

Hamilton County



First Responder Agency

EMT-IV Protocols



Hamilton County EMS

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EMT-IV



HAMILTON COUNTY EMERGENCY MEDICAL SERVICE FIRST RESPONDER AGENCY EMT-IV PROTOCOLS

THESE PROTOCOLS ARE TO BE USED BY QUALIFIED INDIVIDUALS IN THE PERFORMANCE OF PRE-HOSPITAL MEDICAL CARE. TO BE QUALIFIED TO USE THESE PROTOCOLS YOU MUST MEET THE FOLLOWING CONDITIONS:

- 1. YOUR AGENCY/ DEPARTMENT HAS A SIGNED AGREEMENT WITH H.C.E.M.S. IN ACCORDANCE WITH STATE REGULATIONS ON PROVIDING FIRST RESPONDER SERVICES.**
- 2. YOU ARE CURRENTLY CERTIFIED/ LICENSED BY THE STATE TO PERFORM EMERGENCY MEDICAL CARE.**
- 3. YOU HAVE BEEN APPROVED BY THE MEDICAL DIRECTOR OF H.C.E.M.S TO UTILIZE THESE PROTOCOLS.**
- 4. PARAMEDICS MUST BE ACLS (ADVANCED CARDIAC LIFE SUPPORT) AND ITLS (INTERNATIONAL TRAUMA LIFE SUPPORT) CERTIFIED TO BE ABLE TO USE THE PARAMEDIC FIRST RESPONDER PROTOCOLS AND MUST MAINTAIN THEIR CERTIFICATIONS.**
- 5. YOU ARE ONLY ABLE TO PERFORM THOSE SKILLS THAT YOU ARE LICENSED FOR AND ARE COVERED WITHIN THESE PROTOCOLS. IF THERE IS A SKILL THAT IS NOT COVERED WITHIN THESE PROTOCOLS BUT FALLS WITHIN YOUR LICENSURE THEN YOU ARE NOT ABLE TO PERFORM THAT SKILL.**
- 6. A LIST OF ALL FIRST RESPONDERS (FIRST RESPONDER, EMT-B, EMT-IV, OR PARAMEDIC) MUST BE SUBMITTED ALONG WITH A COPY OF THEIR STATE LICENSE, BLS CARD, ITLS CARD (PARAMEDICS ONLY), AND ACLS CARD (PARAMEDICS ONLY) MUST BE SUBMITTED TO HAMILTON COUNTY EMERGENCY MEDICAL SERVICES. ALL THESE MUST BE KEPT UP TO DATE WITH COPIES OF ALL RECERTIFICATIONS SUBMITTED TO HAMILTON COUNTY EMERGENCY MEDICAL SERVICES.**
- 7. A COPY OF ALL PATIENT CARE REPORTS WHERE A MEDICATION HAS BEEN ADMINISTERED, AN IV HAS BEEN ESTABLISHED, OR AN ADVANCED AIRWAY HAS BEEN ESTABLISHED MUST BE SUBMITTED TO THE HAMILTON COUNTY EMS FOR QUALITY ASSURANCE ON A MONTHLY BASIS.**

ISSUE DATE: September 2010

Signature on File

Dr. James Creel, Jr. M.D.
Medic Director
Hamilton County E.M.S

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PEDIATRIC EMERGENCY PROTOCOLS

SHOCK / TRAUMA
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THERMAL BURNS
ELECTRICAL BURNS
NEAR DROWNING
HEAD INJURY
ABDOMINAL TRAUMA

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CIRCUMSTANTIAL/ SKILL
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CIRCUMSTANTIAL/ SKILLS PROTOCOLS

PATIENT ASSESSMENT AND PACKAGING

Management of the trauma patient should be thorough and expeditious. In order to provide guidelines for assessment and packaging of the trauma patient, the format will consist of either a rapid trauma assessment or a focused physical exam with the appropriate interventions for packaging. This method should be used throughout the care of the trauma patient.

Initial Assessment

The Initial Assessment may be one of the most important processes of the patient assessment in which you will identify and treat and conditions that may be an immediate life threat to the patient. These immediate life threats will usually involve breathing problems or severe bleeding problems. The steps within the Initial assessment will include: General Impression, Responsiveness, Airway, Breathing, Circulation, and EMS Update. The total time to complete the initial assessment should take about one (1) minute.

