MONTGOMERY COUNTY

EMERGENCY MEDICAL SERVICES
PATIENT CARE PROTOCOLS

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PATIENT CARE PROTOCOLS

IN ORDER TO EFFECTIVELY OPERATE MONTGOMERY COUNTY EMS, THE PATIENT CARE PROTOCOLS CONTAINED HEREIN HAVE BEEN ADOPTED.

IT IS RECOGNIZED THAT FUTURE CHANGES IN MEDICAL CARE PRACTICES, IN STANDARDS, AND OTHER POLICIES MAY NECESSITATE AMENDING OR MODIFYING THESE PROTOCOLS OCCASIONALLY, HOWEVER, EMERGENCY MEDICAL PERSONNEL SHALL BE NOTIFIED OF SUCH CHANGES IN WRITING OR SUCH CHANGES ARE NOT APPLICABLE.

THEREFORE, ALL MEMBERS OF THE EMERGENCY MEDICAL SERVICES ARE HEREBY ORDERED AND DIRECTED TO COMPLY FULLY WITH THE PATIENT CARE PROTOCOLS CONTAINED HEREIN. THE CHIEF, DEPUTY CHIEF, COMPLIANCE AND EDUCATION OFFICER AND MEDICAL DIRECTOR IN CHARGE OF SAID MEMBERS ARE HEREBY CHARGED WITH THE RESPONSIBILITY OF ENFORCING COMPLIANCE.

OUR SIGNATURES BELOW INDICATES WE HERBY ADOPT THE PATIENT CARE PROTOCOLS CONTAINED HEREIN. THE MEDICAL DIRECTOR WILL APPROVE BY INITIALING EACH PAGE OF THE PATIENT CARE PROTOCOLS TO VERIFY THAT ALL MEDICAL TREATMENTS LISTED HEREIN ARE APPROVED.

PROTOCOL EFFECTIVE DATE: DECEMBER 17, 2007

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INTRODUCTION **8**

UNIVERSAL PRECAUTIONS - Body Substance Isolation (BSI) **9**

GENERAL PRINCIPLES **10**

GENERAL PRINCIPLES Continued **11**

GENERAL PRINCIPLES Continued **12**

PATIENT CARE GUIDELINES **13**

CONSIDERATIONS *13*

PATIENT CARE GUIDELINES **14**

CONSIDERATIONS continued *14*

ASSESSMENT *15*
INITIAL ASSESSMENT 15

ASSESSMENT continued *16*
THE FOCUSED HISTORY AND EXAM: PROCEDURE 17
THE FOCUSED HISTORY AND EXAM: PROCEDURE CONTINUED 18
SPECIAL NOTES 19
TREATMENT PRIORITIES 22

DESTINATION GUIDELINES **23**

DESTINATION GUIDELINES **24**

PATIENT TRANSPORT **28**

CONSENT *28*
MINORS 28
EXCEPTIONS 28
DO NOT TRANSPORT 28
THE FOLLOWING MAY NOT REFUSE TRANSPORT: 28

ADULT CARDIAC CARE **29**

Suspected Acute Coronary Syndrome and *29*

VENTRICULAR ECTOPY *31*

PULSELESS ELECTRICAL ACTIVITY (PEA) *32*

VENTRICULAR FIBRILLATION AND PULSELESS VENTRICULAR TACHYCARDIA *33*

VENTRICULAR FIBRILLATION AND PULSELESS VENTRICULAR TACHYCARDIA CONTINUED *34*

ASYSTOLE *35*

BRADYCARDIA (NON-ARREST) *36*

VENTRICULAR TACHYCARDIA (STABLE) *37*

VENTRICULAR TACHYCARDIA (UNSTABLE) *38*

TACHYCARDIA with PULSE (STABLE) Regular Rhythm *39*

TACHYCARDIA with PULSE (STABLE) Irregular Rhythm *40*
TACHYCARDIA with a pulse (UNSTABLE) *41*
POST RESUSCITATION MANAGEMENT *42*
BLS ALGORITHM *44*

ADULT RESPIRATORY **48**
Respiratory Emergencies Assessment *48*
CHRONIC OBSTUCTIVE PULMONARY DISEASE (COPD) & ASTHMA *49*
CONGESTIVE HEART FAILURE *50*

ADULT MEDICAL **51**
CEREBROVASCULAR ACCIDENT (CVA) *51*
Cincinnati Prehospital Stroke Scale: *52*
HYPERGLYCEMIA *53*
HYPOGLYCEMIA *54*
ABDOMINAL PAIN *55*
HYPERTENSION *56*
SEIZURES *57*
UNCONSCIOUS/UNRESPONSIVE *58*
BEHAVORIAL EMERGENCIES *59*
DYSTONIC (Extrapyramidal) REACTION *60*
MILD ALLERGIC REACTION *61*

ADULT SHOCK **62**
ANAPHYLACTIC SHOCK *62*
CARDIOGENIC SHOCK *63*
HYPOVOLEMIC SHOCK *64*

ADULT TRAUMA **65**
SEXUAL ASSAULT *65*
EYE EMERGENCIES *66*
PAIN MANAGEMENT With associated trauma *67*
TRAUMA *68*
CHEST INJURIES *69*
HEAD INJURIES *70*
EXTREMITY TRAUMA *71*
TRAUMATIC AMPUTATION *72*
THERMAL INJURIES *73*
BURN INJURY - INTRAVENOUS THERAPY GUIDELINES 76
BURN CENTER CRITERIA INCLUDE: 76
RULE OF NINES 77

TASER DEPLOYMENT *78*

ADULT ENVIRONMENTAL **80**

NEAR DROWNING *80*

DECOMPRESSION SICKNESS *81*

POISONOUS SNAKE BITE *82*

HYPOTHERMIA *83*

HYPERTHERMIA *84*

ADULT TOXINS/TABLETS **86**

HAZARDOUS CHEMICALS *86*

CARBON MONOXIDE AND TOXIC INHALATION *87*

OVERDOSE AND POISONING *88*
GENERAL INFORMATION 88

Common Medication Types and Descriptions *90*
CENTRAL NERVOUS SYSTEM AGENTS 90
CARDIAC MEDICATIONS 90
HYPOGLYCEMIC AGENTS 90
ANTCOAGULANTS 90
ANTIBIOTICS 90
POISONOUS SUBSTANCES 90

Common Medication Types and Descriptions Continued *91*
BETA BLOCKERS (SOME COMMONLY USED): 91
CALCIUM CHANNEL BLOCKERS (SOME COMMONLY USED): 91
ANTIDEPRESSANTS 92
TRICYCLIC ANTIDEPRESSANTS 92
OTHER CYCLIC ANTIDEPRESSANTS 93
SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI'S) 93
TREATMENT OF TRICYCLIC AND TETRACYCLIC ANTIDEPRESSANT OVERDOSE 94
BETA BLOCKER OVERDOSE TREATMENT 95
CALCIUM CHANNEL BLOCKER OVERDOSE TREATMENT 97
SYMPATHOMIMETIC OVERDOSE (COCAINE, ECT) 98

OBSTETRICS / GYNECOLOGY **99**

LABOR AND DELIVERY *99*
DELIVERED INFANT 101
MECONIUM STAIN 102
NEWBORN RESUSCITATION 103
APGAR SCORE 104
BREECH PRESENTATION DEFINITION 105
LIMB PRESENTATION 106

PREGNANCY INDUCED HYPERTENSION *107*

VAGINAL BLEEDING *109*

PEDIATRIC ASSESSMENT **110**

NEONATIAL ASSESSMENT GUIDELINES *110*

PEDIATRIC RESPIRATORY *111*
RESPIRATORY EMERGENCY ASSESSMENT 111
CROUP 112

SUSPECT EPIGLOTTIS....113
RESPIRATORY DISTRESS - GENERAL....114
RESPIRATORY DISTRESS - ASTHMA....115
TREATMENT....116
RESPIRATORY DISTRESS (STRIDOR)....117
SUSPECTED EPIGLOTTITIS....118
SUSPECTED EPIGLOTTITIS (CONTINUED)....119
HYPERGLYCEMIA....120
HYPOGLYCEMIA....121
SEIZURES....122
CARDIOGENIC SHOCK....123
ANAPHYLACTIC SHOCK....124
HYPOVOLEMIC SHOCK....125
NEUROGENIC SHOCK....126
SEPTIC SHOCK....127
PEDIATRIC PULSELESS ELECTRICAL ACTIVITY (PEA)....128
SUPRAVENTRICULAR TACHYCARDIA (SVT)....129
SYMPTOMATIC BRADYCARDIA....130
VENTRICULAR ASYSTOLE....131
VENTRICULAR FIBRILLATION / VENTRICULAR TACHYCARDIA....132
WITHOUT A PULSE....132
VENTRICULAR TACHYCARDIA....133

PEDIATRIC TRAUMA....*134*
TRAUMA ASSESSMENT....134
PEDIATRIC TRAUMA SCORE (15 years of age & under)....135
PEDIATRIC TRIAGE DECISION SCHEME....136
TRAUMA TREATMENT PRIORITIES....137

PEDIATRIC ENVIRONMENTAL....*138*
THERMAL BURN....138
CHEMICAL EXPOSURE....139
HYPERTHERMIA....141
HYPOTHERMIA....142
NEAR DROWNING....143
POISONOUS SNAKE BITE....144
EZ-IO PROTOCOL PEDIATRIC....145

CIRCUMSTANTIAL INFORMATION....148

PHYSICIAN ON SCENE....*148*

FIELD DETERMINATION OF DEATH....*149*

DNR orders....*150*

Resuscitation initiated prior to EMS arrival.....*150*

Consider termination of resuscitative efforts....*150*

TERMINALLY ILL PATIENTS....*151*

ALS PROCEDURES....152

ADMINISTRATION OF BLOOD PRODUCTS....*152*

ADULT On-Scene Clearance of C-Spine....*153*

PRE-HOSPITAL CHEMICAL RESTRAINT....*154*
CHEMICAL RESTRAINT....156

COMBITUBE (Adults Only)....*157*

EMERGENCY DRUG DOSE CHART *159*
EZ-IO Protocol ADULT *160*
GLUCOSE TESTING *163*
INTRAVENOUS FLUID ADMINISTRATION *164*
LEGAL BLOOD DRAW *165*
MAST TROUSERS (Adult Only) *166*
NASOGASTRIC TUBE PLACEMENT *167*
NASOTRACHEAL INTUBATION *168*
NEEDLE CRICOTHYROTOMY *169*
NEEDLE CHEST DECOMPRESSION *170*
ORAL ENDOTRACHEAL INTUBATION *171*
PULSE OXIMETRY *173*
RAPID SEQUENCE INTUBATION *174*
RECTAL MEDICATION PROCEDURE *177*
SALINE LOCK/INT *178*
STOMAL INTUBATION *179*
SURGICAL CRICOTHYROTOMY *180*
SURGICAL CRICOTHYROTOMY continued *181*
SYNCHRONIZED CARDIOVERSION *182*
TENSION PNEUMOTHORAX *183*
TRANSCUTANEOUS PACING *184*
VAGAL MANEUVERS *185*
12 LEAD EKG *186*
FURTHER SEDATION FOR INTUBATED PATIENTs *187*

AUTOPULSE® **188**

ABREVIATION AND/OR DEFINITION **189**

Handbook Acknowledgment **202**

INTRODUCTION

THE PROCEDURES AND INFORMATION TO FOLLOW ARE PRESENTED IN AN ORDER FOR EASE OF USE.

CARE GUIDELINES AND LEVEL LISTED AS:

BLS CARE: (EMT INTERMEDIATE AND PARAMEDIC/RN-EMT)

-
-

ALS CARE: (PARAMEDIC/RN-EMT)

-
-

CALL IN ORDERS WILL BE BOLD AND UNDERLINED. PATIENT CARE PROTOCOLS LISTED IN THIS MANOR SHALL HAVE ON LINE MEDICAL CONTROL PRIOR TO ADMINISTRATION; EITHER VIA PHONE OR RADIO. APPROVAL MUST BE RECEIVED AND CONFIRMED BEFORE PERFORMING THE PROCEDURE.

IF THE CONSENT OF MEDICAL CONTROL CANNOT BE OBTAINED, OR IN THE EVENT THAT CONTACT CANNOT BE MADE, THE PARAMEDIC/RN-EMT WILL NOT PERFORM THE PROCEDURE IN QUESTION. THE PARAMEDIC WILL CARRY ON WITH ALL OTHER AUTHORIZED PROCEDURES AS APPROPRIATE AND TRANSPORT THE PATIENT TO AN EMERGENCY DEPARTMENT FOR DEFINITIVE CARE.

EMT'S SHALL NOT PERFORM ANY PROCEDURE/SKILL THAT IS LISTED AS OR IS AN ALS PROCEDURE/SKILL.

PARAMEDICS OR RN-EMT'S MUST ASSESS ALL PATIENTS; THIS SHOULD BE DOCUMENTED ON PCR'S THAT ARE COMPLETED BY EMT.

EACH AND EVERY PROTOCOL HAS, AS ITS FIRST DIRECTIVE THE UNWRITTEN FOLLOWING WORDS:

"MAINTAIN UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS". UNIVERSAL PRECAUTIONS ARE WITHIN THE REALM OF THE HOSPITAL ENVIRONMENT. WITHIN THE PRE-HOSPITAL ENVIRONMENT, MOST OF PRE-HOSPITAL EDUCATIONAL DOCTRINE SUGGESTS THAT INDIVIDUALS SHOULD USE "BODY SUBSTANCE ISOLATION" PRECAUTIONS OR A SET OF MUCH MORE STRINGENT PROTECTIVE MEASURES THAN THOSE FOUND IN UNIVERSAL PRECAUTIONS.

THESE INCLUDE: GLOVES, GOWNS, PROTECTIVE EYEWEAR, PROTECTIVE TURNOUT OR EXTRICATION GEAR INCLUDING HELMET, HAZARDOUS MATERIAL SUIT AND MASK WHERE NECESSARY. PERSONNEL SHOULD USE SOUND JUDGMENT AND FOLLOW SOG'S AND PROTOCOLS IN SELECTING THE APPROPRIATE EQUIPMENT.

GENERAL PRINCIPLES

THE FOLLOWING MEASURES SHALL BE APPLIED TO HELP PROMOTE SPEED AND EFFICIENCY WHEN RENDERING EMERGENCY MEDICAL CARE TO THE SICK, ILL, AND INJURED OR INFIRMED. THEY WERE DEVELOPED FOR THE USE OF MONTGOMERY COUNTY EMS PERSONNEL IN THE FIELD.

1. THE SAFETY OF EMS PERSONNEL IS PARAMOUNT TO QUALITY PATIENT CARE. EACH SCENE SHOULD BE PROPERLY EVALUATED FOR HAZARDOUS MATERIALS, FIRE, VIOLENT PATIENTS, ETC. ALSO, ASSESS THE NEED FOR ADDITIONAL EMS SUPPORT.

2. THE FIRST AGENCY ON THE SCENE OF ACCIDENT OR ILLNESS SHALL ESTABLISH COMMAND. RESPONSIBILITY FOR MANAGEMENT OF THE OVERALL SCENE AND MEDICAL COMMAND WILL BE TRANSFERRED TO REPRESENTATIVES OF THE AUTHORITY HAVING JURISDICTION UPON ARRIVAL AS DEFINED BY STATE AND NATIONAL ICS GUIDELINES. FIRE/RESCUE DEPARTMENTS SHALL ROUTINELY MAINTAIN RESPONSIBILITY FOR CONTROLLING ACCIDENT/FIRE/HAZARDOUS MATERIAL SCENES. IT IS THE RESPONSIBILITY OF THE SCENE COMMANDER TO INSURE THE PROPER AND TIMELY UTILIZATION OF RESOURCES TO MEET THE GOALS OF SCENE SAFETY, QUALITY PATIENT CARE, AND RAPID MOVEMENT TO MEDICAL FACILITIES.

3. PROPER BSI MUST BE UTILIZED AT ALL TIMES.

4. FOR ALL CALLS, BE PREPARED FOR IMMEDIATE ALS INTERVENTIONS (E.G., DEFIBRILLATION, AIRWAY MANAGEMENT, DRUG THERAPY ETC.) UPON INITIAL PATIENT CONTACT AND PATIENT TRANSFER, IF APPROPRIATE.

5. DOCUMENT THE “PATIENT CONTACT TIME” FOR ALL CALLS, AND AT THE TIME OF INITIAL DEFIBRILLATION FOR ALL CARDIAC ARREST PATIENTS, AND PATIENT CARE TRANSFER TIME IF APPROPRIATE (E.G. TRANSFER TO LIFEFLIGHT).

6. ALWAYS OBTAIN VERBAL OR OTHER TYPES OF CONSENT PRIOR TO TREATMENT. RESPECT THE PATIENT'S RIGHT TO PRIVACY AND DIGNITY. COURTESY, CONCERN AND COMMON SENSE WILL ASSURE THE PATIENT OF THE BEST POSSIBLE CARE.

7. THE PARAMEDIC SHOULD BE ABLE TO DECIDE WITHIN 3 MINUTES AFTER PATIENT CONTACT IF ADVANCED LIFE SUPPORT (ALS) MEASURES WILL BE NEEDED AND SHOULD BE INSTITUTED ALMOST SIMULTANEOUSLY WITH THE INITIAL ASSESSMENT. A COMPREHENSIVE EXAM IS APPROPRIATE AFTER THE PATIENT HAS BEEN STABILIZED.

8. THE INITIAL ASSESSMENT AND INITIAL THERAPY SHOULD BE COMPLETED

WITHIN THE FIRST 3 MINUTES AFTER PATIENT CONTACT. EXCEPT FOR EXTENSIVE EXTRICATION, OR OTHER SIGNIFICANTLY ATYPICAL SITUATIONS, THE PATIENT SHOULD BE ENROUTE TO A RECEIVING FACILITY WITHIN 15 MINUTES. ADDITIONAL THERAPY, IF INDICATED, SHOULD BE CONTINUED DURING TRANSPORT.

9. FOR ALL CALLS WHERE EMT'S AND PARAMEDICS ARE INVOLVED IN PATIENT CARE, THE PARAMEDIC IS RESPONSIBLE FOR ALL PATIENT CARE AND SHALL BE CONSIDERED LEAD CARE PROVIDER.

10. ALL PATIENTS WHO ARE EVALUATED OR RECEIVE TREATMENT ARE TO BE TRANSPORTED BY EMS TO A RECEIVING FACILITY FOR FURTHER EVALUATION UNLESS THE REFUSAL PROCESS IS EXECUTED.

11. FOR TRAUMA SITUATIONS, A PEDIATRIC PATIENT HAS THE ANATOMICAL AND PHYSICAL CHARACTERISTICS OF A PERSON FIFTEEN (15) YEARS OR YOUNGER.

