

Hamilton County EMS



First Responder Agencies

Paramedic Protocols



HAMILTON COUNTY EMS



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**HAMILTON COUNTY EMERGENCY MEDICAL SERVICES
FIRST RESPONDER AGENCY PROTOCOLS (PARAMEDIC)**

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 TO THE LEVEL OF THESE PROTOCOLS.**
- 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) 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.**

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Signature on File

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

Signature on File

**Kenneth Wilkerson, C.E.M.S.A.
Chief, EMT-P
Hamilton County E.M.S**



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**CIRCUMSTANTIAL / SKILLS PROTOCOLS
TRAUMA PATIENT ASSESSMENT AND PACKAGING**

MANAGEMENT OF THE TRAUMA PATIENT SHOULD BE THOROUGH AND EXPEDITIOUS ORDER TO PROVIDE GUIDELINES FOR ASSESSMENT AND PACKAGING OF THE TRAUMA PATIENT, THE FORMAT WILL CONSIST OF A PRIMARY AND SECONDARY SURVEY WITH APPROPRIATE INTERVENTIONS FOR PACKAGING. THIS METHOD SHOULD BE FOLLOWED. DURING THE INITIAL EVALUATION AS WELL AS RE-EVALUATION OF THE TRAUMATIC PATIENT.

PRIMARY SURVEY

DURING THE PRIMARY SURVEY, LIFE THREATENING CONDITIONS ARE IDENTIFIED AND TREATMENT IS INITIATED TO CORRECT LIFE THREATENING CONDITIONS. A PRIMARY SURVEY WILL BE CONDUCTED ON ALL PATIENTS. THE SEQUENCE IN WHICH THE PRIMARY SURVEY SHOULD BE CONDUCTED AND TREATMENT INTERVENTIONS INSTITUTED ARE AS FOLLOWS:

1. AIRWAY MAINTENANCE WITH CERVICAL SPINE CONTROL

THE AIRWAY MUST BE ASSESSED TO ASCERTAIN PATENCY. THE HEAD TILT CHIN-LIFT OR JAW THRUST MANEUVER IS THE ACCEPTABLE METHOD FOR OPENING THE AIRWAY. REMOVE FOREIGN BODY OBSTRUCTION.

THE PATIENT'S HEAD OR NECK SHOULD NEVER BE HYPEREXTENDED, OR HYPERFLEXED TO ESTABLISH OR MAINTAIN THE AIRWAY. MANUAL CERVICAL SPINE STABILIZATION, IF INDICATED, SHOULD BE MAINTAINED THROUGHOUT THE INITIAL AIRWAY ASSESSMENT.

2. ONCE THE AIRWAY HAS BEEN SECURED, THE PATIENT SHOULD BE ASSESSED FOR ADEQUACY OR VENTILATORY EXCHANGE. IF THE AIRWAY IS PATENT AND VENTILATORY EXCHANGE INSUFFICIENT, A BAG VALVE MASK MAY BE USED TO VENTILATE THE PATIENT. SECURE THE AIRWAY VIA ADJUNCTS BASED ON LEVEL TRAINING AND LICENSURE. ADVANCED AIRWAY MANAGEMENT SHOULD BE ESTABLISHED AFTER ADEQUATE OXYGENATION BY APPROPRIATE PERSONNEL.



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IF TRACHEAL INTUBATION HAS BEEN PERFORMED BY AN APPROPRIATELY TRAINED AND LICENSED FIRST RESPONDER AGENCY PARAMEDIC THE TUBE PLACEMENT MUST BE CONFIRMED BY VISUALIZATION OF TUBE PASSAGE THROUGH THE VOCAL CORDS, CONDENSATION WITHIN THE ET TUBE, CHEST RISE AND FALL, AUSCULTATION OF PRESENT AND EQUAL BILATERAL BREATH SOUNDS, AUSCULTATION OF ABSENT EPIGASTRIC SOUNDS, CO₂ DETECTOR CONFIRMATION, AND CONFIRMATION FROM A ESOPHAGEAL DETECTOR DEVICE. THE RECEIVING MEDIC CREW WILL RE-VERIFY PLACEMENT OF ET TUBE AND FURTHER CONFIRM WITH ETCO₂.

IF A TENSION PNEUMOTHORAX OR OPEN PNEUMOTHORAX (SUCKING CHEST WOUND IS IDENTIFIED), TREAT PER SPECIFIC PROTOCOL.

3. CIRCULATION WITH HEMORRHAGE CONTROL

CENTRAL AND / OR PERIPHERAL PULSES ARE PALPATED.

A PALPABLE RADIAL PULSE MAY INDICATE A SYSTOLIC BP OF > 80 MM HG.

A PALPABLE FEMORAL PULSE MAY INDICATE A SYSTOLIC BP OF > 70 MM HG.

A PALPABLE CAROTID PULSE MAY INDICATE A SYSTOLIC BP OF > 60 MM HG.

EXSANGUINATING HEMORRHAGE SHOULD BE IDENTIFIED AND CONTROLLED BY DIRECT PRESSURE.

4. CERVICAL SPINE IMMOBILIZATION

ANY PATIENT THAT DOES NOT HAVE A COMPLETE SPINAL PACKAGE IN PLACE SHOULD HAVE MANUAL CERVICAL SPINE STABILIZATION MAINTAINED, IF INDICATED, THROUGHOUT THE PRIMARY SURVEY.

5. NEUROLOGICAL STATUS

A RAPID NEUROLOGICAL EVALUATION COMPLETES THE PRIMARY SURVEY. THE AVPU METHOD SHOULD BE USED TO DESCRIBE THE LEVEL OF CONSCIOUSNESS.

A-RESPONDS

V- RESPONDS TO VERBAL STIMULI

P- RESPONDS TO PAINFUL STIMULI

U- UNRESPONSIVE



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RESUSCITATION / PACKAGING

1. EXPOSURE: THE PATIENT SHOULD BE UNDRESSED TO FACILITATE THOROUGH EXAMINATION AND ASSESSMENT. EXPOSURE OF PATIENT IN ORDER TO FIND ALL INJURIES SHOULD BE DONE IN A PROFESSIONAL MANNER AND ONLY AS NEEDED. ONCE THE ASSESSMENT HAS BEEN COMPLETED AND ANY FOUND INJURIES HAVE BEEN TREATED THEN THE PATIENT SHOULD BE COVERED UP WITH A SHEET OR BLANKET TO MAINTAIN PRIVACY.
2. SUPPLEMENTAL OXYGEN THERAPY IS INSTITUTED FOR ALL TRAUMA PATIENTS AND WILL BE AT A RATE AND DEVICE APPROPRIATE FOR PATIENT CONDITION.
3. A MINIMUM OF TWO LARGE-BORE INTRAVENOUS CATHETERS (16 GAUGE OR LARGER) SHOULD BE ESTABLISHED UTILIZING 10gtt IV TUBING AND LACTATED RINGERS FOR THE FIRST IV LINE AND NORMAL SALINE FOR THE SECOND. PERIPHERAL IV'S ARE THE PREFERRED ROUTES. IV'S SHOULD BE ESTABLISHED ENROUTE WHEN POSSIBLE TO AVOID DELAY IN TRANSPORT. IF THE HCEMS MED UNIT HAS AN EXTENDED RESPONSE TIME OR THERE IS A DELAYED SCENE TIME THEN THE STARTING OF IV'S IS PERMISSABLE.
4. VITAL SIGNS AND OTHER QUANTATIVE VALUES ARE OBTAINED AS SOON AS PRACTICAL AFTER COMPLETING THE PRIMARY SURVEY.
5. EKG MONITORING OF ALL TRAUMA PATIENTS IS REQUIRED. DYSRHYTHMIAS ARE TREATED PER ACLS PROTOCOL BY APPROPRIATE ALS PROVIDERS. HYPOXIA AND HYPOPERFUSION SHOULD BE SUSPECTED IMMEDIATELY.
6. MAST ARE APPLIED AND / OR INFLATED PER PROTOCOL.
7. 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, ADEQUATE LATERAL STABILIZATION THAT INCLUDES SECURING THE HEAD VIA STRAPS AND / OR TAPE, A LONG SPINE BOARD, AND NOT LESS THAN THREE STRAPS SECURING THE CHEST, ABDOMEN / PELVIS, AND LOWER EXTRIMITES. REMOVAL OF THE CERVICAL COLLAR FOR INTERVENTION PURPOSES REQUIRES MANUAL CERVICAL SPINE CONTROL.



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IF AIRWAY MANAGEMENT IS COMPROMISED BY PLACING THE PATIENT IN A COMPLETE SPINAL PACKAGE; THE PATIENT SHOULD BE MANAGED IN A POSITION THAT BEST FACILITATES AIRWAY MANAGEMENT.

SECONDARY SURVEY

THE SECONDARY SURVEY IS BEGUN ONLY AFTER COMPLETION OF THE PRIMARY SURVEY AND TREATMENT OF ALL LIFE THREATENING INJURIES ENCOUNTERED DURING THE PRIMARY SURVEY. IF THE PATIENT'S STATUS DETERIORATES ANY TIME DURING THE SECONDARY SURVEY, THE PRIMARY SURVEY IS INITIATED AGAIN AND PERFORMED IN THE ABC SEQUENCE. THE SECONDARY SURVEY SHOULD NOT DELAY TRANSPORT WHEN POSSIBLE. PERFORM AS MUCH OF THE SECONDARY SURVEY ENROUTE AS TIME WILL ALLOW.

1. HEAD:

THE SURVEY BEGINS WITH EVALUATION OF THE HEAD AND IDENTIFIES ALL RELATED AND SIGNIFICANT INJURIES. NOTE PUPILLARY CHANGES. A MORE DETAILED NEUROLOGICAL EXAM SHOULD BE PERFORMED AND A GLASGOW COMA SCALE RECORDED.