1. General Impression

You will begin to form your general impression as you approach the patient. This will include how the patient looks, and quick assessment of the environment in which the emergency has taken place, and the patient's chief complaint.

2. Responsiveness

The next step is to determine patient's responsiveness. This will help you to identify the patient who has an **altered mental status** and may need immediate airway control as well as other life saving measures. **Always introduce yourself and gain consent to treat the patient.** If the mechanism of injury warrants it then take spinal precautions at this time. The quick method for determining responsiveness is the AVPU method.

- A- Alert
- V- Verbal (Responds to Verbal Stimuli)
- P- Pain (Responds to Painful Stimuli)
- U- Unresponsive



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3. Airway

The airway must be assessed to ascertain patency. The chin lift or jaw thrust maneuver are the acceptable methods for opening the airway of a trauma patient. Remove any foreign body obstruction.

The patients head should never be hyper-extended or hyper-flexed to establish or maintain an airway. Manual cervical spinal stabilization should be maintained through the initial airway assessment.

4. Breathing

Once the airway has been secured, the patient should be assessed for the adequacy of ventilatory exchange. If the airway is patent and ventilatory exchange insufficient, a bag valve mask device may be used to ventilate the patient. Secure the airway via adjuncts based on level of training and licensure. Paramedics should establish an endotracheal tube, while EMT's and First Responders shall establish a Combitube if the patient meets the need and has been appropriately oxygenated.

In order for a Combi-tube to be used by the First Responder the patient must be apneic (absent breathing), have an absent gag reflex, be greater than four feet tall, have not ingested any caustic substances, and have no esophageal diseases.

If tracheal intubation or dual lumen airway has been established by an appropriately trained and licensed First Responder, the Medic Crew must verify placement by noting air exchange (look, listen, and feel), humidification noted in the tube, auscultation of bilateral breath sounds, absence of epigastric sounds, and ETCO₂ (for ET Tubes only). The in charge Paramedic on the Med Unit will make the decision to leave a satisfactory Combitube in place or to discontinue it and intubate the patient using an endotracheal tube.



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5. Circulation

Central and/or peripheral pulses are palpated.

A palpable radial pulse may indicate a systolic BP of 80 mm/Hg or greater.

A palpable femoral pulse may indicate a systolic BP of 70mm/Hg or greater.

A palpable carotid pulse may indicate a systolic BP of 60 mm/Hg or greater.

Exsanguinating hemorrhage should be identified and controlled by direct pressure.

6. EMS Update

At this point you will have enough information regarding the patients condition (high priority or stable patient) to give the EMS Unit en-route to the call a brief update.

First Responder Physical Exam

The First Responder Physical Examination is a continuation of the Initial Assessment. With the Initial Assessment you found immediate threats to the patients life. The Physical Exam is a thorough exam of the patient's entire body to help find any further injury or illness that the patient may have. This will be done time permitting and the patient does not need continual life saving care (CPR). When performing a physical exam three methods of examination will be used: Inspection (Looking), Auscultation (Listening), and Palpation (Feeling). The steps in the First Responder Physical Exam are Head, Neck, Chest, Abdomen, Back, Pelvis, and Extremities and Vital Signs. During the physical exam the First Responder will may use the memory aid of DOTS to help.

D- Deformities

O- Open Injuries

T- Tenderness

S- Swelling



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1. Head

The FR Physical Exam begins with the evaluation of the head and all related areas for any further findings. Note any papillary changes. A more detailed neurological exam should be performed using the Glasgow Coma Scale.

2. Neck/ Cervical Spine

Inspect and palpate for deformities, open injuries, tenderness, and swelling. Look at the anterior of the neck for tracheal deviation and the presence of jugular vein distention. Manual control is maintained at all times when the patient is not secured in a spinal package. All trauma patients, with significant mechanism of injury, are to be maintained in a spinal package, and will be done so during transport to the hospital.

3. Chest

Inspect and palpate for deformities, open injuries, tenderness, and swelling. Auscultate breath sounds in all lung fields for a more thorough exam. Palpate for crepitus, instability, and pain. Percus as needed. Auscultate heart tones and reaffirm presence or absence of distended neck veins.

4. Abdomen

Inspect and palpate for deformities, open injuries, tenderness, and swelling. Assess the patient for distention and rigidity of the abdominal cavity. Close observation and frequent evaluation is required to note subtle changes. Treat hypovolemia as per protocol.