12. IN CASES OF OUT OF COUNTY, MUTUAL AID RESPONSE, EMS PERSONNEL ARE DIRECTED TO UTILIZE THESE PROTOCOLS IN CONDUCTING PATIENT CARE.

13. AN APPROVED EMS PATIENT CARE SUPPLEMENTAL WILL BE GENERATED BY THE CONCLUSION OF EACH PATIENT ENCOUNTER. THIS REPORT SHALL BE LEFT WITH THE RECEIVING FACILITY AT THE TIME OF TRANSPORT. NO COPIES OF PATIENT INFORMATION WILL BE GIVEN TO ANYONE OTHER THAN PERSONNEL AUTHORIZED WITHOUT WRITTEN PERMISSION FROM YOUR SUPERVISOR AND THE PATIENT OR VIA COURT ORDER.

14. ALL PATIENTS ARE AUTHORIZED ONLY TO BE TRANSPORTED TO MONTGOMERY COUNTY AND FORT CAMPBELL HOSPITAL EMERGENCY DEPARTMENTS WITH THE EXCEPTION OF CALLS MADE IN SOUTH CLARKSVILLE NEAR THE COUNTY LINE. THESE PATIENTS MAY BE TRANSPORTED TO ANOTHER APPROPRIATE FACILITY, AFTER CONTACT WITH MEDICAL CONTROL AND A SUPERVISOR HAS BEEN ESTABLISHED. *DETAILS CONCERNING THE MOST APPROPRIATE HOSPITAL ARE BASED ON PATIENT REQUEST, CLINICAL EVALUATIONS AND TN DESTINATION GUIDELINES.*

15. FOR CASES THAT DO NOT FIT EXACTLY INTO A TREATMENT CATEGORY, PERFORM GENERAL ILLNESS PROTOCOL AND CONTACT ON-LINE MEDICAL CONTROL AS NEEDED.

16. EMS PERSONNEL **SHALL OBTAIN** INFORMATION PERTINENT TO THE PATIENT'S IDENTIFICATION, PATIENT ASSESSMENT AND CARE PROVIDED

TO THE PATIENT FROM THE FIRST RESPONDERS.

17. THE FOLLOWING INFORMATION SHOULD BE PROVIDED TO THE EMERGENCY DEPARTMENT ON THE SUPPLEMENTAL FORM OF THE PCR
    - SUBJECTIVE - THE PATIENT'S CHIEF COMPLAINT(S), AND HISTORY OF PRESENT ILLNESS (INCLUDING HISTORY OF EVENTS SURROUNDING CALL).
    - OBJECTIVE – VITAL SIGNS, PHYSICAL FINDINGS PERTINENT TO CHIEF COMPLAINT (E.G. DOCUMENT HEART AND LUNG EXAM IF CHEST PAIN, ABDOMINAL EXAM IF ABDOMINAL PAIN, NEUROLOGIC EXAM IF NEUROLOGIC COMPLAINT ETC.).
    - ASSESSMENT – WHAT IS THE EMT/PARAMEDIC'S CLINICAL IMPRESSION (WHAT IS THE WORKING DIAGNOSIS? THIS CAN BE THE CHIEF COMPLAINT – CHEST PAIN).
    - PLAN – WHAT PROTOCOL(S) IS/ARE FOLLOWED OR TREATMENT IS ADMINISTERED.
    - PREHOSPITAL TREATMENT – WHAT ASSESSMENT AND MANAGEMENT WAS PERFORMED AND HOW DID THE PATIENT RESPOND?

CONSIDERATIONS

1. DETERMINE ACUITY OF THE PATIENT'S CHIEF COMPLAINT, ILLNESS, OR INJURY.

2. IF NON LIFE-THREATENING:
    - TRANSPORT THE PATIENT TO HOSPITAL OF THE PATIENT'S CHOICE (GHS OR BACH).
    - IF THE PATIENT IS UNABLE TO MAKE SUCH A JUDGMENT (MINORS, ETC.), TRANSPORT THE PATIENT TO THE HOSPITAL OF CHOICE OF AN APPROPRIATE PARTY ACTING ON BEHALF OF THE PATIENT (PARENT, ETC.).
    - IF THE PATIENT EXPRESSES NO CHOICE AND IF NO OTHER APPROPRIATE PARTY IS AVAILABLE OR HAS REASON TO ACT ON BEHALF OF THE PATIENT, TRANSPORT THE PATIENT TO THE CLOSEST APPROPRIATE FACILITY.

2. IF LIFE-THREATENING:
    - TRANSPORT THE PATIENT TO THE CLOSEST APPROPRIATE FACILITY.
    - PROVIDE THE RECEIVING HOSPITAL WITH A BRIEF PATIENT REPORT VIA RADIO AS SOON AS POSSIBLE
        - FIELD PERSONNEL MAY RELAY TO THE DISPATCHER OR OTHER COMMUNICATIONS CENTER VIA RADIO THAT A TRAUMA/MEDICAL PATIENT MEETS THE DESTINATION GUIDELINES CRITERIA AND WILL BE TRANSPORTED TO THE NEAREST PELA SITE. THE DISPATCH CENTER WILL THEN NOTIFY VANDERBILT LIFEFLIGHT OR AIREVAC BY TELEPHONE AND RELAY AN ESTIMATED TIME OF ARRIVAL TO THE PELA.
        - RADIO COMMUNICATION FROM FIELD EMS PERSONNEL WILL INCLUDE BUT NOT BE LIMITED TO THE INFORMATION BELOW:
            - MECHANISM OF INJURY, TYPE OF INJURY, OR MEDICAL ILLNESS.
            - VITAL SIGNS & GCS (ITEMIZED)
            - ETA (GROUND OR AIR).
            - SECOND SET OF VITAL SIGNS AND GCS (WHEN AVAILABLE).

3. NO PRE-HOSPITAL CARE PROVIDER IS TO INFLUENCE THE CHOICE OF HOSPITAL IN ANY WAY; NOR IS ANY PRE-HOSPITAL CARE PROVIDER TO ASSUME THAT ANY HOSPITAL CANNOT OFFER ITS USUAL RANGE OF SERVICES AND PREFERENTIALLY DIVERT PATIENTS TO SELECTED FACILITIES.

4. THE PARAMEDIC RESERVES THE RIGHT TO DETERMINE WHICH FACILITY IS CLOSEST CONSIDERING MILEAGE, TRANSPORT TIMES, TRAFFIC PATTERNS AND DENSITY, AND ZONE WHERE INCIDENT OCCURRED.

5. THE TRANSPORTING PARAMEDIC WILL DOCUMENT SPECIFICS ABOUT THE

HOSPITAL DESTINATION SELECTION IN THE RUN REPORT.

6. ANY PATIENT RECEIVING A MEDICATION INITIATED BY AN EMT SHALL BE PLACED ON THE CARDIAC MONITOR DURING TRANSPORT.

ASSESSMENT

THE PURPOSE OF THE INITIAL ASSESSMENT IS TO DETECT LIFE-THREATENING PROBLEMS. THE PRIMARY SURVEY BEGINS AS YOU APPROACH THE SCENE.

ALL PATIENTS SHOULD BE ASSESSED BY THE ATTENDING PARAMEDIC

1. SURVEY THE SCENE AND LOCATION OF THE PATIENT
   - THE PRIME CONCERN IS THE SAFETY OF ONE'S SELF AND FOR THE PATIENT. LOOK FOR HAZARDOUS CONDITIONS THAT MAY BE PRESENT, I.E., FIRE, ELECTRICAL WIRES, POSSIBILITY OF EXPLOSION, ETC.
   - LOOK FOR SIGNS THAT MAY IDENTIFY THE MECHANISMS OF INJURY AND SUGGEST INJURED AREAS ON THE PATIENT.
   - IDENTIFY YOURSELF AND SEEK PERMISSION TO EXAMINE AND TREAT THE PATIENT.
2. SIMULTANEOUSLY SURVEY THE PATIENT
   - DETERMINE PATIENT'S LEVEL OF CONSCIOUSNESS.
   - DETERMINE RISE AND FALL OF PATIENT'S CHEST.
   - LOOK FOR PROFUSE BLEEDING AND (OR) BLOOD SOAKED CLOTHING.
   - LOOK FOR OBVIOUS DEFORMITY OR UNNATURAL ANGULATIONS OF THE EXTREMITIES.

INITIAL ASSESSMENT

ALL PATIENT ENCOUNTERS WILL BE CHARACTERIZED BY USE OF THE INITIAL ASSESSMENT (PRIMARY SURVEY) AND FOCUSED HISTORY AND EXAMINATION (SECONDARY SURVEY).

3. INITIAL ASSESSMENT (PRIMARY SURVEY)
   - SCENE SURVEY
   - IDENTIFY PATIENT NUMBERS, PATIENT LOCATIONS, AND ANY HAZARDOUS CONDITIONS ON THE SCENE.
   - IDENTIFY SIGNS THAT MAY CLARIFY MECHANISMS OF INJURY OF ILLNESS.
   - IDENTIFY SELF TO PATIENT AND SEEK PERMISSION FOR CARE.
   - PATIENT ASSESSMENT
   - ESTABLISH STATUS OF AIRWAY AND CERVICAL SPINE
     A) MAINTAIN AIRWAY AS REQUIRED
        - JAW THRUST MANEUVER
        - ORAL OR NASAL AIRWAYS
        - OROPHARYNGEAL COMBITUBE
        - ENDOTRACHEAL INTUBATION

     B) MAINTAIN CERVICAL SPINE INTEGRITY
        - IF CERVICAL INJURY IS SUSPECTED, DO NOT MOVE THE HEAD.
          - CERVICAL SPINE IMMOBILIZATION AND STABILIZATION

SHOULD BE PERFORMED IMMEDIATELY. IF PATIENT IS CONSCIOUS, INSTRUCT NOT TO MOVE.

C) ESTABLISH PRESENCE, RATE, AND QUALITY OF RESPIRATIONS. IF RESPIRATION'S ARE ABSENT, INITIATE VENTILATORY SUPPORT SECURE AIRWAY
   - BAG-VALVE-MASK VENTILATION
   - ESTABLISH PRESENCE, RATE, AND QUALITY OF RESPIRATIONS

   IF RESPIRATIONS ARE PRESENT, ASSESS FOR PRESENCE OF RESPIRATORY DISTRESS
   - ADMINISTER OXYGEN AS APPROPRIATE
   - NASAL CANNULA
   - SIMPLE FACE MASK
   - VENTURI MASK
   - NON-REBREATHING MASK
   - BAG-VALVE VENTILATION

D) IDENTIFY AND CORRECT REVERSIBLE CAUSES OF RESPIRATORY DISTRESS
   - TENSION PNEUMOTHORAX
   - BRONCHOSPASM FROM ASTHMA/COPD
   - CHEST WOUND OR FLAIL CHEST

E) ESTABLISH PRESENCE OF EFFECTIVE CIRCULATION
   - IDENTIFY PRESENCE, RATE, AND QUALITY OF PULSE
   - IF CAROTID PULSE ABSENT, INITIATE CPR
   - IF PULSES PRESENT, ASSESS SYSTOLIC BLOOD PRESSURE
   - IF CAROTID PULSE PRESENT, SBP > 60 MMHG
   - IF FEMORAL PULSE PRESENT, SBP > 70 MMHG
   - IF RADIAL PULSE PRESENT, SBP > 80 MMHG

F) ASSESS CAPILLARY REFILL. IF CAPILLARY REFILL DOES NOT OCCUR WITHIN TWO (2) SECONDS, CIRCULATION MAY BE IMPAIRED.

G) CONTROL EXTERNAL HEMORRHAGE WITH DIRECT PRESSURE

H) ASSESS NEUROLOGIC FUNCTION

I) AVPU ASSESSMENT OF RESPONSE

J) REQUEST MOTION OF HANDS/FEET

K) CALCULATION OF INITIAL GLASGOW COMA SCORE

L) EXPOSE AND EXAMINE AND SITE OF PATIENT INJURY OR COMPLAINT

M) FORMALLY ASSESS AND RECORD VITAL SIGNS (PULSE, RESPIRATORY RATE, BLOOD PRESSURE, AND OXYHEMOGLOBIN SATURATION)

THE FOCUSED HISTORY AND EXAM: PROCEDURE

THE OBJECTIVE OF THE FOCUSED HISTORY AND EXAMINATION (SECONDARY SURVEY) IS TO DISCOVER MEDICAL AND INJURY RELATED PROBLEMS THAT DO NOT POSE AN IMMEDIATE THREAT TO PATIENT SURVIVAL, BUT MAY DO SO IF ALLOWED TO GO UNTREATED. THE SECONDARY SURVEY IS COMPOSED OF THE SUBJECTIVE INTERVIEW AND THE OBJECTIVE EXAMINATION. THESE TASKS MAY BE PERFORMED CONCURRENTLY.

A) SUBJECTIVE INTERVIEW
B) GAIN ESSENTIAL INFORMATION RELATIVE TO THE PATIENT'S CONDITION, BY QUESTIONING THE PATIENT, IF CONSCIOUS; OR BYSTANDERS AND/OR RELATIVES IF THE PATIENT IS UNCONSCIOUS.
C) OBJECTIVE EXAMINATION
D) THIS IS A COMPREHENSIVE HANDS-ON HEAD-TO-TOE SURVEY. THE FINDINGS ARE COMBINED AND RELATED TO ALLOW YOU TO MAKE AN ASSESSMENT OF YOUR PATIENT'S CONDITION AND FORM A PLAN OF EMERGENCY CARE.
E) SAMPEL HISTORY - SEE PAGE 11
F) PHYSICAL EXAMINATION
G) FACE
H) HEAD
I) SCALP (TENDERNESS, DEFORMITIES, FOREIGN BODIES, SIGNS OF TRAUMA)
J) EARS (CSF LEAKAGE, BATTLE SIGN)
K) EYES (PUPIL EQUALITY, DIAMETER, REACTIVITY, RACCOON EYES)
L) NOSE (SIGNS OF TRAUMA, CSF LEAK)
M) MOUTH (FOREIGN BODIES, TRAUMA, BLOOD, ODOR OF BREATH)
N) NECK
O) ANTERIOR (TRACHEAL DEVIATION, JVD, STOMAL OPENINGS, WOUNDS, PRESENCE OF MEDIC ALERT TAGS)
P) POSTERIOR (VERTEBRAL TENDERNESS, DEFORMITY, WOUNDS)
Q) TRUNK (SIGNS OF TRAUMA, INSTABILITY, RESPIRATORY EXCURSION, RESPIRATORY EFFORT, RESPIRATORY RATE, LUNG SOUNDS, PARADOXICAL CHEST WALL MOTION, SUBCUTANEOUS EMPHYSEMA)
R) ABDOMEN (TENDERNESS, MASSES, RIGIDITY, DISTENSION, SIGNS OF TRAUMA)
S) PELVIS AND HIPS (PELVIC STABILITY, TENDERNESS, SIGNS OF TRAUMA, HIP POSITION AND EXTREMITY ROTATION
T) BACK AND SPINE (SIGNS OF TRAUMA, TENDERNESS, DEFORMITY, INSTABILITY)
U) EXTREMITIES (DEFORMITY, EDEMA, TENDERNESS, SIGNS OF TRAUMA, DISTAL NEUROVASCULAR AND MUSCULOSKELETAL FUNCTION, PRESENCE OF MEDIC ALERT TAGS, CONSTRICTING BANDS OF CLOTHING)
V) NEUROLOGIC (REVIEW AVPU STATUS, GCS, ABILITY TO MOVE

THE FOCUSED HISTORY AND EXAM: PROCEDURE CONTINUED

EXTREMITIES)
W) SKIN (COLOR, TEMPERATURE AND MOISTURE)

SPECIAL NOTES

- ALL PATIENTS WILL BE ASSESSED BY THE ATTENDING PARAMEDIC
- THE INITIAL ASSESSMENT TAKES PRECEDENCE OVER ALL OTHER PROCEDURES UNLESS HAZARDOUS CONDITIONS ARE PRESENT. THE PRIMARY SURVEY SHOULD TAKE NO MORE THAN 30 SECONDS TO COMPLETE.
- IF THE PATIENT IS SUFFERING FROM A LIFE-THREATENING CONDITION, TREAT APPROPRIATELY AND TRANSPORT IMMEDIATELY TO AN APPROPRIATE RECEIVING FACILITY. THE FOCUSED HISTORY AND EXAMINATION MAY BE INITIATED DURING TRANSPORT.
- ALWAYS EXPLAIN TO THE PATIENT WHAT IS TAKING PLACE. REQUEST THE PATIENT INFORM THE PROVIDER OF ANY PAIN AND/OR DISCOMFORT. IN PATIENTS WHO LACK EFFECTIVE MEANS OF VERBAL COMMUNICATION, WATCH THE FACE FOR REACTION TO PAIN.
- ANSWER PATIENT INQUIRES IN A POSITIVE AND REASSURING FASHION. DO NOT FRIGHTEN, INTIMIDATE, OR JUDGE THE PATIENT.
- REMOVE CLOTHING AS REQUIRED FOR COMPLETE ASSESSMENT. DISCRETION IS ENCOURAGED, BUT EXPOSURE WILL ALWAYS BE DICTATED BY CLINICAL NEEDS.
- ANY FOREIGN BODIES SHOULD BE STABILIZED IN PLACE. REMOVAL IS ONLY INDICATED FOR FOREIGN BODIES IN THE AIRWAY.
- PATIENT TRANSPORT MAY NOT BE DELAYED IN ORDER TO ACCOMPLISH THE COMPLETE SECONDARY SURVEY.
- THE ENTIRE PATIENT EXAMINATION SHOULD TAKE FROM ONE (1) TO THREE (3) MINUTES.
- BLOOD PRESSURE SHOULD BE PERFORMED ON ALL PATIENTS GREATER THAN 3 YRS OF AGE.
  EVERY 5 MINUTES FOR CRITICAL PATIENTS, AFTER MED DOSES, EVERY 15 MINUTES FOR NON CRITICAL, AND ON INTER-FACILITY TRANSFERS. A MINIMUM OF 2 SETS OF VITAL SIGNS SHOULD BE OBTAINED ON ALL PATIENT TRANSPORTS

THIS PROTOCOL IS MEANT TO SERVE AS A GUIDELINE FOR COMPLETE AND COMPREHENSIVE PATIENT ASSESSMENT. RARELY WILL A PARAMEDIC PERFORM AN EXAMINATION OF THIS DEPTH. THE PARAMEDIC WILL CONCENTRATE HIS OR HER EXAMINATION BASED UPON THE COMPLAINT(S) OF THE PATIENT.