2. MAXILLOFACIAL TRAUMA:

TRAUMA NOT ASSOCIATED WITH AIRWAY OBSTRUCTION SHOULD BE TREATED AFTER THE PATIENT IS COMPLETELY STABILIZED AND IS NOT SUFFERING FROM OTHER MAJOR LIFE THREATENING INJURIES. CAREFUL ATTENTION SHOULD BE PLACED ON NOTING UNSTABLE FRACTURES.

3. CERVICAL SPINE / NECK:

INSPECT AND GENTLY PALPATE FOR TRAUMA USING EXTREME CAUTION WITH MANIPULATION. MANUAL CONTROL IS MAINTAINED AT ALL TIMES WHEN SECURING IN A SPINAL PACKAGE. ALL PATIENTS ARE TO BE MAINTAINED IN A SPINAL PACKAGE DURING TRANSPORT TO THE APPROPRIATE RECEIVING HOSPITAL.

4. CHEST:

INSPECT THE ENTIRE CHEST FOR OBVIOUS TRAUMA. AUSCULTATE BREATH SOUNDS IN ALL LUNG FIELDS FOR A MORE THOROUGH EXAM. PALPATE FOR CREPITUS, INSTABILITY, AND PAIN AND PERCUSS AS NEEDED. AUSCULTATE HEART TONES AND NOTE DISTENDED NECK VEINS.

5. ABDOMEN:

INSPECT FOR EXTERNAL SIGNS OF TRAUMA AND PALPATE FOR TENDERNESS. CLOSE OBSERVATION AND FREQUENT EVALUATION IS



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REQUIRED TO NOTE SUBTLE CHANGES. TREAT HYPOVOLEMIA AS PER PROTOCOL.

6. PELVIS / GENITALS:

INSPECT FOR ANY TRAUMA, PRIAPISM AND PALPATE FOR INSTABILITY AND PAIN. SPLINT SUSPECTED PELVIC FRACTURES VIA MAST PROTOCOL.

7. EXTREMITIES:

INSPECT FOR TRAUMA, DEFORMITY AND ANGULATED AREAS THAT MAY REPRESENT FRACTURE SITES. EVALUATE FOR CIRCULATORY COMPROMISE. PALPATE FOR INSTABILITY, CREPITUS, AND PAIN. 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 AS BEST AS POSSIBLE.

8. BACK:

AVOID MANIPULATING THE PATIENT IF POSSIBLE IN ORDER TO MAINTAIN THE INTEGRITY OF SPINAL PACKAGING. IF IT IS NECESSARY TO EXAMINE THE BACK, LOG ROLL THE PATIENT MAINTAINING MANUAL CERVICAL SPINE CONTROL AT ALL TIMES. INSPECT FOR TRAUMA AND PALPATE FOR INSTABILITY.

9. VASCULAR:

EVALUATE FOR CAPILLARY REFILL, SKIN COLOR, TEMPERATURE, AND CONDITION NOTE PRESENCE OR ABSENCE OF PULSE.

RE-ASSESSMENT

THE TRAUMA PATIENT SHOULD BE RE-ASSESSED CONTINUOUSLY SO THAT ANY NEW SIGNS AND SYMPTOMS ARE NOTED. AS INITIAL LIFE THREATENING INJURIES ARE MANAGED, OTHER EQUALLY LIFE-THREATENING PROBLEMS MAY BECOME APPARENT, AND LESS SEVERE INJURIES OR UNDERLYING MEDICAL PROBLEMS MAY BECOME EVIDENT. A HIGH INDEX OF SUSPICION AND CONSTANT ALERTNESS SHOULD BE MAINTAINED.

CONTACT INCOMING HCEMS UNIT WITH AN UPDATE AS SOON AS TIME AND PATIENT CARE ALLOWS.



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CIRCUMSTANTIAL / SKILL PROTOCOL MAST / PASG APPLICATION

THE MAST CAN BE USED TO APPLY PRESSURE ON BLEEDING SITES, AUGMENT PERIPHERAL VASCULAR RESISTANCE, SPLINT PELVIC AND LOWER EXTREMITIES

FRACTURES, AND PROVIDE A LIMITED AUTOTRANSFUSION EFFECT. MAST 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:
CONTACT WITH MEDICAL CONTROL IS ESTABLISHED PRIOR TO INFLATION

1. SPLINTING OF LOWER EXTREMITY FRACTURES
2. SPLINTING OF PELVIC FRACTURES
3. COMMUNICATION FAILURE WITH MEDICAL CONTROL

INDICATIONS:

1. SPLINTING AND HEMORRHAGE CONTROL FOR PELVIC FRACTURES DURING TRANSPORT.
2. TAMPONADING SOFT TISSUE HEMORRHAGE.
3. SPLINTING 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 OR WHEN VOLUME REPLACEMENT IS NOT ADEQUATE.

CONTRAINDICATIONS:

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.



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6. PREGNANCY (ABDOMINAL SECTION).
7. ABDOMINAL EVISCERATION (ABDOMINAL SECTION).



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CIRCUMSTANTIAL / SKILL PROTOCOL PHYSICIAN ON SCENE

PURPOSE: TO ESTABLISH GUIDELINES FOR DETERMINING PATIENT CARE RESPONSIBILITY AT THE SCENE OF A MEDICAL EMERGENCY WHEN A PHYSICIAN IS ON THE SCENE. THE PHYSICIAN MUST BE A LICENSED HEALTH CARE PROFESSIONAL, MEDICALLY QUALIFIED TO RENDER EMERGENCY MEDICAL CARE.

PROCEDURE:

1. FIRST RESPONDER / EMT / PARAMEDIC SHALL:
 - A. INFORM THE PHYSICIAN THAT THE FIRST RESPONDER. /EMT / PARAMEDIC MUST CONTACT MEDICAL CONTROL
 - B. INFORM MEDICAL / TRAUMA CONTROL OF THE SITUATION.

2. MEDICAL / TRAUMA CONTROL MAY:
 - A. SPEAK TO THE PHYSICIAN TO DETERMINE QUALIFICATIONS.
 - B. REQUEST FIRST RESPONDER / EMT / PARAMEDIC VERIFY LICENSURE OF PHYSICIAN.

3. PHYSICIAN ON SCENE MAY:
 - A. OFFER ASSISTANCE TO FIRST RESPONDER / EMT / PARAMEDIC OR
 - B. REQUEST TO TALK TO MEDICAL TRAUMA CONTROL OR, REQUEST TO TALK TO MEDICAL / TRAUMA CONTROL TO OFFER MEDICAL ADVICE AND ASSISTANCE; OR,
 - C. TAKE TOTAL RESPONSIBILITY FOR THE CARE GIVEN BY THE FIRST RESPONDER / EMT / PARAMEDIC AND PHYSICALLY ACCOMPANY THE PATIENT UNTIL THE PATIENT ARRIVES AT A HOSPITAL AND RESPONSIBILITY IS ASSUMED BY THE RECEIVING PHYSICIAN; AND SHALL,
 - 1) MAINTAIN MEDICAL / TRAUMA CONTROL CONTACT AT ALL TIMES.
 - 2) SIGN FOR ALL INSTRUCTIONS GIVEN TO THE FIRST RESPONDER / EMT / PARAMEDIC.

4. IF THE PATIENTS PRIVATE PHYSICIAN INTERVENES IN PERSON OR BY TELEPHONE THE FIRST RESPONDER / EMT / PARAMEDIC SHALL:
 - A. INFORM THE PHYSICIAN THAT THE FIRST RESPONDER / EMT / PARAMEDIC MUST CONTACT MEDICAL / TRAUMA CONTROL.
 - B. REQUEST THE PHYSICIAN CONTACT MEDICAL / TRAUMA CONTROL.
 - C. AT NO TIME SHOULD PHONE ORDERS BE ACCEPTED FROM PHYSICIAN.



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**CIRCUMSTANTIAL / SKILL PROTOCOL
DISCONTINUATION OF LIFE SUPPORT**

PURPOSE: TO ESTABLISH GUIDELINES FOR MEDICAL / TRAUMA CONTROL WHEN ORDERING DISCONTINUATION OF LIFE SUPPORT IN THE FIELD AND PRONOUNCEMENT OF DEATH VIA RADIO.

PROCEDURE:

MEDICAL / TRAUMA CONTROL MAY CHOOSE TO DISCONTINUE LIFE SUPPORT IN THE FIELD AND PRONOUNCE A PATIENT DEAD AT THE SCENE. THE FOLLOWING ARE GUIDELINES FOR MAKING THAT CHOICE. DISCONTINUATION MAY ONLY BE DONE WITH ON LINE MEDICAL / TRAUMA CONTROL. IF CPR HAS BEEN INITIATED BY FAMILY OR BYSTANDERS THEN FIRST RESPONDER AGENCIES SHALL CONTINUE UNTIL ARRIVAL OF HCEMS AND THEY CAN MAKE FURTHER DETERMINATION AFTER ASSESSMENT AND COMMUNICATIONS WITH MED CONTROL.

1. ASYSTOLE ON CARDIAC MONITOR.
2. PUPILS REMAINING FIXED AND DILATED.
3. PULSELESS, NON-BREATHING, AND WITHOUT NEUROLOGICAL REFLEXES.
4. ANY OF THE FOLLOWING:
 - A. PARAMEDIC WITNESSED LACK OF CPR FOR 10 MINUTES; OR,
 - B. PROLONGED RESUSCITATION IN THE FIELD WITHOUT HOPE FOR SURVIVAL;
OR,
 - C. OTHER SIGNS OF DEATH IN THE ABSENCE OF HYPOTHERMIA, COLD WATER
DROWNING, LIGHTNING STRIKES, OR BARBITURATE INDUCED COMA;
OR,
 - D. DECAPITATION.