5. Back

In order to maintain the integrity of spinal packaging, avoid manipulating the patient. If it is necessary to examine the back, log roll the patient maintaining manual cervical spine control at all times. Inspect and palpate for deformities, open injuries, tenderness, and swelling.



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6. Pelvis

Inspect and palpate for deformities, open injuries, tenderness, and swelling, priapism and palpate for instability and pain.

7. Extremities

Inspect and palpate for deformities, open injuries, tenderness, and swelling. Also during this time check the patient for pulses, motor, and sensation to each of the four extremities in order to evaluate for circulatory compromise. Attempt to cover puncture wounds that may represent open fracture sites and other areas of trauma with sterile dressings. Splint suspected fracture sites to immobilize.

8. Vital Signs

Take a complete set of vital signs to include: Respirations (rate and quality), Pulse (rate and quality), Skin (color and condition), Pupils, and Blood pressure.

Patient History

In order to complete the patient assessment and assure that all possible complications have been found a thorough patient assessment must be performed. Using the SAMPLE method will simplify this and keep it in an organized manner. If the patient is unable to answer the questions then look to a family member or bystander.

1. Signs and Symptoms

This is what the patient is telling you is wrong as well as what you can visibly see.

2. Allergies

Any allergies the patient may have (this will include synthetic, nature, drug and food).

3. Medications

Any prescribed or over the counter medications that the patient is presently taking.



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4. Pertinent Past History

Any type of past medical or trauma history that is pertinent to the present condition of the patient.

5. Last Oral Intake

This is the last time the patient had anything to eat or drink and is not solely limited to the last meal.

6. Event

These are the events that led up to the incident and will give you an idea as to the cause (a medical incident preceding the trauma).

Ongoing Assessment

The ongoing assessment is another step of the patient assessment used to ascertain any changes in the patient's status. During this the First Responder should: Repeat the Initial Assessment, Repeat the Physical Exam to include Vitals Signs (Vitals signs should be taken every 3-5 minutes for an unstable patient and every 10-15 minutes for a stable patient), Reassess Treatment and Interventions, and Calm and Reassure the patient.

Hand-Off Report

When the EMS unit arrives on scene they must be given the appropriate information about the patient's condition and the care that has been given. This should include: Patient's Age and Sex, Chief Complaint, Level of Responsiveness, Airway Status, Breathing Status, Circulation Status, Physical Exam Findings, SAMPLE History, and Treatment and Interventions.

Resuscitation/ Packaging

1. The Patient should be undressed, as needed using professionalism, to facilitate thorough examination and assessment.
2. Supplemental oxygen therapy is instituted for all trauma patients preferably via a non-rebreather mask.



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3. Vital Signs are done during the First Responder Physical Examination and should be obtained as soon as practical in order to begin trending the patient.
4. Any patient that has sustained trauma to the clavicle or above, generalized blunt trauma or penetrating trauma that may be associated with spinal cord involvement will be placed in a complete spinal package. A complete spinal package is defined as application of rigid cervical collar, a long spine board with no less than three straps securing the chest, abdomen/ pelvis, and lower extremities, and a lateral stabilization of the head using a commercial cervical immobilization device (CID), or rolled towels and securing the head using commercial straps that come with the CID or tape.

If placing the patient in a complete spinal package compromises the airway the patient should be managed in a position that best facilitates airway management.



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CIRCUMSTANTIAL / SKILL PROTOCOLS

MAST / PASG APPLICATION

The MAST / PASG can be used to apply pressure on bleeding sites, augment peripheral vascular resistance, splint pelvic and lower extremity fractures, and provide a limited auto transfusion effect. MAST / PASG are most effective when utilized in conjunction with other antishock adjuncts such as IV fluids.

Note: *Contact with Medical Control is established prior to inflation of the garment except in the following situations:*

1. *Splinting of lower extremity fractures.*
2. *Splinting of pelvic fractures.*
3. *Trauma cardiac arrest.*
4. *Communication failure with Medical Control.*

INDICATIONS:

1. Splinting and hemorrhage control for pelvic fractures during transport.
2. Tamponading soft tissue hemorrhage.
3. Stabilizing multiple leg fractures.
4. Stabilizing the circulatory system for transports greater than 10 minutes.
5. Maintaining perfusion of the upper torso when IV's cannot be started for IV therapy, or when volume replacement is not adequate.