SAMPLE HISTORY

S – SYMPTOMS
A - ALLERGIES
M - MEDICATIONS
P - PAST MEDICAL HISTORY
L- LAST MEAL
E - EVENTS JUST PRIOR TO ILLNESS OR INJURY

OPQRST

O – ONSET
P – PROVOKES
Q – QUALITY
R – RADIATES
S – SEVERITY
T – TIME

AVPU NEUROLOGIC EXAMINATION: ALERT; SPEAKS AND MOVES SPONTANEOUSLY
RESPONDS TO VERBAL STIMULI
RESPONDS TO PAINFUL STIMULI
UNRESPONSIVE

CHECK FOR CEREBROSPINAL FLUID DRAINAGE FROM THE EARS AND NOSE, (WHICH MIGHT INDICATE A BASILAR SKULL FRACTURE). IF PRESENT, DO NOT STOP DRAINAGE. FLUID MAY BE CLEAR OR MIXED WITH BLOOD.
CHECK PUPILS BY SHINING LIGHT INTO EACH ONE. CHECK FOR EQUALITY AND LIGHT REACTIVITY.

CHECK FOR ANY EYE INJURIES. NOTE THAT UP TO 20% OF PEOPLE HAVE PUPILS WHICH ARE NORMALLY UNEQUAL IN SIZE.

GENTLY PALPATE ON UPPER AND LOWER ABDOMEN. CHECK ALL FOUR (4) QUADRANTS. CHECK FOR RIGIDITY, DISTENSION AND (OR) PAIN. CHECK FOR MASSES.

EXERT LATERAL PRESSURE ON HIPS BY PLACING YOUR HANDS ON THE PATIENT'S HIPS AND GENTLY PRESSING INWARD AND DOWNWARD TOWARD THE MIDLINE FOR PELVIC FRACTURE. IF PAIN AND (OR) DEFORMITY IS PRESENT, SUSPECT AN INJURY.
ASSESSMENT SHOULD STOP IF PAINFUL RESPONSE IS RECEIVED.

TO EXAMINE THE LUMBAR AND THORACIC SPINE, REACH AS FAR UNDER THE PATIENT AS POSSIBLE WITH PALMS UPWARD. CURL FINGERS UPWARD TO EXERT PRESSURE ON THE SPINAL REGION. IF PAIN AND (OR) DEFORMITY IS PRESENT, SUSPECT AN INJURY. ASSESSMENT SHOULD STOP IF PAINFUL RESPONSE IS RECEIVED

EXAMINE THE EXTREMITIES ONE AT A TIME. USE BOTH HANDS WITH THUMBS TOGETHER TO ENCIRCLE THE LIMB. EXERT FIRM PRESSURE AND FEEL FOR DEFORMITIES AND (OR) PAIN; GRASP PROXIMAL AND DISTAL ENDS OF LONG BONES TO FEEL FOR CREPITUS OR LISTEN FOR COMPLAINTS OF PAIN. . IF PAIN AND (OR) DEFORMITY IS PRESENT, SUSPECT AN INJURY. ASSESSMENT SHOULD STOP IF PAINFUL RESPONSE IS RECEIVED.

CAPILLARY REFILL

CAPILLARY REFILL SHOULD BE ASSESSED BY PRESSING ON THE NAIL BEDS AND COUNTING THE SECONDS UNTIL RETURN OF COLOR.

CAPILLARY REFILL MAY BE FALSELY IMPAIRED BY THE PRESENCE OF PERIPHERAL VASCULAR DISEASE, COPD, DIABETES, CARBON MONOXIDE INTOXICATION, AND SMOKING; ALSO DARK NAIL POLISH. IT MAY BE FALSELY NORMAL IN PATIENTS WITH FOCAL EXTREMITY VASCULAR CONGESTION.

TREATMENT PRIORITIES

TWO LEVELS OF TREATMENT PRIORITIES ARE IDENTIFIED:

- CRITICAL (LIFE THREATENING) CONDITIONS MUST BE TREATED IMMEDIATELY.
- SERIOUS (POTENTIALLY LIFE-THREATENING OR DISABLING) CONDITIONS MUST BE MANAGED AS SOON AS CRITICAL CONDITIONS ARE STABILIZED.

CRITICAL CONDITIONS OFTEN REQUIRE CARDIOPULMONARY RESUSCITATION TECHNIQUES AND INCLUDE THE FOLLOWING:

- AIRWAY (COMPROMISE OR OBSTRUCTION)
- BREATHING (RESPIRATORY FAILURE OR RESPIRATORY ARREST)
- CIRCULATION (PROBLEMS WITH CARDIAC OUTPUT OR CARDIAC RHYTHM)
- EXSANGUINATING HEMORRHAGE (MASSIVE BLEEDING, EXTERNAL OR INTERNAL)

SERIOUS CONDITIONS INCLUDE THE FOLLOWING:

- DISTURBANCE OF CONSCIOUSNESS (COMA OR SEMI-COMA)
- RESPIRATORY DISTRESS (SHORTNESS OF BREATH)
- SYMPTOMATIC CARDIAC DYSRHYTHMIAS
- ACTIVE HEMORRHAGE (BLEEDING)
- TOXIC DRUG OVERDOSE OR POISONING
- ACTIVE SEIZURES
- DEFORMING INJURIES SUCH AS BURNS, PENETRATING WOUNDS, FRACTURES OR OTHER MAJOR TRAUMA
- CHEST PAIN

DESTINATION DETERMINATION

SICK OR INJURED PERSONS WHO ARE IN NEED OF TRANSPORT TO A HEALTH CARE FACILITY BY A GROUND OR AIR AMBULANCE REQUIRING LICENSURE BY THE STATE OF TENNESSEE SHOULD BE TRANSPORTED ACCORDING TO THESE DESTINATION RULES.

1) TRAUMA PATIENTS - THE GOAL OF THE PRE-HOSPITAL COMPONENT OF THE TRAUMA SYSTEM AND DESTINATION GUIDELINES IS TO MINIMIZE INJURY THROUGH SAFE AND RAPID TRANSPORT OF THE INJURED PATIENT. THE PATIENT SHOULD BE TAKEN DIRECTLY TO THE CENTER MOST APPROPRIATELY EQUIPPED AND STAFFED TO HANDLE THE PATIENT'S INJURY AS DEFINED BY THE REGION'S TRAUMA SYSTEM. THESE DESTINATIONS SHOULD BE CLEARLY IDENTIFIED AND UNDERSTOOD BY REGIONAL PREHOSPITAL PERSONNEL AND SHOULD BE DETERMINED BY TRIAGE PROTOCOLS OR BY DIRECT MEDICAL DIRECTION. AMBULANCES SHOULD BYPASS THOSE FACILITIES NOT IDENTIFIED BY THE REGION'S TRAUMA SYSTEM AS APPROPRIATE DESTINATIONS, EVEN IF THEY ARE CLOSEST TO THE INCIDENT.
2) BEGINNING NO LATER THAN SIX (6) MONTHS AFTER THE DESIGNATION OF A TRAUMA CENTER IN ANY REGION, PERSONS IN THAT REGION, WHO ARE IN NEED OF TRANSPORT WHO HAVE BEEN INVOLVED IN A TRAUMATIC INCIDENT AND WHO ARE SUFFERING FROM TRAUMA OR A TRAUMATIC INJURY AS A RESULT THEREOF AS DETERMINED BY TRIAGE AT THE SCENE, SHOULD BE TRANSPORTED ACCORDING TO THE FOLLOWING RULES.
   A) ADULT (GREATER THAN OR EQUAL TO FIFTEEN (15) YEARS OF AGE) AND PEDIATRIC (LESS THAN FIFTEEN (15) YEARS OF AGE) TRAUMA PATIENTS WILL BE TRIAGED AND TRANSPORTED ACCORDING TO THE FLOW CHART LABELED "FIELD TRIAGE DECISION SCHEME" IN "RESOURCES FOR OPTIMAL CARE OF THE INJURED PATIENT: 1999," OR ANY SUCCESSOR PUBLICATION. THE PEDIATRIC TRAUMA SCORE SHALL BE USED AS PUBLISHED IN "BASIC TRAUMA LIFE SUPPORT FOR PARAMEDICS AND OTHER ADVANCED EMS PROVIDERS," FOURTH EDITION, 2000. COPIES OF THE CHARTS ARE AVAILABLE FROM THE DIVISION.
      I) STEP ONE AND STEP TWO PATIENTS SHOULD GO TO A LEVEL 1 TRAUMA CENTER OR COMPREHENSIVE REGIONAL PEDIATRIC CENTER (CRPC), EITHER INITIALLY OR AFTER STABILIZATION AT ANOTHER FACILITY. EMS FIELD PERSONNEL MAY INITIATE AIR AMBULANCE RESPONSE.

      II) STEP ONE OR STEP TWO PEDIATRIC PATIENTS SHOULD BE TRANSPORTED TO A COMPREHENSIVE REGIONAL PEDIATRIC CENTER (CRPC) OR TO AN ADULT LEVEL 1 TRAUMA CENTER IF NO CRPC IS AVAILABLE. LOCAL DESTINATION GUIDELINES SHOULD ASSURE THAT

IN REGIONS WITH TWO CRPC'S OR ONE CRPC AND ANOTHER FACILITY WITH LEVEL 1 ADULT TRAUMA CAPABILITY THAT SERIOUSLY INJURED CHILDREN ARE CARED FOR IN THE FACILITY MOST APPROPRIATE FOR THEIR INJURIES.

III) FOR PEDIATRIC PATIENTS, A PEDIATRIC TRAUMA SCORE OF LESS THAN OR EQUAL TO 8 (<8) WILL BE CONSIDERED AS A CUTOFF LEVEL FOR STEP ONE PATIENTS.

IV) LOCAL OR REGIONAL TRAUMA MEDICAL CONTROL MAY ESTABLISH CRITERIA TO ALLOW FOR NO TRANSPORT OF CLEARLY UNINJURED PATIENTS.

V) TRAUMA MEDICAL CONTROL WILL DETERMINE PATIENT DESTINATIONS WITHIN THIRTY (30) MINUTES BY GROUND TRANSPORT OF A LEVEL 1 TRAUMA CENTER OR CRPC.

(1) EXCEPTIONS APPLY IN THE FOLLOWING CIRCUMSTANCES:

(A) FOR GROUND AMBULANCES, WHEN TRANSPORT TO A LEVEL I TRAUMA CENTER WILL EXCEED THIRTY (30) MINUTES, TRAUMA MEDICAL CONTROL WILL DETERMINE THE PATIENT'S DESTINATION. IF TRAUMA MEDICAL CONTROL IS NOT AVAILABLE, THE PATIENT SHOULD BE TRANSPORTED TO THE CLOSEST APPROPRIATE MEDICAL FACILITY.

(B) FOR AIR AMBULANCES, STEP ONE PATIENTS WILL BE TRANSPORTED TO THE MOST RAPIDLY ACCESSIBLE LEVEL I TRAUMA CENTER, TAKING SAFETY AND OPERATIONAL ISSUES INTO CONSIDERATION. STEP TWO, THREE, AND FOUR PATIENTS WILL BE TRANSPORTED TO A LEVEL I TRAUMA CENTER AS DETERMINED BY THE AIR AMBULANCE'S MEDICAL CONTROL. THE FLIGHT CREW WILL MAKE DETERMINATION OF PATIENT STATUS ON ARRIVAL OF THE AIR AMBULANCE.

(C) AIR AMBULANCES WILL NOT TRANSPORT CHEMICAL OR RADIATION CONTAMINATED PATIENTS PRIOR TO DECONTAMINATION.

(D) IF THE TRAUMA CENTER CHOSEN AS THE PATIENT'S DESTINATION IS OVERLOADED AND CANNOT TREAT THE PATIENT, TRAUMA MEDICAL CONTROL SHALL DETERMINE THE PATIENT'S DESTINATION. IF TRAUMA MEDICAL CONTROL IS NOT AVAILABLE, THE PATIENT'S DESTINATION SHALL BE DETERMINED PURSUANT TO REGIONAL OR LOCAL DESTINATION GUIDELINES.

(2) A TRANSPORT MAY BE DIVERTED FROM THE ORIGINAL DESTINATION:

(I) IF A PATIENT'S CONDITION BECOMES UNMANAGEABLE OR EXCEEDS THE CAPABILITIES OF THE TRANSPORTING UNIT; OR

(II) IF TRAUMA MEDICAL CONTROL DEEMS THAT TRANSPORT TO A LEVEL I TRAUMA CENTER IS NOT NECESSARY.

(III) UTILIZATION OF ANY OF THE EXCEPTIONS LISTED ABOVE SHOULD PROMPT REVIEW OF THAT TRANSPORT BY THE QUALITY IMPROVEMENT PROCESS AND THE MEDICAL DIRECTOR OF THE INDIVIDUAL EMS PROVIDERS.

(IV) TRAUMA MEDICAL CONTROL CAN BE ACCOMPLISHED BY A TRAUMA OR EMERGENCY PHYSICIAN ON DUTY AT A DESIGNATED TRAUMA CENTER OR BY PROTOCOLS ESTABLISHED IN CONJUNCTION WITH A REGIONAL LEVEL I TRAUMA CENTER.

3) PEDIATRIC MEDICAL EMERGENCY - PEDIATRIC PATIENTS REPRESENT A UNIQUE PATIENT POPULATION WITH SPECIAL CARE REQUIREMENTS IN ILLNESS AND INJURY. TENNESSEE HAS A COMPREHENSIVE DESTINATION SYSTEM FOR EMERGENCY CARE FACILITIES IN REGARDS TO PEDIATRIC PATIENTS WHERE THERE ARE VARIABLE LEVELS OF AVAILABLE CARE, AS DEFINED IN RULE 1200-8-30-.01.
   (A) THERE ARE CIRCUMSTANCES IN PEDIATRIC EMERGENCY CARE AS DETERMINED BY LOCAL MEDICAL CONTROL WHERE IT WOULD BE APPROPRIATE TO BYPASS A BASIC OR A PRIMARY CARE FACILITY FOR A GENERAL OR COMPREHENSIVE REGIONAL PEDIATRIC CENTER.
      (I) EXAMPLES OF SUCH CIRCUMSTANCES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING
         (I) ON-GOING SEIZURES
         (II) A POORLY RESPONSIVE INFANT OR LETHARGIC CHILD
         (III) CARDIAC ARREST
         (IV) SIGNIFICANT TOXIC INGESTION HISTORY
         (V) PROGRESSIVE RESPIRATORY DISTRESS (CYANOSIS)
         (VI) MASSIVE GASTROINTESTINAL (GI) BLEED
         (VII) LIFE THREATENING DYSRHYTHMIAS
         (VIII) COMPROMISED AIRWAY
         (IX) SIGNS OR SYMPTOMS OF SHOCK
         (X) SEVERE RESPIRATORY DISTRESS
         (XI) RESPIRATORY ARREST
         (XII) FEBRILE INFANT LESS THAN TWO MONTHS OF AGE.
            A. PEDIATRIC MEDICAL EMERGENCY TRANSPORT MAY BE DIVERTED FROM THE ORIGINAL DESTINATION IF
               I. THE PATIENT'S CONDITION BECOMES UNMANAGEABLE OR EXCEEDS THE CAPABILITY OF THE TRANSPORTING UNIT, IN WHICH CASE THE PATIENT SHOULD BE TREATED AT THE CLOSEST FACILITY.
   (B) PEDIATRIC MEDICAL EMERGENCY AIR AMBULANCE TRANSPORTS MUST GO TO A COMPREHENSIVE REGIONAL PEDIATRIC CENTER.
   (C) PEDIATRIC TRAUMA PATIENTS SHOULD BE TAKEN TO TRAUMA FACILITIES AS PROVIDED IN PARAGRAPH (2).
4) ANY PATIENT WHO DOES NOT QUALIFY FOR TRANSPORT TO A TRAUMA CENTER OR A COMPREHENSIVE REGIONAL PEDIATRIC CENTER SHOULD BE TRANSPORTED TO THE MOST APPROPRIATE FACILITY IN ACCORDANCE WITH REGIONAL OR LOCAL DESTINATION GUIDELINES.
5) ADULTS OR CHILDREN WITH SPECIALIZED HEALTHCARE NEEDS BEYOND THOSE ALREADY ADDRESSED SHOULD HAVE THEIR DESTINATION DETERMINED BY MEDICAL OR TRAUMA CONTROL, BY REGIONAL OR LOCAL GUIDELINES, OR BY PREVIOUS

ARRANGEMENT ON THE PART OF PATIENT (OR HIS/HER FAMILY OR PHYSICIAN).

6) A TRANSPORT MAY BE REFUSED OR AN ALTERNATE DESTINATION REQUESTED. IF SO, NON-TRANSPORT OF THE PATIENT, OR TRANSPORT OF THE PATIENT TO AN ALTERNATE DESTINATION SHALL NOT VIOLATE THIS RULE AND SHALL NOT CONSTITUTE REFUSAL OF CARE.

CONSENT

THE PREHOSPITAL PROVIDER WILL ATTEMPT TO OBTAIN VERBAL CONSENT FROM THE PATIENT PRIOR TO TREATMENT. THE PATIENT'S RIGHTS TO PRIVACY AND DIGNITY WILL BE CONTINUOUSLY RESPECTED.

MINORS

• MINORS ARE DEFINED IN TENNESSEE AS BEING LESS THAN EIGHTEEN (18) YEARS OLD.
• LAW DOES NOT ALLOW A MINOR ALLOWED TO ACCEPT OR REFUSE TREATMENT.

EXCEPTIONS

• A MINOR WHO IS MARRIED
• A MINOR NOT LIVING IN THEIR PARENT'S HOME **MAY** BE LEGALLY CONSIDERED AN
"EMANCIPATED MINOR".

DO NOT TRANSPORT

IF FOR ANY REASON A PATIENT REFUSES SERVICES AND TRANSPORTATION TO A MEDICAL FACILITY, A RELEASE OF MEDICAL RESPONSIBILITY IS TO BE OBTAINED BY THE ATTENDING PARAMEDIC. THE RELEASE WILL BE SIGNED BY THE PATIENT AND WITNESSED BY ANOTHER PARTY.

- DOCUMENT MECHANISM OF INJURY OR CIRCUMSTANCES OF ILLNESS
- DOCUMENT PERTINENT PAST HISTORY
- PERFORM VITAL SIGNS AND PROBLEM DIRECTED EXAM
- DOCUMENT VERBALIZATION OF UNDERSTANDING OF RISKS OF NO TRANSPORT

ANY PATIENT RECEIVING TREATMENT OR CARE IN THE FIELD THAT REFUSES TRANSPORT MUST HAVE MEDICAL CONTROL AND SUPERVISOR CONTACT PRIOR TO LEAVING THE SCENE.

THE FOLLOWING MAY NOT REFUSE TRANSPORT:

- PATIENTS WITH IMPAIRED JUDGMENT.
- PATIENTS THAT HAVE ATTEMPTED SUICIDE.
- PATIENTS THAT ARE ONLY THREATENING SUICIDE MAY BE TRANSPORTED BY A LAW ENFORCEMENT UNIT, AFTER CONTACTING A SUPERVISOR
- MINORS (UNDER 18 YEARS OF AGE AND NOT EMANCIPATED)
- ALL MINORS MUST HAVE REFUSAL FROM PARENT OR GUARDIAN (WHO IS RESPONSIBLE FOR CARE- USE CAUTION IN ALLOWING OLDER SIBLING SIGN FOR PATIENT)
- DO NOT RELEASE MINORS ON SCENE WITHOUT GUARDIAN CONSENT.