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CIRCUMSTANTIAL / SKILL PROTOCOL INTRAOSSUEOUS INFUSION

INDICATIONS FOR USE:

1. CRITICALLY ILL OR INJURED PEDIATRIC PATIENT WITH NO I.V. ACCESS,
2. MEDICAL CONTROL DIRECTION FOR OTHER SITUATIONS.

PROCEDURE:

1. IDENTIFY THE LAND MARKS WITH THE CHOICE SITE BEING THE PROXIMAL TIBIA
 - A. PROXIMAL TIBIA 1-2 FINGER WIDTHS DISTAL TO THE TIBIAL TUBEROSITY ON THE ANTEROMEDIAN SURFACE.
 - B. DISTAL TIBIA 1-2 FINGER BREADTHS ABOVE THE MEDIAL MALLEOLUS AT THE ANKLE.
 - C. DISTAL FEMUR 1-2 FINGERS BREADTHS PROXIMAL TO THE LATERAL CONDOLES.
2. PREP SITE WITH BETADINE
3. DIRECT AND INSERT THE NEEDLE WITH THE STYLET IN PLACE EITHER PERPENDICULAR TO THE BONE OR ANGLED AWAY FROM THE JOINT, AVOIDING THE EPIPHYSEAL PLATE, INSERT WITH PRESSURE AND A BORING OR SCREWING MOTION UNTIL PENETRATION INTO THE MARROW SPACE, WHICH IS MARKED BY SUDDEN LACK OF RESISTANCE. REMOVE THE STYLET.
4. TEST FOR APPROPRIATE PLACEMENT BY NOTING ONE OF THE FOLLOWING:
 - A. ASPIRATION WITH SYRINGE OF BLOODY FLUID.
 - B. INFUSION OF FLUID WITHOUT RESISTANCE OR INFILTRATION
 - C. NEEDLE STANDS WITHOUT SUPPORT.
 - D. A "POP" OR "GIVE" IS SENSED DURING PLACEMENT.
5. ATTACH IV TUBING TO THE NEEDLE AND STABILIZE ON BOTH SIDES.



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COMPATIBLE FLUIDS AND MEDICATIONS:

1. NORMAL SALINE OR LACTATED RINGERS SOLUTIONS.
2. ATROPINE, SODIUM BICARBONATE, DIAZEPAM, DOPAMINE, GLUCOSE, EPINEPHRINE, AND LIDOCAINE.

CONTRAINDICATIONS:

1. PLACEMENT IN A FRACTURED BONE.
2. PLACEMENT DISTAL TO A FRACTURE SITE.
3. INFECTIONS AND BURNS AT THE INTENDED SITE ARE RELATIVE CONTRAINDICATIONS AND INSERTION SHOULD BE DECIDED BY MEDICAL / TRAUMA CONTROL.



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**CIRCUMSTANTIAL / SKILL PROTOCOL
BLIND NASOTRACHEAL INTUBATION**

INDICATIONS:

1. DIFFICULT LARYNGOSCOPY.
2. LARYNGOSCOPY EQUIPMENT FAILURE.

PROCEDURE:

1. GATHER THE NECESSARY EQUIPMENT AND INSPECT THE NOSE TO DETERMINE PATENCY.
2. TEST THE INFLATABLE CUFF AND LUBRICATE TUBE WITH A WATER SOLUBLE LUBRICANT.
3. HYPERVENTILATE PATIENT WITH 100% OXYGEN.
4. POSITION PATIENT'S HEAD WITH REGARD TO C-SPINE CONTROL.
5. SPRAY NARES WITH CETACAINE AND INSERT THE TUBE INTO THE NOSE.
6. ADVANCE AND POSITION THE TUBE INTO THE OROPHARYNX AT THE GLOTTIC OPENING.
7. ADVANCE THE TUBE QUICKLY, DURING INSPIRATION, INTO THE TRACHEA.
8. MAINTAIN A GRIP ON THE TUBE, VENTILATE PATIENT, AND VERIFY TUBE PLACEMENT.
9. INFLATE TUBE CUFF WITH 5-10 CC'S OF AIR.
10. VERIFY BREATH SOUNDS AND HYPERVENTILATE PATIENT WITH 100% OXYGEN.
11. SECURE TUBE WITH TAPE PRIOR TO RELEASING TUBE.

CONTRAINDICATIONS:

1. SUSPECTED HEMOPHILIA
2. SERIOUS FACIAL TRAUMA
3. SUSPECTED SKULL OR NASAL FRACTURES



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**CIRCUMSTANTIAL / SKILL PROTOCOL
COMMUNICATION FAILURE**

PURPOSE: TO PERFORM PROPER, NEEDED, AND TIMELY CARE FOR A PATIENT IN THE EVENT OF COMMUNICATION FAILURE OR BREAKDOWN.

PROCEDURE:

1. ATTEMPT BOTH RADIO AND TELEPHONE CONTACT WITH THE RECEIVING FACILITY.
2. ATTEMPT BOTH RADIO AND TELEPHONE CONTACT WITH A SECONDARY FACILITY.
3. ATTEMPT BOTH RADIO AND TELEPHONE CONTACT WITH HAMILTON COUNTY EMERGENCY SERVICES DISPATCH FOR RADIO / PHONE PATCH.
4. PERFORM ALL PROCEDURES AND SKILLS. ADMINISTER ANY MEDICATION INDICATED FOR SPECIFIC PATIENT PROBLEMS UNDER STANDING ORDERS.
5. ATTEMPT TO ESTABLISH COMMUNICATIONS WITH THE RECEIVING FACILITY AS SOON AS POSSIBLE.
6. NOTIFY SHIFT SUPERVISOR IMMEDIATELY AFTER TRANSFERRING PATIENT TO HOSPITAL PERSONNEL OF PROTOCOL USE.
7. DOCUMENT ALL PERTINENT FACTS IN DETAIL; TO INCLUDE CIRCUMSTANCES, LOCATION OF CALL, PATIENT INFORMATION, SKILLS OR DRUGS REQUIRED, AND ANY OTHER NEEDED MATERIAL.
8. APPEAR BEFORE THE Q .A. COMMITTEE TO ANSWER ANY QUESTIONS AND TO EXPLAIN ANY DECISIONS THAT WERE MADE.



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ADULT MEDICAL PROTOCOL
ACUTE MYOCARDIAL INFARCTION

TREATMENT:

1. ABC'S
2. PLACE PATIENT IN POSITION OF COMFORT.
3. ADMINISTER OXYGEN 2 – 6 lpm VIA NC. IF PATIENT IS IN SEVERE REPIRATORY DISTRESS OR/AND HYPOXIC THEN ADMINISTER 100% OXYGEN. IF FURTHER AIRWAY ADJUNCTS ARE NEEDED THEN USE THOSE APPROPRIATE TO PATIENT CONDITION.
4. MONITOR PULSE OXIMETRY
5. SUCTION AND ASSIST VENTILATIONS, IF REQUIRED.
6. ESTABLISH IV NS OR INT. (DO NOT DELAY TRANSPORT FOR IV).
7. ADMINISTRATION OF 0.4 mg NTG. UP TO THREE (3) DOSES, UNLESS PATIENT BECOMES HYPOTENSIVE, (SYSTOLIC BLOOD PRESSURE LESS THAN 100 mm/hg, MONITOR AND RECORD PATIENT'S B/P EVERY FIVE MINUTES).
8. MONITOR ECG.
9. ADMINISTER ASA, (FOUR 81 mg BABY ASA, CHEW TWO THEN SWALLOW TWO MORE): IF A PATIENT HAS TAKEN ANY ASA, BLOOD THINNER, OR OTHER BLOOD ALTERING MEDICNE WITHIN LAST 24 HOURS THEN DO NOT GIVE PATIENT ASA.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

******* CHECK BLOOD PRESSURE IN BOTH ARMS PRIOR TO ADMINISTRATION OF NTG IF THERE IS A DIFFERENCE OF 8-11 mm/hg BETWEEN THE READINGS, THEN SUSPECT POSSIBLE AORTIC ANEURYSM.**



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ADULT MEDICAL PROTOCOLS VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA (VF/VT) ALGORITHM

ASSESSMENT:

PRIMARY: ABCD SURVEY.

FOCUS: BASIC CPR AND DEFIBRILLATION.

Check responsiveness.

A- airway: open the airway.

B- breathing: provide positive-pressure ventilations.

C- circulation: give chest compressions

D- defibrillation: assess for and shock VF / Pulseless VT, shock one (1) time at 200 joules with a biphasic monitor or at 360 joules with a monophasic monitor.

AFTER DEFIBRILLATION PERFORM APPROXIMATELY TWO (2) MINUTES OF CPR BEFORE CHECKING THE RHYTHM. CHECK CARDIAC MONITOR AFTER TWO MINUTES OF CPR AND THEN PROCEED TO APPROPRIATE ALGORITHM.

If Rhythm is torsades de pointes then Magnesium 1-2g will be first line drug of choice.

PERSISTENT OR RECURRENT VF / VT:

SECONDARY ABCD SURVEY.

FOCUS: MORE ADVANCED ASSESSMENTS AND TREATMENTS.

A- airway: place airway device as soon as possible.

B- breathing: confirm airway device placement by exam plus confirmation device.

B- breathing: secure airway device: purpose made tube holders preferred.

B- breathing: confirm effective oxygenation and ventilation.

C- circulation: establish IV access.

C- circulation: identify rhythm on monitor.

C- circulation: administer drugs appropriate for rhythm and condition.

D- differential diagnosis: search for and treat identified reversible causes.