CONTRANDICATIONS:

1. Pulmonary Edema.
2. Circulatory instability due to myocardial dysfunction.
3. The abdominal portion of the garment should not be inflated in patients with suspected diaphragmatic rupture. If hypotension or respiratory distress develops after inflation of the abdominal portion, promptly deflate the abdominal section.
4. Extreme caution with thoracic trauma that may include intrathoracic hemorrhage and / or ruptured diaphragm.
5. Severe Central Nervous System injury.
6. Pregnancy (Do not inflate abdominal section).
7. Abdominal evisceration (Do not inflate abdominal section).



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PROCEDURE

Proper application of the MAST / PASG:

1. Record the patient's vital signs.
2. Unfold the trousers and lay flat on the long spine board.
3. Carefully slide trousers with the spine board under the patient, maintaining immobility of the spine.
4. Fold the trousers about the left leg first and fasten. Repeat the procedure to the right leg followed by the abdominal section.
5. Attach the air tubes to the connections on the pants making sure all stopcocks are open.

Inflation of the trousers:

1. Recheck vital signs.
2. Inflate the legs first followed by the abdominal section.
3. Determine the amount of inflation necessary by the patient's perfusion status.
4. When optimal perfusion is obtained, turn the stopcocks to the hold position.
5. Do not inflate the trousers on the basis of pressure readings in the trousers, only base on perfusion status.
6. Monitor the patient's blood pressure and add pressure to the trousers as needed to maintain an optimal pressure.

Deflation of the trousers:

1. Mandatory two large bore IV catheters in peripheral veins and re-establishment of blood volume.
2. EKG monitoring.
3. Deflate slowly while monitoring the blood pressure.
4. Stop deflation if the blood pressure falls 5 mm Hg and hold at that point until additional fluids are given to return and maintain the blood pressure.
5. Deflate the abdominal section first.
6. With a sudden drop in blood pressure, the garment should be reinflated until more fluid can be given and / or the hemorrhage can be controlled surgically.
7. Deflate each leg section individually following the above stated criteria.



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ADULT CARDIAC PROTOCOLS



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ADULT CARDIAC PROTOCOLS

SYMPTOMATIC CHEST PAIN

SUSPECTED MYOCARDIAL INFARCTION

1. A-B-C's.
2. Place patient in position of comfort (preferably in a semi-Fowler's).
3. Administer oxygen and use appropriate adjuncts for patient condition.
4. Suction and assist ventilations, if required.
5. Obtain medical history and Vital Signs.
6. Establish IV Normal Saline or INT.
7. Administer Nitroglycerin 0.4mg SL (1 single tablet or spray dependent on what is carried).
 - a. **Remember to ask if the patient is taking any sex enhancing medications (Viagra, Levitra, Cialis)!**
 - b. **Nitroglycerin may be repeated every five minutes if patient is still having chest pain and maintaining a systolic blood pressure above 110 mm/Hg, up to a total of 3 doses (including any doses taken by the patient prior to arrival).**
 - c. **Monitor and record vital signs before and after the administration of any medicine.**
8. Give patient aspirin (ASA) 324 mg (Give four 81 mg baby ASA and gave patient chew them)
 - a. **Monitor and record vital signs before and after the administration of any medicine.**
 - b. **Do not give Aspirin to a patient with know allergy to ASA!**
 - c. **Do not give Aspirin to a patient who has received ASA, ASA products or blood thinners (To include such medicines as Plavix or other blood altering medicines) within the past 24 hours.**
 - d. **If patient has had any ASA then DO NOT give any further to get the dosage up to 324 mg. If ASA is not given, then document the reason.**
9. Assist Med Crew with stabilizing patient for transport.



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ADULT CARDIAC PROTOCOLS

CARDIOPULMONARY ARREST NON-TRAUMATIC ETIOLOGY

ASSESSMENT:

Determine: Unresponsive, Breathlessness, and Pulselessness.

A. Airway:

1. Open airway and clear any obstructions.
2. Insert appropriate size oral or nasal pharyngeal airway, or Combitube based on level of training.

B. Breathing:

1. Provide respiratory effort via pocket mask, or bag valve mask attached to supplemental oxygen.
2. Auscultate all quadrants of the chest to verify proper placement of airway adjunct and secure airway in place.