SUSPECTED ACUTE CORONARY SYNDROME AND ACUTE MYOCARDIAL INFARCTION

GOAL: TO IDENTIFY CHEST DISCOMFORT SUGGESTIVE OF ISCHEMIA.

CONDUCT A BRIEF AND TARGETED EVALUATION OF EVERY PATIENT WHOSE INITIAL COMPLAINT MIGHT SUGGEST POSSIBLE ACUTE CORONARY SYNDROME (ACS) OR ACUTE MYOCARDIAL INFARCTION (AMI).

SIGNS AND SYMPTOMS

- *RETROSTERNAL CHEST DISCOMFORT – (PRESSURE OR TIGHTNESS)*
- *FULLNESS, SQUEEZING OR PAIN IN THE CENTER OF THE CHEST LASTING SEVERAL MINUTES.*
- *CHEST DISCOMFORT SPREADING TO THE SHOULDERS, NECK, ONE OR BOTH ARMS OR JAW*
- *CHEST DISCOMFORT SPREADING INTO THE BACK OR BETWEEN THE SHOULDER BLADES*
- *UNEXPLAINED SUDDEN SHORTNESS OF BREATH, WHICH MAY OCCUR WITH OR WITHOUT CHEST DISCOMFORT*
- *NAUSEA AND VOMITING*
- *LOWER EXTREMITY OR ABDOMINAL EDEMA*
- *DIAPHORESIS*

- NOT ALL PATIENTS PRESENT WITH TYPICAL CHEST PAIN.

BLS

- LOC, SAMPLE HISTORY
- MONITOR AND SUPPORT ABC'S
- VITAL SIGNS
- OXYGEN 10-15 LPM VIA NRB OR OXYGEN DEVICE WITH THE HIGHEST CONCENTRATION TOLERATED BY THE PATIENT AS THE CONDITION WARRANTS TO MAINTAIN SP02 > 90%
- IV NORMAL SALINE KVO RATE – SECOND IV LINE NS IF SERIOUS SIGNS AND SYMPTOMS
- LAB DRAW (RAINBOW) AS CONDITION WARRANTS
- GLUCOSE CHECK
- ASA 324MG PO IF ALS BACKUP IS ENROUTE OR ON SCENE
- NITROGLYCERINE 0.4MG SL X 1 IF ALS BACKUP IS ENROUTE OR ON SCENE.
- ATTACH CARDIAC MONITOR (IF CONDITION APPEARS SERIOUS-ATTACH DEFIBRILLATOR)

SUSPECTED ACUTE CORONARY SYNDROME AND AMI CONTINUED

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD, IF TIME ALLOWS TRANSMIT TO ED.
- IF NOT PREVIOUSLY ADMINISTERED BY BLS CREW PROCEED TO ASA AND NTG
    - ASA 324 MG PO WITH CONSIDERATION OF PRECAUTIONS:

    - EVEN IF PATIENT HAS TAKEN ASA AND IT HAS BEEN GREATER THAN 4 HOURS, ADMINISTER THE 324 MG AGAIN..

    - BEFORE THE ADMINISTRATION OF NTG FOR CHEST PAIN, ASCERTAIN WHETHER OR NOT THE PATIENT HAS TAKEN VIAGRA, CIALIS, OR LEVITRA WITHIN THE LAST 48 HOURS.
        - **IF SO CONTACT MEDICAL CONTROL** FOR ORDERS TO ADMINISTER NTG. ADMINISTRATION OF NTG TO A PATIENT THAT HAS TAKEN ONE OF THESE MEDICATIONS WITHIN THE LAST 48 HOURS HAS BEEN SHOWN TO CAUSE SIGNIFICANT HYPOTENSION THAT CAN LEAD TO CARDIAC ARREST.

- NITROGLYCERINE SPRAY 0.4 MG SL.

    - IF CHEST PAIN CONTINUES AND BP REMAINS >110 MMHG SYSTOLIC, A SINGLE NITROGLYCERIN SPRAY MAY BE REPEATED AT 5 MINUTE INTERVALS.
    - CONSIDER THE USE OF A NTG PASTE 1”TO 1 ½” IF PATIENT REMAINS HYPERTENSIVE.

- MORPHINE SULFATE IV/IO IN 2 MG INCREMENTS, MAINTAIN MINIMUM SYSTOLIC B/P 110MMHG.
    - MONITOR AND MAINTAIN ADEQUATE RESPIRATORY STATUS.
- PHENERGAN 12.5 -25 MG IV FOR NAUSEA AND VOMITING

        - PRECAUTIONS IN GIVING ASPIRIN TO A PATIENT ARE THE FOLLOWING:
            - ALLERGY TO ASPIRIN
            - HISTORY OF CVA WITHIN ONE YEAR.

- RAPID TRANSPORT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- OBTAIN A PRE-HOSPITAL THROMBOLYTIC SCREENING IF TIME PERMITS

VENTRICULAR ECTOPY

(PVC'S WHICH OCCUR MORE THAN 6 TIMES PER MINUTE, RUNS OF V-TACH, OR MULTIFOCAL PVC'S WITH THE APPROPRIATE SIGNS AND SYMPTOMS)

SIGNS AND SYMPTOMS

CHEST PAIN *HYPOTENSION*
PULMONARY EDEMA *DYSPNEA*

BLS

- OXYGEN WITH THE APPROPRIATE AIRWAY ADJUNCT
- ATTACH MONITOR/DEFIBRILLATOR
- LOC, SAMPLE HISTORY
- TRENDELENBURG(IF CONDITION WARRANTS)
- ESTABLISH IV ACCESS AS TIME PERMITS
- LAB DRAW (AS CONDITION WARRANTS)
- GLUCOSE CHECK (AS TIME PERMITS)

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- AMIODARONE 150 MG IN 100CC'S OF NS OVER 10 MIN (15MG/MIN-USE 60GTT TUBING AND RUN W.O.)
- IF RHYTHM CONVERTS AMIODARONE 150 MG IN 100CC'S @ 1MG/MIN (USE 10GTT TUBING AND SET DIAL-A-FLOW @ 40ML/HR)
- IF RHYTHM PERSISTS LIDOCAINE 1 - 1.5 MG/KG SLOW IV
- IF RHYTHM CONVERTS LIDOCAINE DRIP AT 2-4 MG/MIN (CONSIDER ½ MAINTENANCE INFUSION IF PT. AGE > 70) (USE 10GTT TUBING AND SET DIAL-A-FLOW @ 15ML/HR FOR 1MG/MIN, 30ML/HR FOR 2MG/MIN, 45ML/HR FOR 3MG/MIN, 60ML/HR FOR 4MG/MIN.)
- IF PVC'S ARE NOT CONTROLLED, CONSIDER ADDITIONAL LIDOCAINE
  A. MAX 3 MG/KG
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

NOTE: IF UNDERLYING CARDIAC RHYTHM IS BRADYCARDIC, SEE BRADYCARDIA PROTOCOL
PAGE _____

PULSELESS ELECTRICAL ACTIVITY (PEA)

PEA INCLUDES: IDIOVENTRICULAR ESCAPE RHYTHMS
VENTRICULAR ESCAPE RHYTHMS POST DEFIBRILLATION
BRADYCARDIC RHYTHMS RHYTHMS (WITHOUT A PULSE)

BLS

- BLS ALGORITHM
- OXYGEN WITH THE APPROPRIATE AIRWAY ADJUNCT
- ATTACH AED, MONITOR/DEFIBRILLATOR IF ALS CARE AVAILABLE
- SAMPLE HISTORY (FAMILY INTERVIEW- AS TIME PERMITS)
- TRENDELENBURG
- ESTABLISH IV ACCESS AS TIME PERMITS
- LAB DRAW (AS CONDITION WARRANTS)
- GLUCOSE CHECK (AS TIME PERMITS)

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- CONSIDER INTUBATION AND NG TUBE PLACEMENT WHEN POSSIBLE
  - AFTER AIRWAY PLACEMENT RESCUERS NO LONGER DELIVER "CYCLES" OF CPR GIVE CONTINUOUS CHEST COMPRESSIONS WITHOUT PAUSES FOR BREATHS. GIVE 8 – 10 BREATHS PER MINUTE. CHECK RHYTHM EVERY 2 MINUTES.
- IO IF IV ATTEMPTS UNSUCCESSFUL
- FLUID BOLUS 250-500 CC
- ETCO2 DETECTOR
- SEARCH FOR POSSIBLE CAUSES (SEE BELOW)
- EPINEPHRINE 1:10,000 - 1 MG IV OR IO EVERY 3-5 MIN
- ATROPINE 1 MG IV OR IO IF ABSOLUTE BRADYCARDIA (<60 BEATS /MIN)
  - REPEAT ATROPINE EVERY 3-5 MIN UP TO A TOTAL OF 3 MG.
- SODIUM BICARBONATE 1 MEQ/KG IV OR IO IF KNOWN PREEXISTING HYPERKALEMIA OR DOWN TIME IS > 10 MINUTES.
- **CALCIUM CHLORIDE 2 MG/KG IV SLOW**
- CONSIDER TERMINATION OF EFFORTS
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

CAUSES TO CONSIDER:

HYPOVOLEMIA
HYPO-HYPERKALEMIA
TOXINS
TENSION PNEUMOTHORAX
TRAUMA
HYPOXIA
HYPOTHERMIA
TAMPONADE, CARDIAC
THROMBOSIS, (CORONARY OR PULMONARY)
HYPOGLYCEMIA

SEE PAGES 34 – 35 FOR COMPLETE LIST

VENTRICULAR FIBRILLATION AND PULSELESS VENTRICULAR TACHYCARDIA

BLS

- BLS ALGORITHM
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH AED, MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- SAMPLE HISTORY (FAMILY INTERVIEW- AS TIME PERMITS)
- IV AS TIME PERMITS
- FLUID BOLUS 250-500CC
- TRENDELENBURG
- GLUCOSE CHECK (AS TIME PERMITS)
- LONG SPINE BOARD (TRAUMA AND NON TRAUMA PTS)
    - APPLY HEAD BLOCKS AFTER INTUBATION TO STABILIZE HEAD

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- EFFECTIVE CPR FOR 2 MIN WHILE APPLYING MONITOR/DEFIBRILLATOR
    - IF WITNESSED ARREST GO DIRECTLY TO SHOCK

- QUICK LOOK, IF SHOCKABLE:
    - GIVE 1 SHOCK
        - MANUAL BIPHASIC DEVICE SPECIFIC 200J
        - MONOPHASIC DEVICE 360J

- RESUME CPR IMMEDIATELY(GIVE 5 CYCLES OF CPR)
    - DURING COMPRESSIONS, MEDICATIONS AND ALS INTERVENTIONS CAN BE PREPARED AND/OR PREFORMED.

- CONSIDER PREPLANNED INTUBATION(10SEC) , CO2 DETECTOR AND NG TUBE PLACEMENT WHEN POSSIBLE
    - AFTER AIRWAY PLACEMENT RESCUERS NO LONGER DELIVER “CYCLES” OF CPR GIVE CONTINUOUS CHEST COMPRESSIONS WITHOUT PAUSES FOR BREATHS. GIVE 8 – 10 BREATHS PER MINUTE. CHECK RHYTHM EVERY 2 MINUTES.

- IV OR IO (STOP COMPRESSIONS ONLY BRIEFLY IF NEEDED)

- CHECK RHYTHM, IF SHOCKABLE - GIVE 1 SHOCK RESUME CPR IMMEDIATELY

- EPINEPHERINE 1 MG IV/IO REPEAT EVERY 3 – 5 MINUTES

- CHECK RHYTHM AFTER 2 MIN CPR, IF SHOCKABLE - GIVE 1 SHOCK

VENTRICULAR FIBRILLATION AND PULSELESS VENTRICULAR TACHYCARDIA CONTINUED

- ADMINISTER ANTIARRHYTHMICS DURING COMPRESSIONS, AFTER SHOCK
    - AMIODARONE: 300 MG BOLUS
    - IF NO CONVERSION: AMIODARONE: 150 MG BOLUS
        - (MAX OUT EACH ANTIARRHYTHMIC BEFORE MOVING ON TO NEXT)
        - IF CONVERSION OCCURS HANG AMIODARONE DRIP: 150 MG IN 100CC NS (10GTT TUBING WITH A DIAL-A-FLOW AT 40ML/HR OR 60GTT TUBING AT 40ML/MIN)
    - LIDOCAINE 1 – 1.5 MG/KG IV/IO
    - IF NO CONVERSION : LIDOCAINE .5MG TO .75MG/KG
        - MAX: 3 MG/KG
        - IF CONVERSION OCCURS LIDOCAINE DRIP: 2 GRAMS IN 500CC RUN WITH 60GTT TUBING , DIAL A FLOW AT 30-60 GTTS = 2-4MG/MIN
        - CONSIDER ½ DOSE FOR ELDERLY
    - MAGNESIUM SULFATE 1 – 2 GRAMS IN 100CC NS 60GTT TUBING WIDE OPEN RATE VIA IV/IO FOR TORSADES DE POINTES OR REFRACTORY VFIB
- RAPID TRANSPORT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION.

NOTE:

- PREPLANNED INTUBATION WITH CO2 DETECTOR AND NG TUBE PLACEMENT WHEN POSSIBLE DO NOT DELAY COMPRESSIONS <10SECONDS
- IF SPONTANEOUS PULSE RESTORED, CONTINUE CPR FOR 2 MIN BEFORE BLOOD PRESSURE CHECK
- IF PULSE RESTORED GO TO POST RESUSCITATION CARE

BLS

- BLS ALGORITHM
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH AED, MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- SAMPLE HISTORY (FAMILY INTERVIEW- AS TIME PERMITS)
- TRENDELENBURG
- ESTABLISH IV ACCESS
- GLUCOSE CHECK (AS TIME PERMITS)
- LONG SPINE BOARD (TRAUMA AND NON TRAUMA PTS)
  - APPLY HEAD BLOCKS AFTER INTUBATION TO STABILIZE HEAD

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- CONFIRM ASYSTOLE IN 2 LEADS
- IO ACCESS IF IV UNSUCCESSFUL
- CONSIDER INTUBATION, CO2 DETECTOR AND NG TUBE PLACEMENT WHEN POSSIBLE
  - AFTER AIRWAY PLACEMENT RESCUERS NO LONGER DELIVER "CYCLES" OF CPR GIVE CONTINUOUS CHEST COMPRESSIONS WITHOUT PAUSES FOR BREATHS. GIVE 8 – 10 BREATHS PER MINUTE. CHECK RHYTHM EVERY 2 MINUTES
- SEARCH FOR POSSIBLE CAUSES (SEE BELOW)
- EPINEPHERINE 1:10,000 - 1 MG IV OR IO EVERY 3-5 MIN
- ATROPINE 1 MG IV OR IO
  - REPEAT ATROPINE EVERY 3-5 MIN UP TO A TOTAL OF 3MG.
- SODIUM BICARBONATE 1 MEQ/KG IV OR IO IF DOWN TIME IS > 10 MINUTES.
- CONSIDER TERMINATION OF EFFORTS AFTER 15 MIN OF INTERVENTIONS
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

CAUSES TO CONSIDER:

HYPOVOLEMIA
HYPO-HYPERKALEMIA
TOXINS
TENSION PNEUMOTHORAX
TRAUMA
HYPOXIA
HYPOTHERMIA
TAMPONADE, CARDIAC
THROMBOSIS, (CORONARY OR PULMONARY)
HYPOGLYCEMIA

SEE PAGES 34 – 35 FOR COMPLETE LIST

BRADYCARDIA (NON-ARREST)

HEART RATE <60 AND INADEQUATE FOR CLINICAL CONDITION)

SIGNS AND SYMPTOMS

ACUTE ALTERED MENTAL STATUS *SHORTNESS OF BREATH*
ONGOING CHEST PAIN *PULMONARY EDEMA*
HYPOTENSION OR OTHER SIGNS OF SHOCK *AMI*

BLS - NON SYMPTOMATIC AND SYMPTOMATIC

- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH MONITOR IF ALS AVAILABLE
- VITAL SIGNS
- LOC, SAMPLE HISTORY (OR FAMILY INTERVIEW- AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE, LAB DRAW
- GLUCOSE CHECK (AS TIME PERMITS)

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD IF TIME PERMITS
- IV OR IO ACCESS
    - **ADEQUATE PERFUSION (NON-SYMPTOMATIC)**
        - OBSERVE AND MONITOR
    - **POOR PERFUSION (SYMPTOMATIC)**
        - PREPARE FOR TRANSCUTANEOUS PACING
            I. USE WITHOUT DELAY FOR HIGH DEGREE BLOCK OR THIRD DEGREE AV BLOCK
            II. VERSED 1-5 MG IV SLOW - TITRATE TO EFFECT
                1. MAY REPEAT VERSED 1-5 MG IV SLOW IF PT CONDITION WARRANTS
            III. BEGIN PACING
                - 60BPM
                - 20MA- INCREASING UNTIL CAPTURE
                - INCREASE BY 2MA AFTER CAPTURE
        - CONSIDER ATROPINE .5 MG IV WHILE AWAITING PACER
            I. MAY REPEAT TO A TOTAL DOSE OF 3MG. IF INEFFECTIVE BEGIN PACING.
        - CONSIDER EPINEPHERINE 2-10 MICROGRAMS/MIN OR
        - CONSIDER **DOPAMINE 2 – 10 MICROGRAMS/KG/MIN IF PACING INEFFECTIVE**
- TREAT CONTRIBUTING CAUSES
- DO NOT DELAY EXTERNAL PACING WAITING ACCESS FOR AN IV OR FOR ATROPINE TO TAKE EFFECT.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

VENTRICULAR TACHYCARDIA (STABLE)
WIDE QRS REGULAR RHYTHM

BLS

- LOC, MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH MONITOR IF ALS CARE AVAILABLE
- VITAL SIGNS
- SAMPLE HISTORY (FAMILY INTERVIEW- AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE
- GLUCOSE CHECK (AS TIME PERMITS)
- IDENTIFY AND TREAT REVERSIBLE CAUSES