Defibrillate one (1) time (Biphasic will start at 200j then following defibrillation attempts will be at 300j and 360j, but if uncertain then use 200j. A monophasic will be at 360j).
Resume CPR after defibrillation.

EPINEPHRINE 1mg IVP- Repeat every 3 to 5 minutes (May be used after Vasopresine has been given.)

OR

**VASOPRESINE 40u IVP, SINGLE DOSE, 1 time only
RESUME ATTEMPTS TO DEFIBRILLATE
1 X 360j within 30 to 60 seconds**

VENTRICULAR FIBRILLATION / PULSELESS VT ALGORITHM (continued)

After shock and medicines perform two (2) minutes of CPR before checking the rhythm.
After two (2) minutes of CPR then check the rhythm.

Defibrillate one (1) time (Biphasic will start at 200j then following defibrillation attempts will be at 300j and 360j, but if uncertain then use 200j. A monophasic will be at 360j).
Resume CPR after defibrillation.

CONSIDER ANTIARRHYTHMICS:

**AMIODARONE 300mg IVP bolus 1 time followed by a 20cc flush
AFTER ABOUT 9 TO 12 MINUTES REPEAT WITH**



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**AMIODARONE 150mg IVP bolus followed by 20cc flush
or**

**Lidocaine 1.0-1.5mg/kg IVP. Can repeat in 3 to 5 minutes to maximum dose of
3mg/kg. As single dose of 1.5mg/kg in cardiac arrest is acceptable.**

**Magnesium 1-2g IVP in torsades de pointes or suspected hypomagnesmic state
or refractory VF.**

Consider buffers.

Resume attempts to defibrillate.

**IF A RETURN OF SPONTANEOUS CIRCULATION IS ESTABLISHED THEN BEGIN
THE INDUCED HYPOTHERMIA PROTOCOL AND CALL FOR A SUPERVISOR.**

Consider Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hypo/ Hyperkalemia,
Hypoglycemia, Hypothermia, Toxins, Tamponade (cardiac), Tension Pneumothorax,
Thrombosis (coronary or pulmonary), and Trauma (hypovolemia/ increased ICP).
See causes addendum!



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ADVANCED CARDIAC LIFE SUPPORT
NARROW – COMPLEX SUPRAVENTRICULAR TACHYCARDIA ALGORITHM

ASSESSMENT:

- Primary survey focusing on Airway/Breathing/Circulation.
- EKG monitor: Narrow QRS (<0.12 sec = 3 small blocks) Regular rhythm; rate >150 bpm.
- No p-waves or p-waves possibly inverted) following QRS.
- Carotid pulse palpable.
- No evidence of bleeding, dehydration, or hypovolemia.

UNSTABLE PATIENT:

Symptoms:

- Persistent Chest pain.
- Shortness of breath.
- Light-headedness.

Signs:

- Hypotensive with a systolic BP<90.
- CHF / Pulmonary Edema.
- Altered mental status.
- Myocardial infarction / Ischemia on 12 lead EKG.
- Other signs of shock

TREATMENT (Proceed Stepwise until Conversion)

1. Assess and maintain airway; intubate as necessary.
2. Oxygen 100% oximetry.
3. Monitor ECG with 12 lead obtained. (Is QRS ,0.12 seconds?)
4. Vital signs, Pulse oximetry.
5. Establish large bore IV, NS.
6. Consider and treat reversible causes.

UNSTABLE PATIENT

7. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
8. While preparing **synchronized cardioversion**, if rhythm appears to be narrow complex SVT, you can attempt conversion with Adenocard 6mg rapid IVP, followed by 10ml saline flush.
9. Valium 2-5mg IVP for sedation prior to cardioversion, if clinical conditions permit.
10. **Synchronized Cardioversion** (Atrial fibrillation at 100 to 200J, 300J, 360J. Stable Monomorphic VT at 100J, 200J, 300J, 360J. other SVT and Atrial Flutter at 50J, 100J, 200J, 300J, 360J) If rhythm does not convert with cardioversion, contact Medical Control. If patient does convert then go to appropriate rhythm protocol.



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**ADVANCED CARDIAC LIFE SUPPORT
NARROW – COMPLEX SUPRAVENTRICULAR TACHYCARDIA ALGORITHM
(continued)**

STABLE PATIENT

1. Attempt vagal maneuvers – have patient bear down for 10 seconds, if possible.
2. Adenosine 6mg rapid IVP, immediately followed by saline flush 10ml.
3. If no conversion in 2 minutes, repeat Adenocard 12mg rapid IVP, followed by saline flush 10ml. If no conversion in 2 minutes repeat Adenocard 12mg rapid IVP, followed by 10ml saline flush.
4. If no conversion contact Medical Control for authorization for additional treatment options.
5. Consider Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hypo/ Hyperkalemia, Hypoglycemia, Hypothermia, Toxins, Tamponade (cardiac), Tension Pneumothorax, Thrombosis (coronary or pulmonary), and Trauma (hypovolemia/ increased ICP). See causes addendum!

*****Adenocard should not be used for control of atrial flutter / atrial fibrillation (cases of prolonged asystolic pauses). For atrial flutter / atrial fibrillation with rapid ventricular response, see Cardizem Protocol.**



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ADVANCED CARDIAC LIFE SUPPORT
VENTRICULAR TACHYCARDIA (VT) WIDE COMPLEX

ASSESSMENT:

- Primary survey focusing on Airway/Breathing/Circulation.
- EKG monitor: Narrow QRS (<0.12 sec = 3 small blocks) Regular rhythm; rate >150 bpm.
- No p-waves or p-waves possibly inverted) following QRS.
- Carotid pulse palpable.
- No evidence of bleeding, dehydration, or hypovolemia.

UNSTABLE PATIENT:

Symptoms:

- Ongoing Chest pain.
- Shortness of breath.
- Light-headedness.

Signs:

- Hypotensive with a systolic BP<90.
- CHF / Pulmonary Edema.
- Altered mental status.
- Myocardial infarction / Ischemia on 12 lead EKG.
- Other signs of shock

TREATMENT (Proceed Stepwise until Conversion)

1. Assess and maintain airway; intubate as necessary.
2. Oxygen 100% oximetry.
3. Monitor ECG with 12 lead obtained. (Is QRS ,0.12 seconds?)
4. Vital signs, Pulse oximetry.
5. Establish large bore IV, NS.
6. Consider and treat reversible causes.

UNSTABLE PATIENT

- CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
- 1. While preparing **synchronized cardioversion**, if rhythm appears to be narrow complex SVT, you can attempt conversion with Adenocard 6mg rapid IVP, followed by 10ml saline flush.
- 2. Valium 2-5mg IVP for sedation prior to cardioversion, if clinical conditions permit.
- 3. **Synchronized Cardioversion** (Atrial fibrillation at 100 to 200J, 300J, 360J. Stable Monomorphic VT at 100J, 200J, 300J, 360J. other SVT and Atrial Flutter at 50J, 100J, 200J, 300J, 360J) If rhythm does not convert with cardioversion, contact Medical Control. If patient does convert then go to appropriate rhythm protocol.



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**ADVANCED CARDIAC LIFE SUPPORT
VENTRICULAR TACHYCARDIA (VT) WIDE COMPLEX (continued)**

STABLE PATIENT:

1. Cordarone 150mg slow IVP over 10 minutes in 10cc NS. If no change then dosage may be repeated.
2. If no conversion, contact Medical Control to consider cardioversion, per **UNSTABLE PATIENT** portion protocol.
3. Consider Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hypo/ Hyperkalemia, Hypoglycemia, Hypothermia, Toxins, Tamponade (cardiac), Tension Pneumothorax, Thrombosis (coronary or pulmonary), and Trauma (hypovolemia/ increased ICP). See causes addendum!
4. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

If rhythm is torsades de pointes then administer Magnesium Sulfate (load with 1-2 g over 5-60 minutes, then start an infusion)



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ADVANCED CARDIAC LIFE SUPPORT

PREMATURE VENTRICULAR CONTRACTIONS (PVC'S)

ASSESSMENT

1. More than 5 PVC's per minute.
2. Multifocal PVC's.
3. Salvo's (2 or more PVC's in a row).
4. PVC's occurring near the T-wave.

TREATMENT

1. Oxygen 100%, monitor pulse oximetry.
2. IV access NS TKO.
3. If bradycardic, Atropine 0.5mg IVP. Refer to Bradycardia Protocol.
4. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
5. Cordarone 150mg slow IVP over 1-2 minutes in 10cc NS.
6. If PVC's are not suppressed within five minutes or patient remains unstable, re-contact Medical Control.



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ADVANCED CARDIAC LIFE SUPPORT

Frequent Causes Addendum (The H's and T's)

Hypovolemia

ECG and Monitor Changes: Narrow Complex and a Rapid Rate

History and Physical Exam: History, Flat Neck Veins

Recommended Treatment: Volume Replacement

Hypoxia

ECG and Monitor Changes: Slow Rate

History and Physical Exam: Cyanosis and airway problems

Recommended Treatment: Oxygenation and ventilation

Hydrogen Ion (Acidosis)

ECG and Monitor Changes: Smaller Amplitude QRS Complexes

History and Physical Exam: Diabetes, bicarbonate responsive preexisting acidosis, renal failure

Recommended Treatment: Sodium Bicarbonate, Hyperventilation

Hyperkalemia (High Potassium)

ECG and Monitor Changes: Wide Complex QRS, T Waves Taller and Peaked, P wave get smaller, QRS Widens, Sine-Wave PEA.