C. Circulation:

1. Begin external chest compressions rate of 30 compressions to 2 breaths with a goal of at least 100 compressions a minute.
2. Establish IV of Normal Saline when possible.
3. Continue CPR until the arrival of AED / Monitor.



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ADULT CARDIAC PROTOCOLS

CARDIAC ARREST / AED

ASSESSMENT:

Determine: Unresponsive, Breathlessness, and Pulselessness.

TREATMENT:

1. Begin CPR with high flow O₂ / BVM while waiting for the monitor.
2. Apply AED and analyze:
 - A. NO shock advised:**
 - i. Airway adjunct to level of training
 - ii. Initiate IV NS KVO.
 - iii. After 2 minutes of CPR reanalyze
 - B. If shock advised:**
 - i. Check Patient
 - ii. Deliver 1 shock (120 – 200J with biphasic AED or 360J with monophasic AED)
 - iii. Airway adjunct to level of training
 - iv. Initiate IV, NS KVO
3. Recheck if shock advised:
 - A. Deliver 1 shock (120 – 200J or higher with biphasic AED or 360J with monophasic AED)
 - B. Resume CPR for 2 minutes without checking the patient
 - C. Consider non-cardiac causes of arrest. Go to appropriate protocol.
 - D. Continue CPR with a 30:2 compression to ventilation rate with a goal of at least 100 compressions a minute and rechecking patient in two minute intervals until Medic Unit arrives on scene.



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ADULT MEDICAL EMERGENCY
PROTOCOLS



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ADULT MEDICAL EMERGENCY

ACUTE PULMONARY EDEMA

1. A-B-C-'s.
2. Place patient in position of comfort.
3. Administer oxygen and use appropriate adjuncts for patient condition.
4. Suction and assist ventilations, if required.
5. Obtain vital signs and history.
6. Establish INT or IV NS KVO.



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ADULT MEDICAL PROTOCOLS

HYPERGLYCEMIA

1. A.B.C.'s
2. Maintain open airway and administer oxygen appropriate for patient condition.
3. Assist ventilations and suction as needed.
4. Place patient in position of comfort.
5. Obtain vital signs and medical history.
6. Establish IV NS.
7. Check blood sugar, if reading is above **250 mg/dl**, and then administer a fluid bolus of 300ml. (If patient is hypothermic, IV fluid should be warm.)



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ADULT MEDICAL PROTOCOLS

HYPOGLYCEMIA

1. A.B.C.'s
2. Maintain open airway and administer oxygen appropriate for patient condition.
3. Assist ventilation's and suction as needed.
4. Obtain vital signs and medical history.
5. Establish INT or IV NS at a K.V.O. rate.
6. Check blood sugar level if reading below **50 mg/dl** and patient is conscious and has control of airway then administer sugar concentrated substance or instant glucose.
7. If patient is unconscious or doesn't have control of airway then administer 25 gm/50ml of D50 IV push.
 - a. **Monitor and record vital signs before and after the administration of any medicine.**



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ADULT MEDICAL PROTOCOLS

HYPERTENSIVE CRISIS

1. A.B.C.'s
2. Place patient in position of comfort.
3. Maintain open airway and administer oxygen appropriate for patient condition.
4. Assist ventilations and suction as needed.
5. Obtain vital signs and medical history.
6. Establish INT or IV NS at a K.V.O. rate.



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ADULT MEDICAL PROTOCOLS

CEREBROVASCULAR ACCIDENT (BRAIN ATTACK / T.I.A.)

1. A.B.C.'s
2. Maintain open airway and administer oxygen appropriate for patient condition, airway adjuncts as needed.
3. Assist in ventilations and suction as needed.
4. Perform MEND exam.
5. Place patient in position of comfort, usually sitting, keep patient warm, protect extremities.
6. Obtain vital signs and medical history.
7. Establish INT or IV NS at K.V.O. rate.
8. Check blood sugar level if reading below **50 mg/dl** then administer 25 gm/50 ml of D50W IV Push.
 - a. **Do not give any thing by mouth to a patient who is exhibiting signs and symptoms of a stroke, this includes oral glucose.**
 - b. **Monitor and record vital signs before and after the administration of any medicine.**