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV OR IO ACCESS AS NEEDED
- AMIODARONE 150 MG IN 100CC'S OF SALINE RUN IN OVER 10 MIN
  - (15MG/MIN- USE 60GTT TUBING AND RUN W.O.)
- IF RHYTHM CONVERTS AMIODARONE DRIP 150 MG/100CC'S RUN AT 1MG/MIN
  - (USE 10GTT TUBING AND SET DIAL-A-FLOW @ 40ML/HR)
- IF RHYTHM PERSISTS LIDOCAINE 1.0-1.5 MG/KG SLOW IV
- IF NO EFFECT IN 5 MIN, LIDOCAINE 0.5-0.75 MG/KG SLOW IV
  - REPEAT EVERY 5-10 MIN
  - MAX. TOTAL DOSE OF 3 MG/KG
- IF RHYTHM CONVERTS START A LIDOCAINE DRIP @ 2-4MG/MIN.
- IF TIME PERMITS AND PT BECOMES UNSTABLE, SEDATE PATIENT.
  - VERSED 1-5 MG AND SYNCHRONIZE CARDIOVERT PER "UNSTABLE TACHYCARDIA"
  - MAY REPEAT VERSED 1-5 MG IF PATIENT CONDITION WARRANTS
- 12 LEAD IF TIME PERMITS
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

VENTRICULAR TACHYCARDIA (UNSTABLE)

SIGNS AND SYMPTOMS

ALTERED MENTAL STATUS
HYPOTENSION
SHORTNESS OF BREATH
ISCHEMIC ECG CHANGES
ONGOING CHEST PAIN
SIGNS OF SHOCK
WEAKNESS/FATIGUE
PULMONARY EDEMA

BLS

- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH AED OR MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- VITAL SIGNS
- LOC, SAMPLE HISTORY (AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE
- GLUCOSE CHECK (IF TIME PERMITS)
- IDENTIFY AND TREAT REVERSIBLE CAUSES

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IO IF IV UNSUCCESSFUL
- VERSED 1-5 MG PRN (UNLESS PATIENT CONDITION DOES NOT WARRANT AND CARDIOVERSION IF INDICATED IMMEDIATELY)
    - MAY REPEAT VERSED 1-5 MG IF PT. CONDITION WARRANTS
- SYNCHRONIZED CARDIOVERSION
    - BIPHASIC MONITOR 100J
    - MONOPHASIC MONITOR 100J
- AMIODARONE 150MG IN 100CC'S OF SALINE RUN IN OVER 10MIN
    - (15MG/MIN- USE 60GTT TUBING AND RUN W.O.)
- IF CONVERSION OCCURS AMIODARONE 150MG IN 100CC'S RUN AT 1MG/MIN
    - (USE 10GTT TUBING AND SET DIAL-A-FLOW AT 40ML/HR)
- LIDOCAINE 1.0-1.5 MG/KG SLOW IVP.
- REPEAT LIDOCAINE UNTIL A TOTAL OF 3 MG/KG.
    - IF RHYTHM CONVERTS, START LIDOCAINE DRIP AT 2-4MG/MIN.
- 12 LEAD AND TRANSMIT TO ED AS TIME PERMITS
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

TACHYCARDIA WITH PULSE (STABLE) REGULAR RHYTHM

BLS

- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH AED OR MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- VITAL SIGNS
- LOC, SAMPLE HISTORY (AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE, LAB DRAW
- GLUCOSE CHECK (IF TIME PERMITS)
- IDENTIFY AND TREAT REVERSIBLE CAUSES

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED
- IV OR IO AS NEEDED

✦ **NARROW COMPLEX <.12 SEC QRS**

- VAGAL MANEUVERS
- ADENOCARD 6 MG RAPID IVP
  - IF NO EFFECT IN 1-2 MIN, ADENOCARD 12 MG RAPID IVP
  - IF NO EFFECT IN 1-2 MIN, REPEAT ADENOCARD 12 MG RAPID IVP
  - IF CONVERSION OCCURS OBSERVE FOR RE-OCCURRENCE
- IF NO CONVERSION – POSSIBLE A-FIB, A-FLUTTER, JUNCTIONAL TACH CONTROL RATE
  - **CARDIZEM 0.25 MG/KG IVP SLOW**
    - USE CAUTION IN PULMONARY DISEASE OR CHF
  - IF NO EFFECT IN 15MIN **CARDIZEM 0.35 MG/KG IVP SLOW**
    - DO NOT GIVE CARDIZEM IN CASES OF WPW SYNDROME BECAUSE THIS CAN INCREASE THE HEART RATE PARADOXICALLY
  - IF HYPOTENSIVE CONSIDER: **CALCIUM CHLORIDE 500 MG OVER 5-10 MIN**
  - IF CONVERSION OCCURS MONITOR FOR REOCCURRENCE.

✦ **WIDE COMPLEX >.12SEC QRS**

- AMIODARONE 150MG/100CC'S OF SALINE GIVEN OVER 10MIN
  - (15MG/MIN- USE 60GTT TUBING AND RUN W.O.)
  - REPEAT ONCE AS NEEDED (MAX 2.2G IN 24HRS)
  - IF CONVERSION OCCURS: AMIODARONE DRIP 150MG/100CC WITH 60GTT TUBING AT 40GTT/MIN)
- PREPARE FOR *ELECTIVE* SYNCHRONIZED CARDIOVERSION
- IF RHYTHM PERSISTS SEDATE PATIENT WITH VERSED 1- 5 MG TITRATE TO EFFECT, AND SYNCHRONIZE CARDIOVERT PER "UNSTABLE TACH."
  - MAY REPEAT VERSED 1-5 MG IF PATIENT CONDITION WARRANTS

- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

TACHYCARDIA WITH PULSE (STABLE) IRREGULAR RHYTHM

BLS

- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- VITAL SIGNS
- LOC, SAMPLE HISTORY (AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE, LAB DRAW
- GLUCOSE CHECK (IF TIME PERMITS)
- IDENTIFY AND TREAT REVERSIBLE CAUSES

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IV OR IO ACCESS
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM

✦ **NARROW COMPLEX <.12 SEC QRS (**PROBABLE A-FIB OR POSSIBLE A-FLUTTER)

- CONTROL RATE
  - **CARDIZEM 0.25 MG/KG IVP SLOW**
    - USE CAUTION IN PULMONARY DISEASE OR CHF
  - IF NO EFFECT IN 15MIN **CARDIZEM 0.35MG/KG IVP SLOW**
    - DO NOT GIVE CARDIZEM IN CASES OF WPW SYNDROME, THIS CAN INCREASE THE HEART RATE PARADOXICALLY

✦ **WIDE COMPLEX >.12SEC QRS**

- IF A-FIB WITH ABERRANCY
  - SEE IRREGULAR NARROW COMPLEX PROTOCOL
- IF PRE-EXCITED ATRIAL FIBRILLATION (AF +WPW)
  - AVOID ADENOSINE, CARDIZEM OR VERAPAMIL
  - CONSIDER ANTIARRHYTHMIC
    - AMIODARONE 150MG/100CC'S OF SALINE GIVEN OVER 10MIN
    - (15MG/MIN- USE 60GTT TUBING AND RUN W.O.)
    - REPEAT ONCE AS NEEDED
- IF TORSADES DES POINTES
  - MAGNESIUM SULFATE 1-2 GRAMS IN 100CC NS W/O RATE

- CONSIDER CAUSES
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

TACHYCARDIA WITH A PULSE (UNSTABLE)
WIDE AND NARROW COMPLEX

SIGNS AND SYMPTOMS

ALTERED MENTAL STATUS
CONTINUED CHEST PAIN
SHORTNESS OF BREATH
ISCHEMIC ECG CHANGES
HYPOTENSION
SHOCK
WEAKNESS/FATIGUE
PULMONARY EDEMA

BLS

- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- ATTACH MONITOR/DEFIBRILLATOR IF ALS AVAILABLE
- VITAL SIGNS
- LOC, SAMPLE HISTORY (AS TIME PERMITS)
- TRENDELENBURG AS NEEDED
- ESTABLISH IV NORMAL SALINE, LAB DRAW
- GLUCOSE CHECK (AS TIME PERMITS)

ALS

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IO IF IV UNSUCCESSFUL
- PRE-MEDICATE WITH 1-10 MG VERSED PRN TITRATE TO EFFECT (UNLESS PATIENT CONDITION DOES NOT WARRANT AND CARDIOVERSION IS INDICATED IMMEDIATELY)
- SYNCHRONIZED CARDIOVERSION
  - BIPHASIC OR MONOPHASIC MONITOR 100J FIRST ATTEMPT
  - BIPHASIC OR MONOPHASIC MONITOR 120J SECOND ATTEMPT
- IF PULSELESS ARREST DEVELOPS GO TO APPROPRIATE ALGORITHM
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

THE IMMEDIATE GOALS OF POST RESUSCITATION CARE ARE:

1. PROVIDE CARDIORESPIRATORY SUPPORT TO OPTIMIZE TISSUE PERFUSION, ESPECIALLY TO THE BRAIN.
2. TRANSPORT THE PATIENT TO THE HOSPITAL EMERGENCY DEPARTMENT
3. ATTEMPT TO IDENTIFY THE PRECIPITATING CAUSES OF THE ARREST (H'S AND T'S)
4. INSTITUTE MEASURES SUCH AS ANTI-ARRHYTHMIC THERAPY TO PREVENT RECURRENCE.
5. DETERMINE PATIENT'S HEMODYNAMIC STABILITY AND SYMPTOMS.
    A. PATIENTS' RESPONSE TO RESUSCITATION VARIES WIDELY. THEY MAY RANGE FROM BEING ALERT WITH ADEQUATE SPONTANEOUS RESPIRATIONS AND HEMODYNAMIC STABILITY, TO REMAINING COMATOSE AND APENIC AND/OR HAVING UNSTABLE CIRCULATION.
    B. MANDATORY CAREFUL AND FREQUENTLY REPEATED ASSESSMENTS TO ESTABLISH CARDIOVASCULAR, RESPIRATORY AND NEUROLOGICAL STATUS ARE REQUIRED.

ASSESSMENT / TREATMENT PRIORITIES

- DETERMINE PATIENT'S HEMODYNAMIC STABILITY AND SYMPTOMS.
- ASSESS LEVEL OF CONSCIOUSNESS, ABCS AND VITAL SIGNS.
- MAINTAIN AN OPEN AIRWAY WITH APPROPRIATE DEVICE(S).
    - THIS MAY INCLUDE REPOSITIONING OF THE AIRWAY, SUCTIONING TO REMOVE SECRETIONS AND/OR VOMITUS, OR USE OF AIRWAY ADJUNCTS AS INDICATED. ASSIST VENTILATIONS AS NEEDED.
- OBTAIN APPROPRIATE S-A-M-P-L-E HISTORY RELATED TO EVENT.
- IDENTIFICATION OF COMPLICATIONS, SUCH AS RIB FRACTURES, HEMO-PNEUMOTHORAX, PERICARDIAL TAMPONADE, INTRA-ABDOMINAL TRAUMA AND/OR IMPROPERLY PLACED ENDOTRACHEAL TUBE.
- CONSIDER H'S AND T'S AS POSSIBLE CAUSES

BLS

- MAINTAIN AN OPEN AIRWAY, ASSIST VENTILATIONS AS NEEDED.
- ADMINISTER HIGH CONCENTRATION OF OXYGEN BY NON-REBREATHER MASK, OR BAG-VALVE-MASK, BASED UPON PATIENT'S CONDITION.
- CONSIDER POTENTIAL NEED FOR FURTHER CPR AND/OR DEFIBRILLATION FOR RECURRENT V-FIBRILLATION.
- MONITOR AND RECORD VITAL SIGNS EVERY 5 MINUTES.
- IF PATIENT'S BLOOD PRESSURE DROPS BELOW 100 SYSTOLIC: TREAT FOR SHOCK.
- ESTABLISH/MAINTAIN IV IF NOT ALREADY ACCOMPLISHED
- REPEAT GLUCOSE CHECK
- CONSIDER TRENDELENBERG

POST RESUSCITATION CARE CONTINUED

ALS

- PROVIDE ADVANCED AIRWAY/VENTILATORY MANAGEMENT IF INDICATED.
- INITIATE/MAINTAIN IO (IF IV UNSUCCESSFUL) AND NOT ALREADY ACCOMPLISHED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- ADMINISTER A 250-500 CC BOLUS OF IV NORMAL SALINE, OR TITRATE BOLUS TO PATIENT'S HEMODYNAMIC STATUS. (ASSESS BREATH SOUNDS FREQUENTLY)
- CONSIDER THE POTENTIAL NEED FOR FURTHER CPR AND/OR DEFIBRILLATION.
- MANAGE DYSRHYTHMIAS ACCORDING TO SPECIFIC PROTOCOLS.
    - IF THE CARDIAC ARREST WAS THE RESULT OF VENTRICULAR FIBRILLATION OR VENTRICULAR TACHYCARDIA AND NO ANTI-ARRHYTHMIC TREATMENT WAS GIVEN, ADMINISTER
        - AMIODARONE 150MG/100CC'S NS (60GTT TUBING WO) FOLLOWED BY MAINTENANCE INFUSION

      OR
        - LIDOCAINE BOLUS OF 1.0 -1.5 MG/KG FOLLOWED BY MAINTENANCE INFUSION OF 2 MG-4 MG/MINUTE UNLESS CONTRAINDICATED.
            - **<u>CONTRAINDICATIONS</u>:** PATIENTS WITH VENTRICULAR ESCAPE RHYTHM.
- ALL OTHER STANDING ORDER TREATMENT MODALITIES AS INDICATED PER PROTOCOL FOR SPECIFIC POTENTIAL CAUSE OF INITIAL CARDIOPULMONARY ARREST.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

<u>REMEMBER:</u> ***THIS IS AN EXTREMELY UNSTABLE PERIOD. THE PATIENT SHOULD BE MONITORED CLOSELY AND FREQUENTLY. RECURRENT DYSRHYTHMIAS, HYPOTENSION AND RE-ARREST ARE NOT UNCOMMON OCCURRENCES.***

- OPEN AIRWAY BY APPROPRIATE METHOD (HEAD TILT CHIN LIFT OR JAW THRUST)

- CHECK BREATHING
  - IF NOT BREATHING GIVE 2 BREATHS THAT MAKE THE CHEST RISE
  - DO NOT HYPERVENTILATE

- IF NO RESPONSE CHECK PULSE
  - DO YOU DEFINITELY FEEL PULSE WITHIN 10 SECONDS?

- NO PULSE
  - GIVE 5 CYCLES 30 COMPRESSIONS AND 2 BREATHS (UNTIL AED/DEFIBRILLATOR ARRIVES)
    - PUSH HARD AND FAST >100 MIN RELEASE COMPLETELY
    - MINIMIZE INTERRUPTIONS
    - ENSURE FULL CHEST RECOIL
- AED/DEFIBRILLATOR ARRIVES

- APPLY AED/DEFIBRILLATOR

- CHECK RHYTHM – **SHOCKABLE RHYTHM**

- GIVE ONE SHOCK
  - BIPHASIC MONITOR 200J
  - MONOPHASIC MONITOR 360J

- RESUME CPR FOR 5 CYCLES (30-2)
  - CONTINUE UNTIL ALS INVENTIONS OR VICTIM BEGINS TO MOVE

- CHECK RHYTHM - **NOT SHOCKABLE**

- CPR IMMEDIATELY 5 CYCLES (30-2)
  - CHECK RHYTHM EVERY 5 CYCLES
  - CONTINUE UNTIL ALS INTERVENTIONS OR VICTIM BEGINS TO MOVE

- PLACE PATIENT (TRAUMA AND NON TRAUMA) ON LSB

- GO TO APPROPRIATE CARDIAC CARE PROTOCOL

CONDITIONS	CLUES FROM ECG AND MONITOR	CLUES FROM HISTORY AND PHYSICAL EXAM	RECOMMENDED TREATMENT
HYPOVOLEMIA	NARROW COMPLEX, RAPID RATE	HISTORY, FLAT NECK VEINS	VOLUME INFUSION
HYPOXIA	SLOW RATE(HYPOXIA)	CYANOSIS, BLOOD GASES, AIRWAY PROBLEMS	OXYGENATION AND VENTILATION
HYDROGEN ION ACIDOSIS	SMALLER-AMPLITUDE QRS COMPLEXES	HISTORY OF DIABETES, BICARBONATE-RESPONSIVE PRE-EXISTING ACIDOSIS, RENAL FAILURE	SODIUM BICARBONATE, HYPERVENTILATION
HYPER-KALEMIA	BOTH HYPERKALEMIA AND HYPOKALEMIA CAUSE WIDE COMPLEX QRS “HIGH POTASSIUM” ECG: T WAVES TALLER AND PEAKED P WAVES GET SMALLER QRS WIDENS SINE-WAVE PEA	HISTORY OF RENAL FAILURE, DIABETES, RECENT DIALYSIS, DIALYSIS FISTULAS, MEDICATIONS	ALBUTEROL TX. SODIUM BICARB GLUCOSE PLUS INSULIN CALCIUM CHLORIDE KAYEXALATE/SORBITAL DIALYSIS(LONG TERM) POSSIBLY ALBUTEROL

HYPO-KALEMIA	"LOW POTASSIUM" ECG: T WAVES FLATTEN PROMINENT U WAVES QRS WIDENS QT PROLONGS WIDE COMPLEX TACHYCARDIA	ABNORMAL LOSS OF POTASSIUM, DIURETIC USE	HYPOKALEMIA: RAPID BUT CONTROLLED INFUSION OF POTASSIUM ADD MAGNESIUM IF CARDIAC ARREST

HYPOTHERMIA	J OR OSBORNE WAVES	HISTORY OF EXPOSURE TO COLD, CENTRAL BODY TEMPERATURE	SEE HYPOTHERMIA ALGORITHM
TABLETS OVERDOSE	VARIOUS EFFECTS ON ECG PREDOMINATELY PROLONGATION OF QT INTERVAL	BRADYCARDIA, EMPTY BOTTLES AT THE SCENE, PUPILS, NEUROLOGIC EXAM	INTUBATION, LAVAGE, ACTIVATED CHARCOAL, LACTULOSE PER LOCAL PROTOCOLS, SPECIFIC ANTIDOTES AND AGENTS PER TOXIDROME
TAMPONADE, CARDIAC	NARROW COMPLEX RAPID RATE	HISTORY, NO PULSE FELT WITH CPR, VEIN DISTENTION	PERICARDIOCENTESIS
TENSION PNEUMOTHORAX	NARROW COMPLEX SLOW RATE (HYPOXIA)	HISTORY, NO PULSE FELT WITH CPR, NECK VEIN DISTENTION, TRACHEAL DEVIATION, UNEQUAL BREATH SOUNDS, DIFFICULT TO VENTILATE	NEEDLE DECOMPRESSION