History and Physical Exam: History of Renal Failure, Diabetes, Recent Dialysis, Dialysis Fistulas, Medications

Recommended Treatment: Sodium Bicarbonate, Glucose Plus Insulin, Calcium Chloride, Possibly Albuterol

Hypokalemia (Low Potassium)

ECG and Monitor Changes: T Waves Flatten, Prominent U Waves, QRS Widens, QT Prolongs, Wide-Complex Tachycardia

History and Physical Exam: Abnormal Loss of Potassium, Diuretic Use

Recommended Treatment: Add Magnesium if in Cardiac Arrest

Hypothermia

ECG and Monitor Changes: J or Osborne Waves

History and Physical Exam: History of Exposure to cold, Low Central Body Temperature

Recommended Treatment:

Tablets (Drug Overdose)

ECG and Monitor Changes: Various Effects on the ECG, Predominately Prolongation of the QT Interval

History and Physical Exam: Bradycardia, Pupils, Neurologic Exam, Scene Evidence

Recommended Treatment: Intubation, Activated Charcoal, , Toxidrome Apecific Agents and Antidotes



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ADVANCED CARDIAC LIFE SUPPORT

Frequent Causes Addendum (The H's and T's) (continued)

Tamponade (Cardiac)

ECG and Monitor Changes: Narrow Complex, Rapid Rate

History and Physical Exam: History, No pulse felt during CPR, Vein Distention

Recommended Treatment: None Pre-Hospital (Treat signs and symptoms)

Tension Pneumothorax

ECG and Monitor Changes: Narrow Complex, Slow Rate (Hypoxia)

History and Physical Exam: History, No pulse felt during CPR, Neck vein distention, tracheal deviation, unequal breath sounds, difficulty with patient ventilation

Recommended Treatment: Needle chest decompression

Thrombosis Heart (Acute Massive MI)

ECG and Monitor Changes: Abnormal 12-lead ECG: Q-Waves, ST-segment changes, T-Waves, inversions

History and Physical Exam: Cardiac History

Recommended Treatment: None Pre-Hospital (Treat signs and symptoms)

Thrombosis Lungs (Acute Massive Pulmonary Embolism)

ECG and Monitor Changes: Narrow Complex, Rapid Rate

History and Physical Exam: History, No pulse felt during CPR, distended neck veins, prior test for DVT (Deep vein thrombosis) or PE

Recommended Treatment: None Pre-Hospital (Treat signs and symptoms)



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ADVANCED CARDIAC LIFE SUPPORT

ASYSTOLE/ PEA ALGORITHM

ASYSTOLE ON MONITOR MUST BE CONFIRMED IN 2 LEADS!

TREATMENT:

- 1. Determine “downtime”, Initiate / continue CPR.**
- 2. Oxygen 100% Intubate / hyperventilate.**
- 3. Assess and maintain airway- confirm position of tube by exam plus confirmation device.**
- 4. Establish IV of NS.**
- 5. May use Vasopressin 40 U IV/IO, Single Dose, to replace either the first or second dose of Epinephrine.**
- 6. After approximately 20 minutes EPINEPHRINE 1mg 1:10,000 IVP repeat every 3-5 minutes.**
- 7. Consider ATROPINE 1mg IVP repeat every 3-5 minutes to total of 0.04mg/kg. (Use for asystole or a slow PEA rate)**
- 8. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.**
- 9. Re-evaluate resuscitation- check oxygenation / airway and cardiac rhythm and go to appropriate protocol.**
- 10. Consider Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hypo/ Hyperkalemia, Hypoglycemia, Hypothermia, Toxins, Tamponade (cardiac), Tension Pneumothorax, Thrombosis (coronary or pulmonary), and Trauma (hypovolemia/ increased ICP). See causes addendum!**



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ADVANCED CARDIAC LIFE SUPPORT

BRADYCARDIA (SYMPTOMATIC)

NOTES:

- Beware of Ventricular Escape Beats and do not suppress with Lidocaine.
- Treat the patient and NOT the heart rate: Asymptomatic patients do not require aggressive treatment of bradycardia.
- Non-Cardiac causes of bradycardia: Hypoxia, Increased Intracranial pressure, Hypothermia, Pain / Nausea (Vasovagal response), Medications / Drugs – Calcium Channel Blockers, Beta – Blockers, Digoxin.

SYMPTOMATIC SIGNS:

- Heart Rate <60.
- Systolic BP <90.
- CHF / Pulmonary Edema.
- Altered Mental Status.
- MI or Ischemia on 12 lead EKG.

SYMPTOMS:

- Chest Pains.
- Shortness of Breath.
- Light-headedness.

TREATMENT:

1. Assess and maintain airway.
2. Oxygen 100% via non-rebreather mask.
3. Monitor ECG (identify rhythm) get a 12 lead ecg.
4. Baseline Vitals and pulse oximetry
5. Establish IV NS and maintain to patients condition.
6. Check blood sugar if less than 50mg/dl administer 50ml of D50.

If patient has adequate perfusion then monitor patient for changes. If patient has signs and symptoms of poor perfusion then continue to the next step:

7. Prepare for transcutaneous pacing (use immediately if patient has a high degree block such as a 2nd degree type II or 3rd degree AV block). Set rate to approximately 60/min and mA to 2 mA above consistent capture.
8. Consider Atropine 0.5 mg IV while awaiting pacer. May repeat to a total dose of 3mg. If ineffective begin to pace.
9. Consider epinephrine drip (2 to 10 mcg/min) or dopamine 2 to 10 mcg/kg/min) while waiting for pacer or if pacer is ineffective.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
11. Consider Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hypo/ Hyperkalemia, Hypoglycemia, Hypothermia, Toxins, Tamponade (cardiac), Tension Pneumothorax, Thrombosis (coronary or pulmonary), and Trauma (hypovolemia/ increased ICP). See causes addendum!



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**ADULT MEDICAL PROTOCOLS
PULMONARY EDEMA
SYMPTOMATIC HEART FAILURE**

TREATMENT:

1. ABC's
2. PLACE PATIENT IN POSITION OF COMFORT.
3. ADMINISTER OXYGEN AND USE APPROPRIATE ADJUNCTS FOR PATIENT CONDITION, MONITOR SP02.
4. SUCTION AND ASSIST VENTILATIONS, IF REQUIRED.
5. ESTABLISH IV NS OR INT (DO NOT DELAY TRANSPORT).

******* IN THE PRESENCE OF DETERIORATING VITAL SIGNS OR CARDIOGENIC SHOCK:**

6. INTUBATE PATIENT, SUCTION PATIENT AS NEEDED, OXYGENATE PATIENT AS NEEDED.
7. ECG 12-LEAD ACQUIRED.
8. NTG. SPRAY 0.4 MG S.L. (MONITOR B/P EVERY 5 MINUTES).
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
10. CONSIDER LASIX 0.5-1.0 mg/kg.

SPECIAL

CONSIDERATIONS:

NTG. SHOULD NOT BE USED IN THE PRESENCE OF HYPOTENSION OR ALTERED MENTAL STATUS.



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**ADULT MEDICAL PROTOCOLS
HYPERGLYCEMIA**

TREATMENT:

1. ABC's
2. ADMINISTER OXYGEN AND USE APPROPRIATE AIRWAY ADJUNCTS.
3. ASSIST VENTILATIONS AND SUCTION AS NEEDED.
4. PLACE PATIENT IN POSITION OF COMFORT.
5. ESTABLISH IV NS.
6. CHECK BLOOD SUGAR, IF READING IS ABOVE 250 MG/DL, THEN ADMINISTER A FLUID BOLUS OF 200 TO 300 ML'S. (IF PATIENT IS NOT HYPERTHERMIC. IV FLUID SHOULD BE WARMED.
7. MONITOR ECG.
8. RECHECK BLOOD SUGAR,
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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ADULT MEDICAL PROTOCOLS
HYPOGLYCEMIA

TREATMENT:

1. ABC's
2. ADMINISTER OXYGEN FOR PATIENT CONDITION, MONITOR SPO2.
3. ADMINISTER OXYGEN AND USE APPROPRIATE AIRWAY ADJUNCTS.
4. PLACE PATIENT IN POSITION OF COMFORT.
5. ASSIST VENTILATIONS AND SUCTION PRN.
6. ESTABLISH IV NS OR INT IF APPROPRIATE.
7. CHECK BLOOD SUGAR LEVEL, IF READING IS BELOW 60 MG/DL,
ADMINISTER D50
8. IF PATIENT IS CONSCIOUS WITH AN OPEN AIRWAY, THEN ORAL GLUCOSE
MAY BE USED IN THE SYMPTOMATIC PATIENT. IF PATIENT IS
UNCONSCIOUS OR DOESN'T HAVE CONTROL OF AIRWAY THEN
ADMINISTER 50ML OF D50.
9. MONITOR ECG.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON
AS TIME AND PATIENT CARE PERMITS.

*IF ALCOHOLISM OR DRUG ABUSE SUSPECTED CONSIDER USE OF THIAMINE
100mg IVP OR NARCAN 2mg, OR BOTH BEFORE ADMINISTERING GLUCOSE.

*IF IV LINE CANNOT BE ESTABLISHED CONSIDER ADMINISTERING
GLUCAGON 0.5-2.0MG IM.



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**ADULT MEDICAL PROTOCOL
HYPERTENSIVE CRISIS**

TREATMENT:

1. ABC'S
2. PLACE PATIENT IN POSITION OF COMFORT.
3. ADMINISTER OXYGEN AND USE AIRWAY ADJUNCTS APPROPRIATE TO PATIENT CONDITION.
4. ASSIST VENTILATIONS AND SUCTION PRN.
5. ESTABLISH IV NS OR INT. (DO NOT DELAY TRANSPORT FOR IV).
6. MONITOR ECG
7. DIASTOLIC PRESSURE MUST BE ABOVE 115 MM/HG AND THE PATIENT MUST BE SYMPTOMATIC!
8. NTG SPRAY (0.4MG) S/L, B/P MUST BE CHECKED AND DOCUMENTED EVERY FIVE. MINUTES. IF PATIENT IS EXHIBITING SIGNS AND/ OR SYMPTOMS OF A STROKE OR TIA THEN DO NOT GIVE MEDICATIONS TO LOWER BLOOD PRESSURE.
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

**IN THE EVENT OF UNCONTROLLED
EPISTAXIS:**

- A. APPLY DIRECT PRESSURE TO NASAL SEPTUM, OR EXTERIOR BRIDGE OF NOSE.
- B. LEAN PATIENT FORWARD TO PREVENT EXCESS BLOOD AND FLUID IN STOMACH.