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ADULT MEDICAL PROTOCOLS

SEIZURES

1. A.B.C.'s
2. Protect patient from any further injury.
3. Place patient in position to maintain open airway.
4. Administer oxygen appropriate to patient condition, airway adjuncts as needed.
5. Assist ventilations and suction as needed.
6. Obtain vital signs and medical history.
7. Establish IV NS or INT.
8. If febrile, cool patient as needed and follow hyperthermia protocol # 2 and 3 as directed.
9. Check blood sugar level if reading below **50 mg/dl** then administer 25 gm/50 ml of D50W IV Push.
 - a. **Do not give any thing by mouth to a patient who is exhibiting signs and symptoms of a stroke, this includes oral glucose.**
 - c. **Monitor and record vital signs before and after the administration of any medicine.**



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ADULT MEDICAL PROTOCOLS

UNCONSCIOUS / UNRESPONSIVE

1. A.B.C.'s
2. Assess patient for head injury, trauma, hypothermia, hemiparesis (Paralysis to one side of the body), and fever. Obtain temperature on patients that are hypothermic. If trauma is suspected use C-spine control.
3. Place patient in recovery position. (If trauma not suspected.)
4. Administer oxygen and use appropriate adjuncts for patient condition.
5. Assist ventilations and suction as needed.
6. Establish IV NS or INT.
7. Warm fluids on all suspected hypothermic patients.
1. Check blood sugar level if reading below **50 mg/dl** then administer 25 gm/50 ml of D50W IV Push.
 - a. **Do not give any thing by mouth to a patient who is exhibiting signs and symptoms of a stroke, this includes oral glucose.**
 - b. **Monitor and record vital signs before and after the administration of any medicine.**
8. Obtain vital signs and medical history.



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ADULT MEDICAL PROTOCOLS

RESPIRATORY DISTRESS (ASTHMA / COPD)

1. A.B.C.'s
2. Maintain open airway and use appropriate adjuncts as needed.
3. Administer oxygen appropriate for patient condition.
4. Assist ventilations and suction if needed.
5. Establish INT or IV NS at KVO rate.
6. Obtain vital signs and medical history.
7. Administer Albuterol 2.5mg /3 ml saline via nebulizer.
 - a. **Monitor and record vital signs before and after the administration of any medicine.**
 - b. **If a patient has a heart rate above 150 beats per minute then do not administer a nebulized breathing treatment.**



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ADULT ENVIRONMENTAL PROTOCOLS



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ADULT ENVIROMENTAL PROTOCOLS

ANAPHYLAXIS

1. A.B.C.'s maintain airway as appropriate.
2. Administer oxygen as needed.
3. IV NS KVO (Fluid bolus of 250-500cc IF HYPOTENSIVE).
4. EPI 1:1,000- 0.3cc SQ.
 - a. **Adminster epinephrine 1:1,000 only if the patient is having significant respiratory distress with audible wheezing in the lungs field noted during auscultation of the chest.**
 - b. **If a patient has a heart rate above 150 beats per minute then do not administer epinephrine 1:1,000.**
5. Administer Albuterol 2.5mg /3 ml saline via nebulizer.
 - a. **Monitor and record vital signs before and after the administration of any medicine.**
 - b. **If a patient has a heart rate above 150 beats per minute then do not administer a nebulized breathing treatment.**



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ADULT ENVIROMENTAL PROTOCOLS

DRUG INGESTION / OVERDOSE

1. A.B.C.'s
2. Protect yourself from toxin and / or unruly patient.
3. Maintain open airway.
4. Administer oxygen and use airway adjuncts appropriate to patient condition.
5. Place patient in position appropriate to patient condition.
6. Obtain vital signs and medical history.
7. Establish INT or IV NS at KVO rate.
8. Check blood sugar level if reading below **50 mg/dl** then administer 25 gm/50 ml of D50W IV Push.
 - c. **Do not give any thing by mouth to a patient who is exhibiting signs and symptoms of a stroke, this includes oral glucose.**
 - d. **Monitor and record vital signs before and after the administration of any medicine.**



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ADULT ENVIROMENTAL PROTOCOL

HYPERTHERMIA

1. A.B.C.'s
2. Oxygen 100% and maintain airway with appropriate adjunct.
3. Remove clothing and cover with wet sheet and/or a blanket.
4. Place cool packs to neck, axillary and femoral areas.
5. IV NS KVO, increase to 300-500 mls/hr. if patient is tachycardic or hypotensive.
6. Obtain vital signs and medical history.
7. Obtain baseline temperature (rectally, axillary, or tympanic) (rectally preferred)
Heat stroke temp greater than 103 F.