THROMBOSIS, HEART: ACUTE MASSIVE MI	ABNORMAL 12-LEAD ECG: Q WAVES ST-SEGMENT CHANGES T WAVES, INVERSIONS	HISTORY, CARDIAC MARKERS	FIBRINOLYTIC AGENTS, SEE STEMI CASE
THROMBOSIS, LUNG: MASSIVE PULMONARY EMBOLISM	NARROW COMPLEX RAPID RATE	HISTORY, NO PULSE FELT WITH CPR, DISTENDED NECK VEINS, PRIOR POSITIVE TEST FOR DVT OR PE	SURGICAL EMBOLECTOMY, FIBRINOLYTICS
HYPOGLYCEMIA	AGITATED, DIAPHORETIC, RAPID HEART RATE	HISTORY OF HYPOGLYCEMIA, DIABETES	DEXTROSE 50% OR GLUCAGON

RESPIRATORY EMERGENCIES ASSESSMENT

THIS ASSESSMENT SEGMENT OF THE ADULT RESPIRATORY PROTOCOL SHALL BE USED FOR ALL RESPIRATORY DISTRESS PATIENTS. WHILE TREATMENTS WILL CHANGE, DEPENDENT ON THE FINDINGS DURING THE ASSESSMENT, A COMPLETE AND COMPREHENSIVE ASSESSMENT IS NECESSARY FOR ALL RESPIRATORY DISTRESS PATIENTS AND SHOULD INCLUDE THE FOLLOWING:

- AIRWAY, BREATHING, AND CIRCULATION.
- LEVEL OF CONSCIOUSNESS
- VITAL SIGNS: BLOOD PRESSURE, PULSE RATE, AND RESPIRATORY RATE.
- SKIN CONDITIONS (TO INCLUDE: COLOR, TEMPERATURE, AND MOISTURE.)
- PUPILS
- PRESENCE OR ABSENCE OF JUGULAR VEIN DISTENSION (WHAT POSITION)
- BREATH SOUNDS
- ROOM AIR OXYGEN SATURATIONS-UNLESS PATIENT'S CONDITION WARRANTS (CONTINUOUS OXYGENATION.)
- PRESENCE OR ABSENCE OF DISTAL PULSES, MOVEMENT, & SENSATION.
- ASSESSMENT OF CAPILLARY REFILL.
- USE OF ACCESSORY MUSCLES TO BREATH AND POSITION TO BREATH
- PAST MEDICAL HISTORY, CURRENT MEDICATIONS, AND ALLERGIES
- HISTORY OF FEBRILE ILLNESS OR COUGH (PRODUCTIVE OR NON-PRODUCTIVE)
- HISTORY OF ONSET OF SYMPTOMS & ANY TREATMENTS RENDERED PRIOR TO EMS ARRIVAL.
- NOTE ANY EXCESSIVE EDEMA TO THE EXTREMITIES OR ABDOMEN

CHRONIC OBSTUCTIVE PULMONARY DISEASE (COPD) & ASTHMA

***SIGNS & SYMPTOMS**:*

OBVIOUS RESPIRATORY DISTRESS
POOR OXYGEN SATURATIONS
DIMINISHED BREATH SOUNDS
KNOWN HISTORY OF EITHER ILLNESS
WHEEZING
PROLONGED EXPIRATORY PHASE

BLS:

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGENATE WITH THE APPROPRIATE DELIVERY DEVICE. ATTEMPT TO MAINTAIN O2 SATURATIONS < 90%.
- VITAL SIGNS. (BLOOD PRESSURE, PULSE, RESPIRATIONS, PULSE OXIMETER.)
- CARDIAC MONITOR IF ALS CARE IS AVAILABLE.
- ESTABLISH IV NORMAL SALINE AND RUN AT KVO, LAB DRAW
- GLUCOSE CHECK

ALS

- DETAILED ASSESSMENT
- IDENTIFY, RECORD, AND NOTE ANY CHANGES TO CARDIAC RHYTHM.
- TREAT WITH PHARMACOLOGICAL AGENTS AS INDICATED BELOW:

ASSESSMENT	TREATMENT
MILD ATTACK: SLIGHT INCREASE IN RESPIRATORY RATE. MILD WHEEZES. GOOD SKIN COLOR. PATIENT IS ALERT.	➢ OXYGENATE ➢ CARDIAC MONITORING ➢ REASSESS FREQUENTLY ➢ RAPID TRANSPORT
MODERATE ATTACK: MARKED INCREASE IN RESPIRATORY RATE, WHEEZES EASILY HEARD WITH AUSCULTATION OF BREATH SOUNDS. USE OF ACCESSORY MUSCLES.	➢ OXYGENATE ➢ CARDIAC MONITORING ➢ ALBUTEROL - 2.5MG/3.0ML NEBULIZED ➢ PREDNISONE - 60MG P.O. ➢ RAPID TRANSPORT
SEVERE ATTACK: RESPIRATORY RATE MORE THAN TWICE NORMAL. WHEEZES VERY EASY TO HEAR WHEN BREATH SOUNDS AUSCULTATED. AUDIBLE WHEEZES. PATIENT IS ANXIOUS, GRAY OR ASHEN SKIN COLOR. CYANOSIS NOTED TO MUCOSAL MEMBRANES OR DISTAL EXTREMITIES.	➢ OXYGENATE ➢ CARDIAC MONITORING ➢ DUO NEBULIZER OF ALBUTEROL 2.5MG/3.0ML & ATROVENT 0.5MG/2.5ML ➢ SOLU MEDROL 125MG IVP DURING TRANSPORT. ➢ RAPID TRANSPORT

SIGNS & SYMPTOMS

KNOWN HISTORY OF CONGESTIVE HEART FAILURE *OBVIOUS RESPIRATORY DISTRESS*
HYPERTENSION *FACIAL EDEMA*
PITTING EDEMA TO LOWER EXTREMITIES *PULMONARY EDEMA*
RALES HEARD WHEN BREATH SOUNDS AUSCULTATED. *MAY BE AUDIBLE AS WELL*
JUGULAR VEIN DISTENSION *DIAPHORESIS*
EXPIRATORY PHASE NOT PROLONGED UNLESS CO MORBID WITH COPD

BLS:

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGENATE WITH NON-REBREATHER @ 15 LPM; BE PREPARED TO ASSIST VENTILATIONS WITH BVM USING POSITIVE PRESSURE VENTILATIONS.
- PLACE PATIENT IN FULL FOWLERS POSITION
- VITAL SIGNS. (BLOOD PRESSURE, PULSE, RESPIRATIONS, PULSE OXIMETER.)
- CARDIAC MONITOR IF ALS CARE IS AVAILABLE.
- ESTABLISH IV NORMAL SALINE AND RUN AT KVO, LAB DRAW
- GLUCOSE CHECK

ALS

- DETAILED ASSESSMENT. NOTE ANY EXCESSIVE EDEMA
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- NITROGLYCERINE 0.4MG SUBLINGUAL SPRAY. (MAINTAIN SYSTOLIC BP OF 110)
- ADMINISTER DUO NEB: ATROVENT 0.5MG /2.5ML AND ALBUTEROL 2.5MG/3.0ML NEBULIZED
- IF PATIENT ***DOES NOT*** DISPLAY SIGNS OF PNEUMONIA OR FEBRILE ILLNESS, AND TRANSPORT TIMES GREATER THAN 20 MIN THEN:
    - **LASIX (FUROSEMIDE) 40MG IVP OVER 2 MINUTES. IF NO DESIRED EFFECTS IN 15 – 20 MIN:**
    - **CONSIDER A SECOND DOSE OF LASIX (FUROSEMIDE) 40MG IVP OVER 2 MINUTES**.
- MORPHINE SULFATE 2 MG INCREMENTS IVP, TITRATE TO DESIRED EFFECTS, NOT TO EXCEED 10 MG TOTAL. MAINTAIN AIRWAY AND A SYSTOLIC BP OF 110MMHG.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

CEREBROVASCULAR ACCIDENT (CVA)

THIS PROTOCOL IS FOR PATIENTS WHO HAVE AN ACUTE EPISODE OF NEUROLOGICAL DEFICIT WITHOUT ANY EVIDENCE OF TRAUMA.

SIGNS AND SYMPTOMS

CONFUSION SEVERE HEADACHE SPEECH DISTURBANCES VISUAL DISTURBANCES LACK OF COORDINATION STAGGERED GAIT HEMI PARESIS OR HEMIPLEGIA FACIAL DROOP ASYMMETRICAL SMILE UNCONSCIOUS AND/OR UNRESPONSIVE

BLS

- LOC, SAMPLE HISTORY INCLUDING
  - TIME OF ONSET
  - CINCINNATI PREHOSPITAL STROKE SCALE
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO > 90%
- VITAL SIGNS
- ESTABLISH IV AND DRAW LABS
- CARDIAC MONITOR IF ALS CARE IS AVAILABLE.
- GLUCOSE CHECK

ALS

- CONSIDER OTHER CAUSES OF ALTERED MENTAL STATUS:
  - HYPOXIA
  - HYPOPERFUSION
  - HYPOGLYCEMIA
  - TRAUMA
  - OVERDOSE.
- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- SCREEN FOR THROMBOLYTICS
- KEEP HEAD ELEVATED IF POSSIBLE, MONITOR PUPILS AND GLASGOW COMA SCALE
- MAINTAIN BODY HEAT, PROTECT AFFECTED LIMBS FROM INJURY, ANTICIPATE SEIZURES (SEE SEIZURE PROTOCOL)
- HAVE SUCTION ACCESSIBLE
  - NOTE: IF THERE IS A QUESTION ABOUT DRUG OVERDOSE OR HYPOGLYCEMIA, CONSIDER NARCAN AND D50.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

PROTOCOL PROCEDURE:

FLOW OF PROTOCOL PRESUMES THAT CONDITION IS CONTINUING. IF PATIENT IS IDENTIFIED AS A
THROMBOLYTIC CANDIDATE, IMMEDIATE, RAPID TRANSPORT IS PREFERRED WITH TREATMENT
PERFORMED EN ROUTE. CONSIDER AIR AMBULANCE TRANSPORT.

CINCINNATI PREHOSPITAL STROKE SCALE:

FACIAL DROOP (HAVE PATIENT SHOW TEETH OR SMILE):

NORMAL: BOTH SIDES OF FACE WORK EQUALLY WELL.
ABNORMAL: ONE SIDE OF FACE DOES NOT MOVE AS WELL AS THE OTHER SIDE.

ARM DRIFT (PATIENT CLOSES EYES AND HOLDS BOTH ARMS OUT):

NORMAL: BOTH ARMS MOVE THE SAME *OR* BOTH ARMS DO NOT MOVE AT ALL.
(OTHER FINDINGS SUCH AS PRONATOR GRIP MAY BE HELPFUL).
ABNORMAL: ONE ARM DOES NOT MOVE *OR* ONE ARM DRIFTS DOWN COMPARED WITH THE OTHER.

SPEECH (HAVE THE PATIENT SAY “YOU CAN’T TEACH AN OLD DOG NEW TRICKS”):

NORMAL: PATIENT USES CORRECT WORDS WITH NO SLURRING.
ABNORMAL: PATIENT SLURS WORDS, USES INAPPROPRIATE WORDS, OR IS UNABLE TO PRONOUNCE WORDS

SIGNS AND SYMPTOMS

ALTERED LEVEL OF CONSCIOUSNESS TACHYCARDIA THREADY PULSE
KUSSMAUL (DEEP AND RAPID) HYPOTENSION VOMITING
DRY MUCOUS MEMBRANES ABDOMINAL PAIN NAUSEA
KETONE ODOR ON BREATH (FRUITY ODOR) HISTORY OF POLYURIA, POLYDIPSIA, OR POLYPHAGIA SKIN MAY BE COOL: CONSIDER HYPOTHERMIA

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2>90%
- ESTABLISH IV NORMAL SALINE, DRAW LABS
- GLUCOSE CHECK
- CHECK FOR UNDERLYING CAUSES
- CARDIAC MONITOR IF ALS CARE IS AVAILABLE.

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- CONSIDER INTUBATION IF DECREASED LOC, INABILITY TO MAINTAIN A PATIENT AIRWAY, OR FOR GCS < 8.
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- IF GLUCOSE > 250 MG/DL, AND PATIENT EXHIBITING ALTERED MENTAL STATUS, KUSSMAUL RESPIRATIONS, DRY SKIN WITH POOR TURGOR, AND/OR KETOTIC BREATH:
    - CHECK BREATH SOUNDS – IF CLEAR:
        - OPEN NORMAL SALINE WIDE OPEN.
        - REASSESS BREATH SOUNDS
- CONTACT MEDICAL CONTROL FOR ANY QUESTIONS OR PROBLEMS.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

FLACCID MUSCLE TONE
FECAL, URINARY INCONTINENCE
GLUCOSE CHECK <70MG/DL
COMBATIVENESS POSSIBLE
GRAND MAL SEIZURES
ALTERED LOC
NAUSEA AND VOMITING

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2>90%
- IV NS TKO (CONSIDER D5W)
- DRAW LABS FROM IV PRIOR TO INFUSION
- GLUCOSE CHECK
- ORAL GLUCOSE IF CONSCIOUS AND CAN SWALLOW ADEQUATELY
- CARDIAC MONITOR IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IV OR IO AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IF PATIENT SYMPTOMATIC
  - DEXTROSE(D50) 25 GM IV IF GLUCOSE CHECK UNDER 70 MG/DL
- GLUCAGON 1MG IM IF IV ACCESS CANNOT BE OBTAINED.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- REPEAT BLOOD GLUCOSE CHECK IN LIMB OPPOSITE MEDICATION ADMINISTRATION SITE
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

NAUSEA	*VOMITING (BLOODY, COFFEE-GROUND, ETC.)*
DIAPHORESIS	*CONSTIPATION*
PALLOR	*MELENA (BLOODY, TARRY STOOLS)*
TENDERNESS	*URINARY PROBLEMS*
DISTENTION	*FEVER*
GUARDING	*DIARRHEA*

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2>90%
- VITAL SIGNS
- NOTHING BY MOUTH
- IV NS OR SALINE LOCK AS CONDITION WARRANTS, LAB DRAW
- GLUCOSE CHECK
- POSITION OF COMFORT
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IF BP < 90 MMHG SYSTOLIC, ADMINISTER BOLUSES OF NS AT 250-500 CC TO MAINTAIN SYSTOLIC BP > 90 MMHG
  - ✦ SECOND LARGE BORE IV
  - OBSERVE FOR EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- RECORD AND EVALUATE 12-LEAD EKG AS APPROPRIATE
- PAIN MANAGEMENT
  - ♦ FENTANYL 1MCG/KG UP TO A MAX OF 100MCG
- VOMITING
  - ♦ PHENERGAN 6.25-25 MG IV IF NAUSEA AND /OR VOMITING (USE LOWER DOSES IN ELDERLY) OR
  - ♦ REGLAN 10MG IV OR IM
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

HYPERTENSION

(WITH OR WITHOUT CHEST PAIN)

SPECIFIC INFORMATION NEEDED:
HISTORY OF HYPERTENSION AND CURRENT MEDICATIONS
NEW SYMPTOMS: DIZZINESS, NAUSEA, CONFUSION, VISUAL IMPAIRMENT, PARASTHESIA, WEAKNESS
DRUG USE: AMPHETAMINES, COCAINE
OTHER SYMPTOMS: CHEST PAIN, DIFFICULTY BREATHING, ABDOMINAL/BACK PAIN, SEVERE HEADACHE

SIGNS AND SYMPTOMS
CONFUSION, SEIZURES, COMA, VOMITING, PULMONARY EDEMA, NEUROLOGIC SIGNS, NECK STIFFNESS, UNEQUAL PERIPHERAL PULSES

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
  - DRUG OR ALCOHOL USE, HEAD TRAUMA, SEIZURES, MEDICATION COMPLIANT
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2>90%
- VITAL SIGNS
- POC AND RECHECK B/P
  - SPECIAL ATTENTION TO DIASTOLIC PRESSURE, CUFF SIZE AND PLACEMENT
- ESTABLISH IV NORMAL SALINE, LAB DRAW
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- 12-LEAD EKG
- CONSIDER NITROGLYCERINE PASTE 1½ - 2 INCHES
  - IF NO SIGNS AND SYMPTOMS OF CVA OR INTERCRANIAL HEMORRHAGE
- IF SYSTOLIC PRESSURE>200MMHG ADMINISTER **LABETOLOL 10 MG IN 100CC NS IV RUN WIDE OPEN 60GTT TUBING** .(APPROXIMATELY 5 MIN DURATION)
  - NOTE: LABETOLOL IS CONTRAINDICATED IN COPD, ASTHMA OR IF THE PT IS ALLERGIC TO LABETOLOL.
  - PRESSURE SHOULD BE DECREASED SLOWLY, NOT TO FALL BELOW A SYSTOLIC B/P OF 180MMHG
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

BLS

- LOC, SAMPLE HISTORY , OPQRST
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE DEVICE TO MAINTAIN SPO2 > 90%
- VITAL SIGNS
- NOTHING BY OR IN MOUTH
- IV NS TKO, LAB DRAW
- GLUCOSE CHECK
- POSITION OF COMFORT, PROTECT PATIENT FROM FALL OR INJURY
    - C-SPINE CONTROL AND SPINAL IMMOBILIZATION IF TRAUMA INDICATED
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED
- IV OR IO AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- RHYTHM IDENTIFICATION – TREAT PER APPROPRIATE CARDIAC CARE GUIDELINES
- VALIUM (DIAZEPAM) 5 MG IVP MAY REPEAT ONCE
- IF PATIENT STILL SEIZING:
    - KNOWN TCA OVERDOSE
        - ADMINISTER SODIUM BICARB 50meq
- IF SEIZURE IS SECONDARY TO TRAUMA OR WITHOUT THE CONFIRMATION OF HYPOGLYCEMIA, DO NOT ADMINISTER DEXTROSE OR GLUCAGON
        - IF HYPOGLYCEMIC SEE HYPOGLYCEMIC PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

BLS

- LOC, SAMPLE HISTORY AND OPQRST
- CONSIDER H'S AND T'S (SEE PAGE 34 AND 35)
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE DEVICE TO MAINTAIN SPO2>90%
- VITAL SIGNS
- NOTHING BY OR IN MOUTH
- IV NS TKO, LAB DRAW
- GLUCOSE CHECK
- POSITION OF COMFORT
    - C-SPINE CONTROL AND SPINAL IMMOBILIZATION IF TRAUMA INDICATED
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED(INCLUDING SUCTION)
- IV OR IO AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
    - TREAT PER APPROPRIATE CARDIAC CARE PROTOCOL
- IF HYPOTENSIVE – 250-500CC NS BOLUS(FREQUENTLY REASSESS BREATH SOUNDS)
- NARCAN (NALOXONE) 2 MG IV (TITRATE TO MAINTAIN ADEQUATE RESPIRATORY STATUS)
- IF PATIENT SUSPECT OF CHRONIC ALCOHOLISM:
    - MAGNESIUM SULFATE 2GRAMS IV QUICK
- DEXTOSE(D50W 25 GM IV SLOW, IF BLOOD GLUCOSE IS <70 MG/DL
    - (DO NOT ADMINISTER D50W IF TRAUMA IS SUSPECTED WITHOUT CONFIRMING HYPOGLYCEMIA FIRST)
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- MAINTAIN ABC'S
- OXYGENATE, MAINTAIN SPO2 > 90%
- VITAL SIGNS
- RESTRAIN AS NEEDED FOR PATIENT/CREW SAFETY
- GLUCOSE CHECK
- IV AS NEEDED
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- IF BP < 90 MMHG SYSTOLIC, AND PATIENT SYMPTOMATIC - ADMINISTER BOLUSES OF 0.9% NORMAL SALINE AT 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- IF HYPOGLYCEMIC GO TO HYPOGLYCEMIC ALGORITHM.
- IF PATIENT COMBATIVE OR AGGRESSIVE AND A DANGER TO EMS PERSONNEL OR SELF ;
    - CONSIDER CHEMICAL RESTRAINT PROTOCOL.
- EARLY NOTIFICATION OF ED OF PATIENT CONDITION
- IF PATIENT IN POLICE CUSTODY, POLICE WILL ACCOMPANY PATIENT.
- REQUEST POLICE TO RIDE IF PATIENT IS A PERCEIVED THREAT TO SELF OR CREW
- RAPID TRANSPORT

DYSTONIC (EXTRAPYRAMIDAL) REACTION

- DYSTONIC REACTIONS ARE ADVERSE EXTRAPYRAMIDAL EFFECTS THAT OFTEN OCCUR SHORTLY AFTER THE INITIATION OF DRUG THERAPY.
- DYSTONIC REACTIONS ARE RARELY LIFE THREATENING, YET ARE VERY UNCOMFORTABLE AND OFTEN PRODUCE SIGNIFICANT ANXIETY AND DISTRESS FOR PATIENTS.
- REACTIONS CAN OCCUR RAPIDLY AFTER PHENOTHIAZINES (HALDOL, PHENERGAN) AND CAN OCCUR WITHIN 5 DAYS OF INITIATION OF TREATMENT.
- FREQUENTLY NO CLEAR HISTORY OR MEDICATION USE IS OBTAINABLE; THEREFORE THIS REACTION SHOULD BE TREATED BASED ON ITS CLINICAL PRESENTATION.

