the throat, dysphagia, dry mouth, dizziness, nystagmus, and weakness
    b) Treatment is directed at supportative care

3) Pneumonic Plague
    a) High fever, cough, hemotysis, chest pain, N/V, and head ache
    b) Treatment is Streptomycin or Gentamicin

4) Small Pox
    a) Malaise, fever, rigors, vomiting, head ache and back ache.
    b) Treatment supportative
    c) Prevention with vaccine

Chemical agents

1) Nerve agents
    a) Sarin, Tabun, Cyclohexyl, VX, Novichok agents and other Organophosphate compounds
    b) Treatment Atropine 2mg IV bolus repeated at 5 minute intervals up to total of 6mg. Pralidoxime Chloride 2-PAMCL 600-1800mg IM and or 1g IV over 20-30 minutes. Follow seizure protocol as necessary

2) Cyanides-hydrogen cyanide and cyanogens chloride (almond smell)
    a) Treatment Sodium Nitrate 300mg IVP over 5-10 minutes.

3) Blister agents, Pulmonary choking agents, Ricin, and T-2 mycotoxins have no antidote. Treatment is aimed at supportative care