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ADULT ENVIROMENTAL PROTOCOL

HYPOTHERMIA

1. **Handle patient gently. Jolts may trigger V-fib.**
2. A.B.C.'s
3. If unconscious and pulseless, evaluate for 1 full minute:
 - A. Oxygen 100%, CPR if indicated
 - B. Remove clothing if wet and cover with dry blankets
 - C. Establish IV warmed normal saline @ 75-100 cc/hr.
4. Maintain open airway with appropriate airway adjuncts.
5. Place thermal blankets and heating pad, if available, on patient.
6. Heat packs to axillary and femoral areas.
7. Obtain vital signs and history.

DO NOT ATTEMPT TO WARM EXTRIMITES.



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ADULT ENVIROMENTAL PROTOCOLS

POISONOUS SNAKE BITE

1. A.B.C.'s
2. Oxygen and airway maintenance as needed for patient condition.
3. Splint extremity and maintain in a neutral position.
4. Mark outer edges of swelling.
5. IV NS infused as needed for patient condition.
6. Remove any article that may constrict circulation due to swelling.
7. Reassure and calm patient throughout incident.
8. Obtain vital signs and medical history.



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ADULT ENVIROMENTAL PROTOCOLS

NEAR DROWNING

1. A.B.C.'s
2. Primary survey with neck and spine stabilization
 - A. Prior to removal form water if possible and only if properly trained.
 - B. Minimum of four rescuers recommended
3. Oxygen 100% and maintain open airway with appropriate airway adjunct.
4. Remove wet clothing and maintain body temperature.
5. Assist ventilations and suction as needed.
6. Establish IV NS KVO.
7. Obtain vital signs and history.



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ADULT SHOCK/ TRAUMA PROTOCOLS



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ADULT SHOCK / TRAUMA PROTOCOLS

TRAUMA PATIENT ASSESSMENT AND PACKAGING

1. Maintain and open airway with C-spine control:
 - A. Manually control C-spine with hands while using the Jaw-Thrust Technique.
 - B. Do not hyperextend the patient's neck.
2. Assess breathing:
 - A. Look, Listen and Feel for patient's breath.
 - B. If not breathing, give two breaths. If unsuccessful, reposition airway, attempt ventilations again.
 - C. Remove any airway obstruction. Insert the appropriate airway adjunct and oxygenate patient.
3. Assess circulation:
 - A. If no pulse begin CPR.
 - B. Check tracheal deviation, neck vein distension, any trauma or swelling to the neck.
 - C. Note skin color, carotid pulse, capillary refill time and femoral pulses.
Apply C-Collar.
Radial Pulse: BP of at least 80 systolic
Femoral pulse: BP of at least 70 systolic
 - D. Bare chest, observe and palpate chest. Auscultate breath sounds and heart tones.
4. Control Hemorrhage:
 - A. Direct pressure
 - B. Pressure points, pressure dressings.
 - C. Air splints, MAST Trousers.
5. Treat for shock:
 - A. Apply MAST trousers, uninflated, on a long spine board.
 - B. Inflate MAST in accordance with MAST PROTOCOLS.
 - C. IV's of NS or LR, large bore (14-16 gauge).
6. Secondary Survey: Performed if there is delay in arrival of Medic Unit and / or performed enroute to the hospital.
 - A. Brief neurological exam – Pupils – (AVPU)
 - B. Head and neck
 - C. Chest
 - D. Abdomen
 - E. Pelvic and extremities
7. Immobilize patient in full spinal package with MAST trousers. Examine the patient's back as you perform the log roll maneuver.
8. Perform and or assist with splinting major fractures.
9. Assist with transportation as soon as possible.