COMMON RELATED MEDICATIONS:

PROCHLORPERAZINE (COMPAZINE)
THORAZINE
HALOPERIDOL
PROMETHAZINE (PHENERGAN)
PROLIXIN
REGLAN

SIGNS AND SYMPTOMS

DEVIATION OF THE EYES IN ANY DIRECTION
FORCED JAW OPENING
FACIAL GRIMACING
MENTAL STATUS: MAY BE AGITATED
PROTRUSION OF THE TONGUE
DIFFICULTY SPEAKING
LORDOSIS OR SCOLIOSIS
VITAL SIGNS ARE USUALLY NORMAL
INTERMITTENT SPASMODIC OR SUSTAINED INVOLUNTARY CONTRACTIONS OF MUSCLES IN THE FACE, NECK, TRUNK, PELVIS AND EXTREMITIES

BLS

- LOC, SAMPLE HISTORY (INCLUDING DRUG OR ALCOHOL USE)
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 > 90%
- RAPID ASSESSMENT
- VITAL SIGNS
- IV NORMAL SALINE (LARGE BORE CATHETER) AND LAB DRAW
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD EKG IF TIME PERMITS
- IV IF NOT ALREADY ESTABLISHED
- DIPHENHYDRAMINE (BENADRYL) 25 MG IV OR IM
- IF AFTER 10 MINUTES INADEQUATE RESPONSE TO BENADRYL THEN:
    - DIPHENHYDRAMINE (BENADRYL) 25 MG, IV OR IM
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

LOCALIZED SWELLING LOCALIZED RASH LOCALIZED SKIN IRRITATION

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- ASSESS THE REACTION:
    - NO LIFE THREATENING RESPIRATORY COMPROMISE, SWOLLEN TONGUE, UVULA, ETC. OR B/P < 100MM/HG)
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE DEVICE TO MAINTAIN SPO2 < 90%
- VITAL SIGNS
- NOTHING BY OR IN MOUTH
- IV NS TKO, LAB DRAW
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- IV IF NOT ALREADY ESTABLISHED
- CONSIDER: BENADRYL 25 - 50 MG IVP
- MONITOR FOR SERIOUS REACTION
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

ANAPHYLACTIC SHOCK

SEVERE ALLERGIC REACTION

SIGNS AND SYMPTOMS

RESPIRATORY DISTRESS (DYSPNEA, BILATERAL WHEEZES) SWELLING
HYPOTENSION DEPRESSED LOC
SYNCOPE CHOKING SENSATION
NAUSEA/VOMITING

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- ASSESS THE REACTION
  - SEVERE—LIFE THREATENING RESPIRATORY COMPROMISE, CHECK FOR SWOLLEN TONGUE, UVULA, ETC. OR B/P < 100MM/HG)
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE DEVICE TO MAINTAIN SPO2 < 90%
- VITAL SIGNS
- NOTHING BY OR IN MOUTH
- IV NS TKO
- LAB DRAW
- GLUCOSE CHECK
- MAY APPLY CARDIAC MONITOR IF ALS CARE AVAILABLE
- EPINEPHRINE 1:1,000 0.3 CC SQ TOTAL SINGLE DOSE
- IF SHOCK IS PRESENT TREAT IT (I.E. B/P <100 MM/HG)

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- IV OR IO AS NEEDED
- BENADRYL 25 - 50 MG IVP
- PREDNISONE 60 MG PO **OR**
- IF PT VOMITING:
  - SOLUMEDROL 125 MG IV
- CONSIDER REPEAT **EPINEPHRINE 0.3CC SQ** IF NO IMPROVEMENT AFTER 5 MIN.
- CONSIDER ALBUTEROL 2.5MG/ATROVENT 0.5MG NEBULIZED IF STILL WHEEZING
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

- *FREQUENTLY ASSOCIATED WITH TACHY/BRADY DYSRHYTHMIAS, ACUTE MI, OR BLUNT CHEST TRAUMA*
- *NECK VEIN DISTENTION IN SITTING POSITION*
- *MOIST SOUNDING LUNGS (RALES, RHONCHI-SIGN OF LEFT SIDED HEART FAILURE)*
- *PERIPHERAL EDEMA IF CHRONIC HEART FAILURE(SIGN RIGHT SIDED HEART FAILURE)*
- *CONSIDER TENSION PNEUMOTHORAX*
- *CONSIDER CARDIAC TAMPONADE*
- *RESPIRATORY: EXPIRATORY PHASE NOT PROLONGED AS WITH ASTHMA OR COPD*

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- POSITION OF COMFORT OR TRENDELENBURG IF HYPOTENSIVE
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE DEVICE TO MAINTAIN SPO2 < 90%
- SPINAL IMMOBILIZATION IF TRAUMA IS SUSPECTED
- VITAL SIGNS
- NOTHING BY OR IN MOUTH
- IV LARGE BORE NS
- LAB DRAW
- GLUCOSE CHECK
- MAY APPLY CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
    - TREAT PER APPROPRIATE CARDIAC CARE PROTOCOL
- IV OR IO AS NEEDED
- NS 500 CC IV BOLUS IF HYPOTENSIVE
    - (IF PULMONARY EDEMA EXISTS, DO NOT GIVE FLUID BOLUS)
- DOPAMINE 2-20 μG/KG/MIN TITRATE TO SYSTOLIC BP 110MMHG IF HYPOTENSIVE
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

- *BLOOD LOSS DUE TO PENETRATING INJURIES TO TORSO OR OTHER MAJOR VESSEL (CONTROL OBVIOUS BLEEDING)*
- *FRACTURE OF FEMUR OR PELVIS*
- *GI BLEEDING, VAGINAL BLEEDING, OR RUPTURED ECTOPIC PREGNANCY*
- *DEHYDRATION CAUSED BY VOMITING, DIARRHEA, INADEQUATE FLUID INTAKE, EXCESSIVE FLUID LOSS DUE TO FEVER, UNCONTROLLED DIABETES, OR BURNS*
- *PULSE MAY BE GREATER THAN 120 BPM (EARLY SIGN)*
- *INCREASE RESPIRATORY RATE >24 (EARLY SIGN)*
- *BLOOD PRESSURE MAY BE LESS THAN 90 MMHG SYSTOLIC (LATE SIGN)*
- *ALTERED LOC, AGITATION*
- *ORTHOSTATIC CHANGES IN VITAL SIGNS (CONSIDER POSSIBLE DEHYDRATION)*
  - *PULSE INCREASE OF 20 BPM*
  - *B/P DECREASE OF 10 MMHG SYSTOLIC*

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- MAINTAIN ABC'S
- OXYGENATE WITH APPROPRIATE DEVICE TO MAINTAIN SPO2<90%
- SPINAL IMMOBILIZATION IF TRAUMA IS SUSPECTED
- KEEP WARM
- VITAL SIGNS
- TRENDELENBURG
- NOTHING BY OR IN MOUTH
- 2 LARGE BORE IV'S, (NS AND LRS), LAB DRAW
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- APPLY MAST IF NO CONTRAINDICATIONS

ALS

- ADVANCED AIRWAY/VENTILATORY SUPPORT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
  - TREAT AS NEEDED PER CARDIAC CARE PROTOCOLS
- IV OR IO AS NEEDED
  - IV RATES TO MAINTAIN A SYSTOLIC PRESSURE OF 90 – 100 MMHG
- CONSIDER MAST INFLATION IF TRAUMA TO ABDOMEN OR PELVIS AND BLOOD PRESSURE CANNOT BE MAINTAINED WITH IV FLUIDS
- ADDRESS UNDERLYING CAUSES
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SEXUAL ASSAULT

POLICE WILL BE PRESENT ON SCENE

- BE CALM, CARING AND SENSITIVE TOWARD PATIENT
- PATIENT CARE IS YOUR FIRST PRIORITY
- EXPECT VARIABLE EMOTIONAL STATE(ANGRY, AFRAID, DESPONDENT)
- DO NOT MAKE UNNECESSARY PHYSICAL CONTACT WITH PATIENT
- HAVE WITNESS SAME SEX AS VICTIM PRESENT AT ALL TIMES IF POSSIBLE
- PROTECT THE VICTIM'S PRIVACY
- WRAP PLASTIC SHEET AROUND VICTIM IF POSSIBLE
- DO NOT INSPECT GENITALS UNLESS EVIDENCE OF UNCONTROLLED HEMORRHAGE, TRAUMA OR SEVERE PAIN IS PRESENT
- DO NOT ALLOW PATIENT TO SHOWER OR DOUCHE
- ASSESS FOR TRAUMATIC INJURIES (IF PRESENT TREAT PER SPECIFIC PROTOCOL)
- ANY PATIENT'S CLOTHING REMOVED SHOULD BE GIVEN TO POLICE INVOLVED, WHEN POSSIBLE
- PLACE CLOTHING IN PLASTIC SHEET OR SEPARATE PAPER BAGS WITH ID LABELS AND LOCATION FOUND
- IF GSW OR KNIFE WOUNDS, CUT CLOTHING AT A POINT AWAY FROM ENTRANCE/EXIT WOUNDS
- IF SEXUAL ASSAULT IS SUSPECTED, REMEMBER TO PRESERVE ALL POTENTIAL EVIDENCE. DO NOT ALLOW THE PATIENT TO BATHE OR GO TO THE BATHROOM. POLICE SHOULD COLLECT ALL CLOTHING.
- IN OBTAINING INFORMATION FROM A CAREGIVER, DO NOT ACCUSE. YOU MAY NOT BE SURE OF WHO IS THE ACTUAL ABUSER, AND MAKING THEM DEFENSIVE WILL NOT ASSIST THE PATIENT.
- DO YOUR BEST TO REMAIN OBJECTIVE.
- CAREFULLY AND FULLY DOCUMENT IN A FACTUAL MANNER WHATEVER YOU ARE TOLD AND WHAT YOU OBSERVE.
- REPORT SUSPECTED ABUSE TO THE HOSPITAL PERSONNEL AFTER ARRIVAL.
- MAKE VERBAL AND WRITTEN REPORT.
- MAINTAIN YOUR PROFESSIONALISM DESPITE ANY EMOTIONAL IMPACT THE SCENE OR THE ABUSED MAY HAVE.

BLS AND ALS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN AS NEEDED VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2< 90%
- VITAL SIGNS
- IF INJURY OR ILLNESS PRESENT - TREAT WITH APPROPRIATE PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

AREAS OF PAIN *VISUAL PROBLEMS*
LACERATIONS ON OR AROUND THE EYE *BLOOD ANTERIOR TO PUPIL*
PUPIL ABNORMALITIES *ABNORMAL GLOBE POSITION*
EVIDENCE OF TRAUMA

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- ASSESS NATURE OF OPHTHALMOLOGIC EMERGENCY.
  - IF DIRECT TRAUMA:
    - PATCH BOTH EYES WITHOUT PRESSURE TO GLOBES
    - TRANSPORT PATIENT IN SUPINE POSITION.
    - EXCEPTION: IF BLOOD NOTED IN ANTERIOR CHAMBER (HYPHEMA), TRANSPORT WITH HEAD OF BED ELEVATED AT LEAST 60 DEGREES.
    - DIM CABIN LIGHTS FOR PATIENT COMFORT.
  - IF CHEMICAL TRAUMA:
    - IRRIGATE AFFECTED EYE WITH 2 LITERS NS. IF PATIENT REMAINS SYMPTOMATIC AFTER INITIAL CARE, CONTINUE IRRIGATION THROUGHOUT TRANSPORT.
    - APPLY MOIST DRESSING TO EYES.
    - DIM CABIN LIGHTS FOR PATIENT COMFORT.
    - BE CAREFUL NOT TO FLUSH CONTAMINATED IV SOLUTION INTO THE PATIENT'S UNINJURED EYE
  - IF ATRAUMATIC:
    - PATCH BOTH EYES GENTLY; APPLY RAISED COVER (METAL SHIELD, STYROFOAM CUP, ETC.) TO AFFECTED EYE.
    - DIM CABIN LIGHTS FOR PATIENT COMFORT.
- OXYGENATE VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2>90%
- DO NOT APPLY PRESSURE TO THE GLOBE.
- REMOVE CONTACT LENSES, WHEN APPLICABLE.
- IV AS NECESSARY

ALS

- CONSIDER PAIN MANAGEMENT AS NEEDED (SEE PAIN MANAGEMENT PROTOCOL)
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

PAIN MANAGEMENT WITH ASSOCIATED TRAUMA

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
- OXYGENATE VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2 > 90%
- ASSESS PMS DISTAL TO INJURY SITE
- IV NS TKO
- SPLINT AS NECESSARY
- SPINAL IMMOBILIZATION AS NEEDED
- CARDIAC MONITOR IF ALS AVAILABLE

ALS TREATMENT

- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- **SIMPLE ISOLATED TRAUMA:**
  - MORPHINE 0.1 MG/KG IN 2-5 MG INCREMENTS, TITRATE TO EFFECT.
  - MAX DOSE WITHOUT ADDITIONAL ONLINE ORDERS 10 MG.
- **TRAUMA WITH ASSOCIATED ALTERED MENTAL STATUS, MULTIPLE SYSTEM TRAUMA OR UNSTABLE TRAUMA:**
  - FENTANYL 1.0 MCG/KG UP TO 200 MCG FOR PAIN RELIEF
  - **CONSIDER ADDITIONAL FENTANYL 1.0 MCG/KG IF PAIN PERSISTS**
- MAINTAIN B/P <110MMHG
- REASSESS PMS BEFORE AND AFTER MOVEMENT OF PATIENT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

TRAUMA

(BLUNT OR PENETRATING)

HISTORY OF INJURY

MECHANISM OF INJURY (BLUNT OR PENETRATING)
BLUNT TRAUMA: AMOUNT AND DIRECTION OF FORCE
PENETRATING TRAUMA: WEAPON, SIZE OF OBJECT, BULLET CALIBER, TRAJECTORY OF BULLET
MOTOR VEHICLE ACCIDENT: CONDITION OF VEHICLE, DASHBOARD, AND STEERING WHEEL, SPEED OF IMPACT, SEAT BELT USE, PATIENT TRAJECTORY
DESCRIPTION OF SCENE
TREATMENT PRIOR TO ARRIVAL (PATIENT MOVEMENT)

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST
  - DRUG OR ALCOHOL USE
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 > 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- CONSIDER MAST ON LSB
- SPINAL IMMOBILIZATION/STABILIZATION
- KED IF APPROPRIATE
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- IV LACTATED RINGERS (LARGE BORE CATHETER)
- SECONDARY IV NORMAL SALINE (LARGE BORE CATHETER) IF CONDITION WARRANTS
- AVOID HEAT LOSS
- GLUCOSE CHECK
- MAY APPLY CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- IO IF IV UNSUCCESSFUL AND PT CONDITION WARRANTS
- IF BP < 90 MMHG SYSTOLIC, ADMINISTER FLUID BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
- CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- PAIN MANAGEMENT SEE PAIN MANAGEMENT PROTOCOL.
- FOR CRANIAL, CHEST, EXTREMITY, AND OCULAR INJURIES SEE SPECIFIC PROTOCOLS
- TRANSPORT PER TRAUMA DESTINATION GUIDELINES AS OUTLINED
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

CYANOSIS SUBCUTANEOUS EMPHYSEMA PRESENCE OR ABSENCE OF CHEST WOUND CHEST WALL TENDERNESS ABNORMAL BREATH SOUNDS TRACHEAL DEVIATIONS
MUFFLED HEART SOUNDS DISTENDED NECK VEINS NARROW PULSE PRESSURE PEA DECREASED LOC ABNORMAL CHEST WALL MOVEMENTS

BLS

- LOC, SAMPLE HISTORY INCLUDING OPQRST (DRUG OR ALCOHOL USE)
- OXYGENATE VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO2 > 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- SECURE SPINAL IMMOBILIZATION/STABILIZATION(LSB, CID AND COLLAR)
    - CONSIDER KED IF APPROPRIATE
    - CONSIDER MAST
- IV NORMAL SALINE OR LACTATED RINGERS (LARGE BORE CATHETER)
- SECONDARY IV NORMAL SALINE OR LACTATED RINGERS (LARGE BORE CATHETER) IF CONDITION WARRANTS
- AVOID HEAT LOSS
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS CARE AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- EVALUATE BREATH SOUNDS REEVALUATE FREQUENTLY
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM.
- OPEN/SUCKING CHEST WOUNDS
    - APPLY OCCLUSIVE DRESSING SEALED ON THREE (3) SIDES OR ASHERMAN CHEST SEAL
    - REMOVE TEMPORARILY TO VENT AIR IF ANY VENTILATORY DETERIORATION
- FLAIL SEGMENT
    - STABILIZE FLAIL SEGMENT, TOWEL, PILLOW (DO NOT APPLY IV BAGS, SAND BAGS)
    - ASSESS FOR VENTILATORY COMPROMISE AND ASSIST VENTILATION WITH BVM AS NEEDED
    - IF FLAIL SEGMENT PRESENT :
        - INTUBATE IF POOR VENTILATORY EFFORT WITH UNRESPONSIVE HYPOXIA
- ASSESS FOR TENSION PNEUMOTHORAX
    - IF SUSPICION OF TENSION PNEUMOTHORAX WITH RESPIRATORY DISTRESS,
        - PERFORM NEEDLE DECOMPRESSION
- IO IF IV UNSUCCESSFUL AND PT CONDITION WARRANTS
- IF BP < 90 MMHG SYSTOLIC, ADMINISTER FLUID BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- PAIN MANAGEMENT SEE PAIN MANAGEMENT PROTOCOL.
- TRANSPORT PER TRAUMA DESTINATION GUIDELINES
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