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ADULT MEDICAL PROTOCOLS
CEREBRAL VASCULAR ACCIDENT (BRAIN ATTACK /
T.I.A.) STROKE ALERT

TREATMENT:

1. ABCs
2. PERFORM THE 3 STEP BASIC EXAM (CPSS). CHECK FOR FACIAL DROOPING, CHECK FOR ARM DRIFT, AND CHECK FOR SLURRED OR INAPPROPRIATE SPEECH.
3. ADMINISTER OXYGEN APPROPRIATE TO PATIENT CONDITION, AIRWAY ADJUNCT AS NEEDED.
4. PLACE PATIENT IN POSITION OF COMFORT, USUALLY SITTING, KEEP PATIENT WARM..
5. MONITOR SPO2
6. ESTABLISH IV NS OR INT (DO NOT DELAY TRANSPORT).
7. PERFORM MEND EXAM (IF TIME PERMITS)
8. CARDIAC MONITOR
9. IF PATIENT CONDITION HAS DETERIORATED AND UNABLE TO MAINTAIN OWN AIRWAY THEN INTUBATE PATIENT TO MAINTAIN OXYGENATION.
10. CONTACT INCOMING HCEMS UNIT AND ADVISE THAT PATIENT IS A POSSIBLE STROKE ALERT PATIENT.



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**ADULT MEDICAL PROTOCOLS
SEIZURES**

TREATMENT:

1. ABC'S
2. PROTECT PATIENT FROM FURTHER INJURY.
3. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION.
4. ASSIST VENTILATIONS AND SUCTION AS NEEDED.
5. MONITOR SP02
6. ESTABLISH IV NS OR INT.
7. IF FEBRILE, COOL PATIENT AS NEEDED AND FOLLOW HYPERTHERMIA PROTOCOL #2 AND # 3 AS DIRECTED.
8. CHECK BLOOD SUGAR, IF LESS THAN 60 MG/DL, GIVE ORAL GLUCOSE AND FOLLOW HYPOGLYCEMIA PROTOCOL.
9. MONITOR ECG.
10. MAINTAIN SEMI-FOWLER'S POSITION.
11. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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ADULT MEDICAL PROTOCOLS
UNCONSCIOUS/UNRESPONSIVE

TREATMENT:

1. ABC'S
2. ASSESS PATIENT FOR HEAD INJURY, TRAUMA, HEMIPARESIS, AND FEVER OBTAIN TEMPERATURE ON PATIENT'S THAT ARE HYPOTHERMIC.
3. PLACE PATIENT IN RECOVERY POSITION. (IF TRAUMA NOT SUSPECTED).
4. ADMINISTER OXYGEN AND USE APPROPRIATE ADJUNCTS FOR PATIENT CONDITION, MONITOR SPO2.
5. SUCTION AND ASSIST VENTILATIONS, IF REQUIRED.
6. ESTABLISH IV NS OR INT. (DO NOT DELAY TRANSPORT FOR IV).
7. WARM FLUIDS FOR ALL SUSPECTED HYPOTHERMIC PATIENTS.
8. MONITOR CARDIAC
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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**ADULT MEDICAL PROTOCOLS
RESPIRATORY DISTRESS
ASTHMA**

TREATMENT:

1. ABCs
2. PLACE PATIENT IN POSITION OF COMFORT, USUALLY SITTING.
3. ADMINISTER OXYGEN APPROPRIATE TO PATIENT CONDITION, AIRWAY ADJUNCTS AS NEEDED.
4. MONITOR SPO2.
5. ESTABLISH IV NS OR INT.
6. ALBUTEROL AEROSOL TREATMENT.
7. ECG ACQUIRED.
8. IF PATIENT HAS DETERIORATED THEN INTUBATE PATIENT TO MAINTAIN OXYGENATION.
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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**ADULT MEDICAL PROTOCOL
RESPIRATORY DISTRESS
C.O.P.D.**

TREATMENT:

1. ABC'S
2. MAINTAIN PATENT AIRWAY, USE APPROPRIATE ADJUNCTS.
3. PLACE PATIENT IN POSITION OF COMFORT.
4. ADMINISTER OXYGEN APPROPRIATE FOR PATIENT CONDITION, MONITOR SPO2.
5. SUCTION AND ASSIST VENTILATIONS IF REQUIRED.
6. ESTABLISH IV NS OR INT (DO NOT DELAY TRANSPORT)
7. ADMINISTER ALBUTEROL AEROSOL TREATMENT (2.5MG UNIT DOSE, CONTACT MEDICAL CONTROL.
8. ECG ACQUIRED.
9. COPD PATIENTS SHOWING OBVIOUS SIGNS OF HYPOXIA OR WHO ARE IN RESPIRATORY ARREST SHOULD BE INTUBATED ADMINISTER 100% OXYGEN USING A BVM.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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**ADULT ENVIRONMENTAL PROTOCOL
DRUG INGESTION / OVERDOSE**

TREATMENT:

1. ABC'S
2. PROTECT YOURSELF FROM TOXIN AND OR UNRULY PATIENT, IDENTIFY TOXIN.
3. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION.
4. MONITOR SPO2.
5. ESTABLISH AN IV OR INT NS (DO NOT DELAY TRANSPORT)
6. PERFORM GLUCOSE TEST, IF READING IS LESS THAN 60 MG/DL, GIVE ORAL
GLUCOSE, CONSIDER D50 OR GLUCAGON IV.
7. CARDIAC MONITOR.
8. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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ADULT ENVIRONMENTAL PROTOCOLS
HYPERTHERMIA

TREATMENT:

1. ABC's
2. OXYGEN 100% AND MAINTAIN AIRWAY, AS APPROPRIATE, MONITOR SPO2
3. REMOVE CLOTHING AND COVER WITH WET SHEET
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. CHECK BLOOD SUGAR LEVEL – IF LESS THAN 60 mg/dl ADMINISTER 50 ml D50 IVP
7. CARDIAC MONITOR
8. OBTAIN BASELINE TEMPERATURE (RECTALLY OR AXILLARY) (RECTAL TEMPERATURE PREFERRED) HEAT STROKE TEMP GREATER THAN 103 F
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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ADULT ENVIRONMENTAL PROTOCOLS
HYPOTHERMIA

TREATMENT:

1. HANDLE PATIENT GENTLY. JOLTS MAY TRIGGER V-FIB
2. ABC's
3. REMOVE WET CLOTHING
4. PLACE THERMAL BLANKETS AND HEATING PAD, IF AVAILABLE, ON PATIENT
5. IV OF WARM LR OR NS AT 75-100 cc/hr
6. HEAT PACKS TO AXILLARY AND FEMORAL AREAS
DO NOT ATTEMPT TO WARM EXTREMITIES
7. CARDIAC MONITOR, MONITOR SPO2
8. CORE TEMPERATURE > 85 F TREATMENT PER ACLS PROTOCOL
< 85 F CPR AS INDICATED
DEFIBRILLATE @ 200 JOULES 1 TIME, IF PATIENT IS IN V-FIB
CONTINUE CPR IF DEFIBRILLATION IS UNSUCCESSFUL.
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



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**First Responder Agency Protocols
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**ADULT ENVIRONMENTAL PROTOCOLS
POISONOUS SNAKE BITE**

TREATMENT:

1. REMOVE RINGS AND BRACELETS FROM VICTIM.
2. MONITOR SPO2.
3. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION.
4. INT OR IV NS @ KVO, IN UNAFFECTED EXTRIMITY.
5. CARDIAC MONITOR
6. REASSURE PATIENT AND TRY TO REDUCE ANXIETY. KEEP AT REST.
7. DETERMINE TYPE OF SNAKE (PIT VIPER OR CORAL) IF POSSIBLE AND TIME OF BITE. NOTIFY MED CONTROL FOR POSSIBLE PREP OF ANTI-VENIN.
8. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
9. DO NOT APPLY ICE.
10. IMMOBILIZE BITTEN AREA WITH EITHER SLING OR SPLINT IN A NEUTRAL POSITION LEVEL WITH THE HEART.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**ADULT ENVIRONMENTAL PROTOCOLS
NEAR DROWNING**

TREATMENT:

1. ABC'S
2. PRIMARY SURVEY WITH NECK AND SPINE STABILIZATION
 - A. PRIOR TO REMOVAL FROM WATER IF POSSIBLE
 - B. MINIMUM OF FOUR RESCUERS RECOMMENDED
3. OXYGEN AND AIRWAY APPROPRIATE TO PATIENT CONDITION.
4. PREPARE TO SUCTION PATIENT IF INDICATED.
5. MONITOR SP02
6. CARDIAC MONITOR
7. IV OR INT OF NS @ KVO.
8. REMOVE WET CLOTHING AND MAINTAIN BODY TEMPERATURE
9. PACKAGE ACCORDING TO INJURY REQUIREMENTS.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

ADULT ENVIRONMENTAL PROTOCOLS
ANAPHYLAXIS

TREATMENT:

1. ABC'S
2. ADMINISTER OXYGEN AS NEEDED.
3. MAINTAIN AIRWAY AND SUCTION AS NEEDED.
4. ADMINISTER EPI 1:1,000 0.3cc SQ.
5. ADMINISTER BENADRYL 25 mg IV (OR IM IF NO IV IS AVAILABLE).
6. ASSIST PATIENT WITH ALBUTEROL NEBULIZED TREATMENT FOR BRONCHOSPASMS.
7. SPO2.
8. ESTABLISH IV OR INT NS @ RATE APPROPRIATE FOR PATIENT CONDITION, GIVE 250-500CC BOLUS IF PATIENT HYPOTENSIVE.
9. CARDIAC MONITOR.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

******* LOOK FOR EXPOSURES: FOOD, DRUGS, BITES, STINGS, ETC. PAST HISTORY OF ALLERGIC REACTIONS.**



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**ADULT SHOCK / TRAUMA PROTOCOLS LOAD AND GO
SITUATIONS**

TREATMENT:

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
 - E. SHOCK
 - F. DIMINISHED L.O.C.
 - G. HEAD TRAUMA WITH AFFECTED PUPILS
 - H. ANY OTHER LIFE-THREATENING CONDITIONS
3. COMPLETE PRIMARY SURVEY.
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 TIME PERMITS
9. PERFORM ALL NEEDED SKILLS ENROUTE TO TRAUMA CENTER UNLESS CRITICAL INTERVENTION ARE NEEDED OR TRANSPORT TIME IS DELAYED.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

ADULT SHOCK / TRAUMA PROTOCOLS
TRAUMA ARREST

PROCEDURE:

1. BEGIN PRIMARY SURVEY.
2. DISCOVER ARREST CONDITION.
3. BEGIN CPR
4. INTUBATE PATIENT:
 - A. ONE ATTEMPT ONLY ON SCENE
 - B. PROTECT C-SPINE
5. HIGH FLOW O₂.
6. INSERT BI-LATERAL CHEST NEEDLE DECOMPRESSION
 - A. GAUGE OR LARGER (2 1/4 INCH)
 - B. MID-CLAVICULAR OR MID-AXILLARY
 - C. FLUTTER VALVE ATTACHED
 - D. REPEAT AS NEEDED
7. PACKAGE PATIENT FOR TRANSPORT.
8. LOAD PATIENT IN AMBULANCE.
9. IMMEDIATE TRANSPORT TO TRAUMA CENTER.
10. INFLATE MAST AS INDICATED (BEWARE OF CHEST INJURIES).
11. BI-LATERAL IV LR AND NS RUN AT 20 ML/KG AND REPEAT ONCE TO MAINTAIN BLOOD PRESSURE.
12. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.
13. REPEAT PRIMARY SURVEY AS NEEDED OR INDICATED.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**ADULT SHOCK /TRAUMA PROTOCOLS
THERMAL BURNS**

PROCEDURE:

1. ABCs
2. REMOVE PATIENT FROM SOURCE.
3. COOL THE BURN.
4. OXYGEN 100% ADDITIONAL AIRWAY MAINTENANCE AS NEEDED FOR BURNS INVOLVING NARES, FACE, THROAT, OR OROPHARYNGEAL AREAS.
5. REMOVE ANY RINGS OR BRACELETS.
6. COVER BURNED AREA WITH STERILE DRESSING OR BURN SHEET.
7. KEEP DRESSINGS DRY.
8. IV OF LR WITH RATE APPROPRIATE TO PATIENT CONDITION.
9. SECONDARY IV NS @ KVO AS INDICATED.
10. MONITOR SPO2.
11. CARDIAC MONITOR.
12. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

ADULT SHOCK/ TRAUMA PROTOCOL
SHOCK

PROCEDURE:

1. ABCs
2. OXYGEN 100% AND APPROPRIATE AIRWAY MAINTENANCE.
3. SPINAL IMMOBILIZATION AS INDICATED BY MECHANISM OF INJURY.
4. TRENDELENBURG POSITION.
5. KEEP PATIENT WARM.
6. IV OF LR OR NS @ KVO OR APPROPRIATE TO PATIENT CONDITION.
7. SECONDARY IV OF LR OR NS, AS INDICATED.
8. DETERMINE CAUSE OF SHOCK AND TREAT PER APPROPRIATE PROTOCOL.
 - a. ANAPHYLACTIC (SEE ANAPHYLAXIS, PROTOCOL)
 - b. CARDIOGENIC
 - c. HYPOVOLEMIC
 - d. NEUROGENIC
 - e. SEPTIC
 - f. PSYCHOGENIC
9. CARDIAC MONITOR AND SPO2.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

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



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

PEDIATRIC EMERGENCY PROTOCOL
PULSELESS ELECTRICAL ACTIVITY

TREATMENT:

1. DETERMINE PULSELESSNESS AND BEGIN CPR WITH 100% OXYGEN.
2. INTUBATE AND CONFIRM ET POSITION.
3. CONFIRM CARDIAC RHYTHM IN MORE THAN ONE LEAD.
4. IDENTIFY AND TREAT CAUSES. (SEVERE HYPOXEMIA, SEVERE ACIDOSIS, SEVERE HYPOVOLEMIA TENSION; PNEUMOTHORAX, CARDIAC TAMPONADE, PROFOUND HYPOTHERMIA).
5. CONTINUE CPR.
6. HYPERVENTILATE WITH 100% OXYGEN.
7. OBTAIN IV OR IO ACCESS NS AT K.V.O.
8. EPINEPHRINE:

FIRST DOSE

IV/IO 0.01 MG/KG (1:10000)

SECOND AND SUBSEQUENT DOSES SAME AS ABOVE EVERY 3-5 MINUTES.

9. ADMINISTER FLUID CHALLENGE, 20 cc/kg (NEWBORN: 10cc/kg). CHECK RESPONSE AND REPEAT UP TO 60 ml/kg (3 BOLUSES).
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

PEDIATRIC EMERGENCY PROTOCOL
SYMPTOMATIC BRADYCARDIA

TREATMENT:

1. ABC'S
2. SECURE AIRWAY.
3. ADMINISTER 100% OXYGEN.
4. START IV OR IO ACCESS OF NS AT K.V.O.
5. ASSESS VITAL SIGNS.
6. IF SEVERE CARDIORESPIRATORY COMPROMISE EXISTS. ARE THERE SIGNS / SYMPTOMS OF POOR PERFUSION, HYPOTENSION, OR RESPIRATORY DIFFICULTY? IF SO CONTINUE WITH THE FOLLOWING TREATMENT PLAN.
7. PERFORM CHEST COMPRESSION AND SUPPLY OXYGENATION AND VENTILATION:
HEART RATE 80< IN AN
INFANT
HEART RATE < 60 IN A CHILD
8. EPINEPHRINE: IV/IO-. 0.01 MG/KG (1:10,000)
ET: 0.1 MG/KG (1:1000)
REPEAT EVERY 3-5 MINUTES AT THE SAME DOSE.
9. ATROPINE: IV/IO: 0.02 MG/KG
MINIMUM DOSE: 0.1 MG
MAXIMUM SINGLE DOSE: - 0.5 MG FOR CHILD
1.0 MG FOR ADOLESCENT
MAY BE REPEATED ONCE.
10. CONTACT INCOMING HCEMS MED UNIT WITH AND UPDATE AS SSON AS TIME PERMITS.
11. IF ASYSTOLE DEVELOPS FOLLOW ASYSTOLE PROTOCOL.
12. IF PATIENT IS BRADYCARDIC BUT NOT SYMPTOMATIC OBSERVE, SUPPORT ABC'S TRANSPORT TO ALS FACILITY.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
VENTRICULAR ASYSTOLE**

TREATMENT:

1. PULSELESSNESS AND BEGIN CPR WITH 100% OXYGEN.
2. CONFIRM CARDIAC RHYTHM IN MORE THAN ONE LEAD.
3. CONTINUE CPR.
4. SECURE AIRWAY.
5. HYPERVENTILATE WITH 100% OXYGEN.
6. OBTAIN IV OR IO ACCESS WITH NS AT K.V O.
7. EPINEPHRINE INITIAL DOSE:

 IV/IO: 0.01 MG/KG (1:10,000)
 ET: 0.1 MG/KG (1:1000)
8. EPINEPHRINE SECOND AND SUBSEQUENT DOSES:
 SAME AS ABOVE EVERY 3-5 MINUTES.
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

10. CHECK BLOOD SUGAR LEVEL AND IF HYPOGLYCEMIC SEE HYPOGLYCEMIA PROTOCOL AND TREAT APPROPRIATELY.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
VENTRICULAR FIBRILLATION/PULSELESS
VENTRICULAR TACHYCARDIA**

TREATMENT:

1. CONTINUE CPR
2. SECURE AIRWAY.
3. HYPERVENTILATE WITH 100% OXYGEN.
4. OBTAIN IV OF IO ACCESS WITH NS AT K.V.O. BUT DO NOT DELAY DEFIBRILLATION
5. DEFIBRILLATE UP TO 3 TIMES IF NEEDED, (2 J/KG, 4 J/KG, 4 J/KG)
6. EPINEPHRINE: IV/IO: 1.01 MG/KG (1:10,000).
ET: 1.1 MG/KG (1:1100).
7. LIDOCAINE 1 MG/KG IV OR IO-MAX 3 mg PER kg.
8. DEFIBRILLATE 4 J/KG 30 TO 60 SECONDS AFTER MEDICATIONS.
9. EPINEPHRINE SECOND AND SUBSEQUENT DOSE.
SAME AS ABOVE DOSE
REPEAT EVERY 3-5-MINUTES
9. LIDOCAINE 1MG/KG-MAX 3 mg PER kg.
11. DEFIBRILLATE 4 J/KG 30 TO 60 SECONDS AFTER MEDICATION.
12. CONTACT MEDICAL CONTROL.
13. IF RHYTHM CONVERTS TO NORMAL START LIDOCAINE DRIP AT 20-50 mcg/kg/min.