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ADULT SHOCK / TRAUMA PROTOCOLS

LOAD AND GO SITUATIONS

PROCEDURE:

1. Begin primary survey.
2. Discover Load and Go Condition:
 - A. Complete airway obstruction
 - B. Trauma CPR
 - C. Respiratory compromise with hypoxia
 - D. Trauma pneumothorax
 - E. Cardiac Tamponade
 - F. Shock
 - G. Diminished LOC
 - H. Head trauma with affected Pupils
 - I. Any other life threatening condition
3. Complete primary survey (Except for condition A. and B. above)
4. Package patient for transport.
5. Load patient in Ambulance.
6. Expedite transport to trauma center.
7. Repeat primary survey enroute to trauma center.
8. Complete secondary survey in Ambulance as patients condition permits.
9. **PERFORM ALL NEEDED SKILLS ENROUTE TO TRAUMA CENTER UNLESS CRITICAL INTERVENTION IS NEEDED OR TRANSPORT TIME IS DELAYED.**



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ADULT SHOCK / TRAUMA PROTOCOLS

TRAUMA ARREST

1. A.B.C.'s
2. Identify arrest condition, obtain history.
3. Begin CPR.
4. Oxygen 100% via appropriate airway adjunct for patient condition.
5. Package patient.
6. MAST per protocol.
7. Bilateral large bore IV NS or LR wide open.



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PEDIATRIC EMERGENCY PROTOCOLS



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PEDIATRIC MEDICAL PROTOCOLS

SHOCK / TRAUMA PROTOCOL

1. Oxygen 100% and additional airway maintenance as indicated by patient condition.
2. Spinal immobilization as indicated by mechanism of injury.
3. Trendelenburg position.
4. Keep patient warm.
5. IV of LR or NS. With a 20 ml/kg fluid bolus followed by rate appropriate to patient condition.
6. Secondary IV of LR or NS, as indicated.
7. MAST garments applied. **DO NOT INFLATE WITHOUT ORDERS FROM MED-CONTROL.**
8. Determine cause of shock and treat per appropriate protocol.
 - a. Anaphylactic.
 - b. Cardiogenic.
 - c. Hypovolemic.
 - d. Neurogenic.
 - e. Septic.
 - f. Psychogenic.

* USE WARM IV FLUIDS ON ALL SHOCK / TRAUMA PATIENTS*



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PEDIATRIC MEDICAL PROTOCOLS

TRAUMA ARREST

1. A.B.C.'s.
2. Open airway and maintain airway with appropriate airway adjunct for patient's age and size using Jaw Thrust.
3. Begin CPR.
4. Spinal package.
5. Bi-lateral large bore IV's of NS or LR with flow rate appropriate for patient condition.



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PEDIATRIC MEDICAL PROTOCOLS

THERMAL BURNS

1. Remove patient from source.
2. Oxygen 100% additional airway maintenance as needed for burns involving nares, face, throat or oropharyngeal areas.
3. Remove any rings or bracelets even if extremities aren't affected.
4. Cover with dry sterile dressing or burn sheet.
5. IV NS infuse 10cc/kg/hr. Treat shock if present; give a 20cc/kg bolus up to 60cc/kg (3 boluses).
6. Secondary IV of LR or NS as needed.



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PEDIATRIC MEDICAL PROTOCOLS

ELECTRICAL BURNS

1. Patient removed from source.
2. Oxygen 100% and additional airway maintenance as needed for patient condition.
3. IV of NS infuse 10cc/kg/hr. Treat shock if present; give a 20cc/kg bolus up to 60cc/kg (3 boluses).
4. Remove rings or bracelets even if extremities aren't affected.
5. Dry sterile dressing or burn sheet for burns.



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PEDIATRIC MEDICAL PROTOCOLS

NEAR DROWNING

1. Oxygen 100% and appropriate airway maintenance for patient.
2. Spinal immobilization as needed for patients with history of diving accident, mechanism of injury is present, patient is unconscious, or history of incident is unclear.

Spinal immobilization prior to removing patient from water.

3. Remove wet clothing and maintain patient's body temperature.
4. IV of NS at KVO rate.



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PEDIATRIC MEDICAL PROTOCOLS

HEAD INJURY

1. Oxygen 100% and appropriate airway maintenance for patient condition.
2. Spinal immobilization.
3. IV of NS or LR with flow rate appropriate for patient condition.



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PEDIATRIC MEDICAL PROTOCOLS

ABDOMINAL TRAUMA

1. A.B.C.'s
2. Oxygen and additional airway maintenance as indicated.
3. Spinal immobilization as indicated by mechanism of injury.
4. Dress and bandage abdominal injuries as appropriate to condition.
5. IV of LR or NS with flow rate appropriate to patient condition. Secondary IV as indicated.
6. Apply MAST- **DO NOT INFLATE WITHOUT DIRECT ORDER FROM MEDICAL CONTROL.**
 - a. **Contraindicated with pulmonary edema and chest injuries**