*LIDOCAINE DRUG INFUSION ADMIX DOSE (ALWAYS USE 60 gtt. SET)

Wt IN kg X 120 mg = ___mg IN 100cc D5W, THEN

1cc/hr = 20 mcg/kg/min

14. CHECK BLOOD SUGAR LEVEL IF HYPOGLYCEMIC SEE HYPOGLCEMIA PROTOCOL AND TREAT APPROPRIATELY.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
VENTRICULAR TACHYCARDIA**

TREATMENT:

1. IF PULSELESS, USE VENTRICULAR FIBRILLATION PROTOCOL.
2. IF PULSE IS PRESENT AND PATIENT IS STABLE
 - A. OXYGEN 100%
 - B. IV OR IO of NS @ K.V.O.
 - C. CONTACT MEDICAL CONTROL
 - D. LIDOCAINE 1 MG/KG (REPEAT IN 10 TO 15 MINUTES).
 - E. RADIOVERT IF UNSTABLE.
3. IF PULSE IS PRESENT AND PATIENT IS UNSTABLE.
 - A. OXYGEN AT 100%
 - B. IV OF NS @ K.V.O.
 - C. CONTACT MEDICAL CONTROL.
 - D. VALIUM AS ORDERED BY MEDICAL CONTROL
 - E. LIDOCAINE 1 MG/KG.
 - F. SYNCHRONIZED RADIOVERSION @ 1 JOULE/KG.
 - G. SYNCHRONIZED RADIOVERSION @ 2 JOULES/KG.
 - H. LIDOCAINE 1 GM/250 CC IV @ 2-4 MG/MIN UPON CONVERSION.



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**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
DRUG INGESTION /OVERDOSE**

TREATMENT:

1. ABCs
2. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION.
3. IDENTIFY TOXIN, CONTACT POISON CONTROL AND TREAT AS APPROPRIATE.
4. MONITOR SPO2
5. PLACE PATIENT IN POSITION OF COMFORT.
6. ESTABLISH IV OF NS @ KVO. CHECK BLOOD SUGAR LEVEL IF HYPOGLYCEMIC SEE HYPOGLYCEMIA PROTOCOL AND TREAT APPROPRIATELY.
7. CARDIAC MONITOR.
8. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
HYPERTHERMIA**

TREATMENT:

1. ABC'S
2. OXYGEN 100% AND MAINTAIN AIRWAY, AS APPROPRIATE.
3. MONITOR SPO2.
4. REMOVE CLOTHING AND COVER WITH WET SHEET
5. PLACE COOL PACKS TO NECK, AXILLARY, FEMORAL AREAS.
6. IV OF NS @ KVO.
7. CARDIAC MONITOR.
8. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

******DO NOT EXPOSE TO CIRCULATING AIR AND COOL TEMPERATURES.**



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

PEDIATRIC EMERGENCY PROTOCOL HYPOTHERMIA.

TREATMENT:

1. HANDLE PATIENT GENTLY; JOLTS MAY TRIGGER V-FIB.
2. IF UNCONSCIOUS AND PULSELESS, EVALUATE FOR 1 FULL MINUTE.
 - A. BEGIN CPR AND OXYGEN 100%.
 - B. CARDIAC MONITOR
 - C. APPROPRIATE TREATMENT PER CARDIAC PROTOCOL
 - D. REMOVE WET CLOTHING (IF WET) AND COVER WITH DRY BLANKETS.
 - E. IV OF NS OR LR (WARMED) @ 10 CC/KG/HR.
3. IF FIBRILLATING AND CORE TEMPERATURE < 85 F:
 - A. DEFIBRILLATE @ 2 JOULES/KG ONE TIME.
 - B. BEGIN CPR
4. IF FIBRILLATING AND CORE TEMPERATURE > 85 F:

TREAT AS PER VENTRICULAR FIBRILLATION PROTOCOL.
5. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
RESPIRATORY DISTRESS (ASTHMA)**

TREATMENT:

1. ABC's
2. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION
3. ALBUTEROL: UNDER 12 MONTHS 1.25 mg/3 cc SALINE AEROSOL INHALATION OVER 15 MIN. OVER 12 MONTHS 2.5 mg/3 cc SALINE AEROSOL INHALATION OVER 15 MIN. IF POOR AIR MOVEMENT OR UNABLE TO COOPERATE WITH NEBULIZER ADMINISTER EPI 1:1000- 0.01 mg/kg SQ MAX 0.3 ml EVERY 15 MIN UP TO A TOTAL OF 3 DOSES.
4. PLACE PATIENT IN POSITION OF COMFORT.
5. ESTABLISH IV OF NS OR INT.
6. CARDIAC MONITOR
7. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
SEIZURES**

TREATMENT:

1. ABC'S
2. OXYGEN 100% AND APPROPRIATE, AIRWAY MAINTENANCE.
3. CONSIDER CAUSES AND TREAT APPROPRIATELY.
4. PROTECT FROM FURTHER INJURY.
5. MONITOR SPO2.
6. ESTABLISH IV OF NS OR INT.
7. CHECK BLOOD SUGAR LEVEL AND TREAT IF HYPOGLYCEMIC (SEE HYPOGLYCEMIA PROTOCOL).
8. IF FEBRILE, COOL PATIENT AS NEEDED AND FOLLOW HYPERTHERMIA PROTOCOL #2 AND # 3 AS DIRECTED.
9. CARDIAC MONITOR.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

**PEDIATRIC EMERGENCY PROTOCOL
THERMAL BURNS**

TREATMENT:

1. PATIENT REMOVED 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
4. COVER WITH DRY STERILE DRESSING OR BURN SHEET
5. IV LR WITH RATE APPROPRIATE TO CONDITION OF PATIENT
6. SECONDARY IV OF LR OR NS AS NEEDED
7. CARDIAC MONITOR
8. MONITOR SPO2
9. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



HAMILTON COUNTY EMS



**First Responder Agency Protocols
Paramedic**

PEDIATRIC EMERGENCY PROTOCOL
HYPOGLYCEMIA

TREATMENT:

1. ABC's
2. ADMINISTER OXYGEN APPROPRIATE FOR PATIENT CONDITION.
3. MONITOR SP02
4. PLACE PATIENT IN POSITION OF COMFORT.
5. ESTABLISH IV OF NS OR INT IF APPROPRIATE.
6. CHECK BLOOD SUGAR LEVEL:

LOW BLOOD SUGAR LEVELS SHOULD BE TREATED

*NEWBORN –40mg/dl- (NEW DELIVERY AT HOME)
*NEONATE –50mg/dl- (UP TO 30 DAYS OLD)
*CHILD –50mg/dl- (UP TO 18 y/o)
7. IF PATIENT HAS AN OPEN AIRWAY, THEN ORAL GLUCOSE MAY BE USED IN THE SYMPTOMATIC PATIENT.
8. IF PATIENT IS UNCONSCIOUS OR DOESN'T HAVE CONTROL OF AIRWAY THEN ADMINISTER GLUCOSE AS FOLLOWS.

*NEWBORN / INFANT: D10 -5.0 ml/kg
*CHILD (LESS THAN 2 y/o): D25 – 2.0 ml/kg
*CHILD (GREATER THAN 2 y/o): D50 – 1.0 ml/kg
9. CARDIAC MONITOR.
10. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.

NOTE:

- D10: 2 ml D50W + 8 ml OF NORMAL SALINE = 10 ml D10
- D25: 25 ml D50 + 25 ml NS = 50 ml D50
(START WITH 1 amp OF D50W, THEN WASTE ½ THE VOLUME AND REFILL TO THE ORIGINAL VOLUME WITH NORMAL SALINE SOLUTION)

PEDIATRIC EMERGENCY PROTOCOL **HYPERGLYCEMIA**

TREATMENT:

1. ABCs
2. ADMINISTER OXYGEN AND USE APPROPRIATE AIRWAY ADJUNCTS.
3. MONITOR SPO2.
4. PLACE PATIENT IN POSITION OF COMFORT.
5. ESTABLISH IV OF NS.
6. MONITOR CARDIAC
7. CONTACT INCOMING HCEMS MED UNIT WITH PATIENT UPDATE AS SOON AS TIME AND PATIENT CARE PERMITS.



**First Responder Agency Protocols
Paramedics**

**PEDIATRIC EMERGENCY PROTOCOL
ANAPHYLAXIS**

TREATMENT:

1. ABC'S
2. ADMINISTER OXYGEN AS NEEDED.
3. EPI 1:1000 – 0.01 ml/kg SQ OR IM EVERY 20 MIN TO MAX 0.3 ml, IF HYPOTENSION SEVERE EPI 1:10000 – 0.1 mg/kg OVER 2-5 MIN.
4. IF WHEEZING PRESENT, ALBUTEROL:

*UNDER 12 MONTHS: 1.25 mg/3cc SALINE AEROSOL INHALATION OVER 15 MIN.
*OVER 12 MONTHS: 2.5 mg/3cc SALINE AEROSOL INHALATION OVER 15 MIN.
5. MONITOR SPO2
6. PLACE PATIENT IN POSITION OF COMFORT
7. ESTABLISH AN IV OF NS FLUID BOLUS 20 ml/kg. REPEAT UP TO A TOTAL OF 60 ml/kg (3 BOLUSES).
8. BENADRYL 2 mg/kg IV, SLOW IV PUSH OR IM TO MAX OF 50 mg
9. MONITOR CARDIAC
10. CONTACT INCOMING HCEMS UNIT WITH AN UPDATE AS SOON AS TIME AND PATIENT CARE ALLOWS.