NAUSEA AND/OR VOMITING *NECK PAIN* *HEADACHE*
DOUBLE VISION OR BLURRED VISION *ABNORMAL GAIT* *HYPOTENSION*
NUMBNESS OR PARALYSIS OF EXTREMITIES *TACHYCARDIA*
RESTLESSNESS
BLEEDING OR CSF FROM NOSE AND EARS *ABNORMAL PUPILS* *NEURO DEFICITS*
DECREASED LEVEL OF CONSCIOUSNESS *SEIZURES* *COMA*

BLS

- LOC, SAMPLE HISTORY (INCLUDING DRUG OR ALCOHOL USE)
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- SECURE ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- SECURE SPINAL IMMOBILIZATION/STABILIZATION(LSB, CID AND COLLAR)
  - CONSIDER KED IF APPROPRIATE
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- IV NORMAL SALINE OR LACTATED RINGERS (LARGE BORE CATHETER)
- SECONDARY IV NORMAL SALINE OR LACTATED RINGERS (LARGE BORE CATHETER) IF CONDITION WARRANTS
- AVOID HEAT LOSS
- GLUCOSE CHECK
- IF NORMOTENSIVE OR HYPERTENSIVE ELEVATE HEAD OF BACKBOARD 15-30°
- CARDIAC MONITOR IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IO IF IV UNSUCCESSFUL
  - IF BP < 90 MMHG SYSTOLIC, NORMAL SALINE BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
  - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
  - CONSIDER NARCAN IF SUSPECT OF DRUG INGESTION
- INTUBATE IF:
  - DECREASED LEVEL OF CONSCIOUSNESS WITH RESPIRATORY FAILURE
  - OR POOR VENTILATORY EFFORT (WITH HYPOXIA, UNRESPONSIVE TO SUPPLEMENTAL 100% OXYGEN)
  - OR UNABLE TO MAINTAIN PATENT AIRWAY (GCS ≤ 8 AND UNABLE TO MAINTAIN SUPPLEMENTAL OXYGEN SATURATION BETWEEN 90-100 WITH NON REBREATHER MASK OR BVM)
    - **AIRWAY INTERVENTIONS CAN BE DETRIMENTAL IN PATIENTS WITH HEAD INJURY BY RAISING INTRACRANIAL PRESSURE, WORSENING HYPOXIA (AND SECONDARY BRAIN INJURY) AND INCREASING RISK OF ASPIRATION. FOLLOW RSI PROTOCOL**
  - ADMINISTER NORMAL RATE VENTILATIONS
  - PAIN MANAGEMENT SEE PAIN MANAGEMENT PROTOCOL.
  - TRANSPORT PER TRAUMA DESTINATION GUIDELINES AS OUTLINED
  - EARLY NOTIFICATION TO ED OF PATIENT CONDITIONRAPID TRANSPORT

SIGNS AND SYMPTOMS

PAIN OR LIMITED MOVEMENT DEFORMITY OBVIOUS DEFORMITY SWELLING TENDERNESS CREPITATION ECCHYMOSIS DISCOLORATION LOSS OF FUNCTION WEAK OR ABSENT DISTAL PULSES AND SENSATION

BLS

- LOC, SAMPLE HISTORY (INCLUDING DRUG OR ALCOHOL USE)
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- IF INDICATED
    - SECURE SPINAL IMMOBILIZATION/STABILIZATION(LSB, CID AND COLLAR)
    - CONSIDER KED IF APPROPRIATE
- REMOVE OR CUT AWAY CLOTHING TO EXPOSE AREA OF INJURY
- CONTROL ACTIVE BLEEDING
- CHECK DISTAL PULSES, CAPILLARY REFILL, SENSATION/MOVEMENT PRIOR TO SPLINTING
    - IF PRESENT, SPLINT IN POSITION FOUND IF POSSIBLE
    - IF ABSENT, ATTEMPT TO PLACE THE INJURY INTO ANATOMICAL POSITION
- OPEN WOUNDS/FRACTURES SHOULD BE COVERED WITH STERILE DRESSINGS AND IMMOBILIZED IN THE PRESENTING POSITION
- DISLOCATIONS SHOULD BE IMMOBILIZED TO PREVENT ANY FURTHER MOVEMENT OF THE JOINT
- CHECK DISTAL PULSES, CAPILLARY REFILL, AND SENSATION BEFORE AND AFTER SPLINTING
- CONTROL ACTIVE BLEEDING BY DIRECT PRESSURE AND ELEVATION
- IV NORMAL SALINE (LARGE BORE CATHETER)
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- IV IF ALREADY NOT ESTABLISHED NORMAL SALINE KVO OR IV SALINE LOCK IF CONDITION WARRANTS
    - IF BP < 90 MMHG SYSTOLIC, ADMINISTER NORMAL SALINE BOLUS 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- PAIN MANAGEMENT AS PER PAIN MANAGEMENT PROTOCOL.
- FREQUENT REASSESSMENT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

TRAUMATIC AMPUTATION

SIGNS AND SYMPTOMS

AMPUTATED PART *HYPOTENSION* *TACHYCARDIA* *CYANOSIS*
PALLOR *CLAMMY* *PAIN*

BLS

- LOC, SAMPLE HISTORY (INCLUDING DRUG OR ALCOHOL USE)
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT, EXPOSE INJURY SITE
- IF INDICATED
    - SECURE SPINAL IMMOBILIZATION/STABILIZATION(LSB, CID AND COLLAR)
    - CONSIDER KED IF APPROPRIATE
- CONTROL ACTIVE BLEEDING BY DIRECT PRESSURE THEN A TOURNIQUET
    - TOURNIQUET SHOULD BE WIDE – USE BLOOD PRESSURE CUFF INFLATED JUST UNTIL BLEEDING IS CONTROLLED
    - NOTE TIME TOURNIQUET APPLIED
    - DO NOT RELEASE AFTER APPLICATION
- IF AMPUTATION INCOMPLETE
    - ATTEMPT TO STABILIZE WITH BULKY PRESSURE DRESSING
    - SPLINT INLINE – POSITION OF FUNCTION
    - CHECK DISTAL PULSES, CAPILLARY REFILL, AND SENSATION BEFORE AND AFTER SPLINTING
- IF AMPUTATION COMPLETE;
    - CLEANSE AMPUTATED PART WITH STERILE SALINE
    - WRAP IN STERILE SALINE MOISTENED DRESSING, PLACE IN COOLER WITH SMALL AMOUNT OF ICE TO KEEP COOL, NOT FROZEN.
    - PLACE IN PLASTIC BAG IF POSSIBLE
- IV LACTATED RINGERS(LARGE BORE CATHETER EXTREMITY OPPOSITE SIDE OF INJURY)
- SECOND IV NORMAL SALINE
- GLUCOSE CHECK
- CARDIAC MONITOR IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- IV OR IO(IF CONDITION WARRANTS) AND NOT ALREADY ESTABLISHED
    - IF BP < 90 MMHG SYSTOLIC, ADMINISTER LACTATED RINGERS BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- PAIN MANAGEMENT PER PAIN MANAGEMENT PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT PER DESTINATION GUIDELINES

SIGNS AND SYMPTOMS

PAIN COUGH RESPIRATORY DISTRESS PHARYNGEAL INFLAMMATION
LOSS OF CONSCIOUSNESS VOMITING HOARSENESS STRIDOR
WHEEZING SEIZURES BURNS SINGED NASAL/FACIAL HAIR
SOOT IN MOUTH OR SPUTUM

ASSESS PATIENT FOR:

SEVERITY OF BURNS - DETERMINED BY DEPTH AND LOCATION OF BURN
BODY SURFACE AREA (BSA) INVOLVED
AGE
GENERAL HEALTH OF PATIENT
ASSOCIATED INJURIES.

MAJOR BURN:

- PARTIAL THICKNESS > 25% BSA IN ADULTS; > 20% BSA IN CHILDREN
- FULL THICKNESS > 5% BSA
- ALL BURNS OF HANDS, FEET, FACE, EYES, EARS, GENITALIA
- INHALATION INJURY
- ELECTRICAL BURNS
- BURNS COMPLICATED BY FRACTURE(S) OR OTHER MAJOR TRAUMA
- HIGH RISK PATIENTS (VERY YOUNG, ELDERLY, PATIENTS WITH CHRONIC MEDICAL PROBLEMS)

MODERATE BURN:

- PARTIAL THICKNESS 15% TO 25% BSA IN ADULTS; 10% TO 20% BSA IN CHILDREN
- FULL THICKNESS ≤ 5% BSA

MINOR BURN:

- PARTIAL THICKNESS < 15% BSA IN ADULTS; < 10% BSA IN CHILDREN
- FULL THICKNESS < 2% BSA

ASSESS TYPE, DEPTH, AND EXTENT OF BURN. DOCUMENT AREA INVOLVED ON CHART USING "RULE OF NINES."

BLS

- STOP THE BURNING PROCESS
- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SATURATION BETWEEN 90-100%
- REMOVE ALL CLOTHING FROM PATIENT; EXPOSE ALL BURNED AREAS.
- DO NOT REMOVE CLOTHING THAT IS STUCK TO THE PATIENT
- IF BURNING AGENT STILL IN CONTACT WITH SKIN, REMOVE GENTLY AFTER COOLING WITH STERILE WATER OR NS.
- IF BURNING AGENT IS CHEMICAL:
  - CAUTION: DO NOT USE WATER IRRIGATION IN CHEMICAL BURNS SUCH AS: DRY LIME, CARBOLIC ACID, SOLID POTASSIUM OR SODIUM METALS, OR SULFURIC ACID. CONTACT MEDICAL CONTROL IMMEDIATELY.
  - BRUSH OFF DRY CHEMICALS BEFORE IRRIGATION.
- IV ACCESS. AVOID STARTING LINES IN BURNED AREAS AS POSSIBLE.
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- SPINAL IMMOBILIZATION AS NEEDED
- DRESS INJURIES
  - MINOR BURNS: COOL COMPRESS DRESSINGS WITH STERILE SALINE
    - LESS THAN 10-15% BSA INVOLVED, WRAP BURNED AREAS WITH STERILE CLOTHS OR SHEETS COOLED IN AMBIENT TEMPERATURE NS OR STERILE WATER.
  - 15% OR MORE BSA INVOLVEMENT –
    - DRY, STERILE BURN SHEET ON 2° BURNS GREATER THAN 15% OF BODY SURFACE AREA
- MAINTAIN BODY TEMPERATURE - KEEP PATIENT WARM; WRAP IN BLANKETS AS NEEDED.
- DO NOT ALLOW PATIENT TO BECOME HYPOTHERMIC.

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
  - PATIENTS WITH KNOWN INHALATIONAL INJURY OR WITH SIGNS OF POTENTIAL AIRWAY BURNS (SINGED NASAL HAIRS, SOOT IN THE PHARYNX, ETC.) IN RESPIRATORY DISTRESS SHOULD BE INTUBATED PRIOR TO TRANSPORT WITH THE LARGEST ET TUBE POSSIBLE.
- IF WHEEZING PRESENT, CONSIDER DUO NEB:
  - ALBUTEROL 2.5MG/3CC AND ATROVENT .5MG IN 2.5CC EVERY 3-5MIN
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV OR IO FLUIDS WIDE OPEN IF NO PULMONARY EDEMA - IF NO CONTRAINDICATIONS AND CONDITION WARRANTS

- PAIN MANAGEMENT:
  - MORPHINE 2-5 MG TITRATE TO EFFECT TO MAINTAIN SYSTOLIC B/P 110MMHG AND ADEQUATE RESPIRATORY EFFORT (NO MAX DOSE)
  - IF NO RELIEF: FENTANYL 1MCG/KG EVERY 5 MIN TITRATE TO EFFECT TO MAINTAIN SYSTOLIC B/P 110MMHG AND ADEQUATE RESPIRATORY EFFORT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT - CONSIDER AIR TRANSPORT TO A BURN CENTER

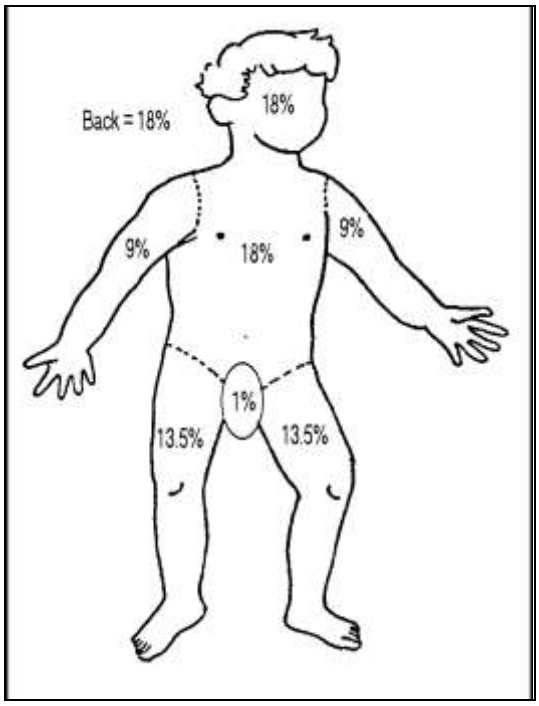
BURN INJURY - INTRAVENOUS THERAPY GUIDELINES

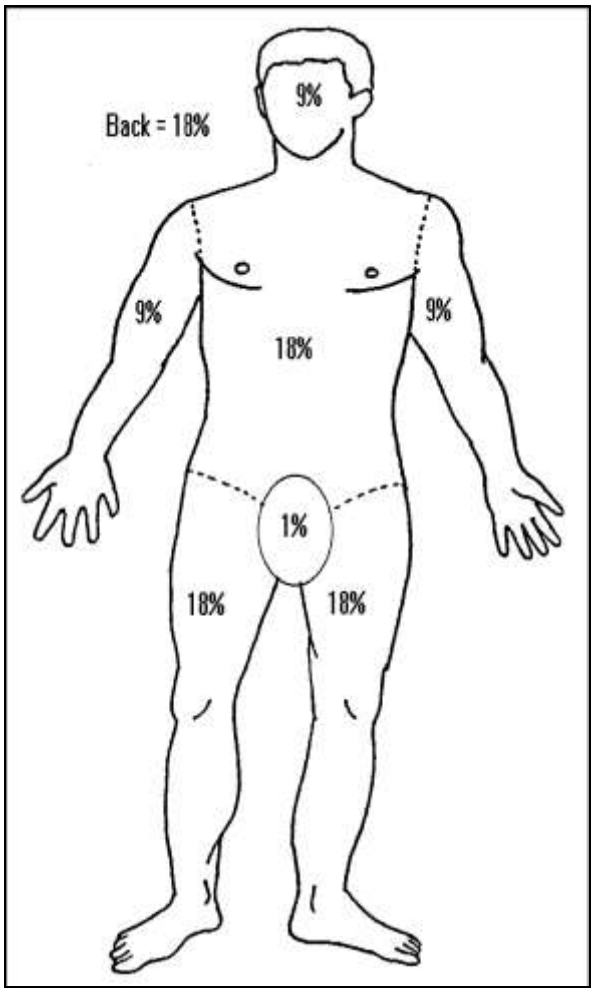
IF SHORT TRANSPORT TIME, WIDE OPEN FLUIDS ACCEPTABLE IF PATIENT EXHIBITS NO S/S OF PULMONARY EDEMA

BURN CENTER CRITERIA INCLUDE:

- SECOND DEGREE BURN INVOLVING > 20% BSA
- THIRD DEGREE BURN INVOLVING > 5% BSA.
- BURNS OF THE HANDS, FACE, FEET, OR PERINEUM, GENITALIA.
- BURNS ASSOCIATED WITH INHALATIONAL INJURIES.
- BURNS ASSOCIATED WITH MULTIPLE TRAUMAS.
- ELECTRICAL INJURIES.

RULE OF NINES





SCENE SAFETY CONSIDERATION:
BEFORE TOUCHING ANY PATIENT WHO HAS BEEN SUBDUED USING A TASER ENSURE THAT THE OFFICER/DEPUTY HAS DISCONNECTED THE WIRES/CARTRIDGE FROM THE HAND HELD UNIT.

ASSESSMENT

- IDENTIFY THE LOCATION OF THE PROBES ON THE PATIENT'S BODY.
- IF ANY OF THE PROBES ARE EMBEDDED IN THE CRITICAL AREAS DO NOT REMOVE: FACE, NECK, GROIN, SPINAL COLUMN
- PROBES LOCATED IN NON CRITICAL AREAS CAN BE REMOVED
- CONFER WITH THE OFFICER/DEPUTY AND DETERMINE THE PATIENT'S CONDITION FROM THE TIME OF THE TASER DISCHARGE UNTIL EMS ARRIVAL
- DID THE PATIENT RECEIVE ELECTRICAL CURRENT ?

BLS

- SAMPLE HISTORY
- DATE OF LAST TETANUS
- DRUG OR ALCOHOL USE
- ABC'S AND OXYGEN (AS DETERMINED NECESSARY BY APPROPRIATE METHOD)
- SECURE PROBES THAT REMAIN EMBEDDED AS AN IMPALED OBJECT
- VITAL SIGNS
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- SPINAL IMMOBILIZATION IF TRAUMA IS SUSPECTED
- IF THE PROBE IS NOT LOCATED IN A CRITICAL AREA IT CAN BE REMOVED.
- TO REMOVE THE PROBE:
  - PLACE ONE HAND ON THE PATIENT IN THE AREA WHERE THE PROBE IS EMBEDDED AND STABILIZE THE SKIN SURROUNDING THE PUNCTURE SITE.
  - TRY TO DETERMINE WHICH SIDE OF THE PROBE THE BARB IS ON
  - PLACE YOUR OTHER HAND/PLIERS FIRMLY AROUND THE PROBE.
  - TRY TO PULL AWAY FROM THE BARBED SIDE
  - IN ONE FLUID MOTION PULL THE PROBE STRAIGHT OUT FROM THE PUNCTURE SITE.
  - REPEAT PROCEDURE WITH SECOND PROBE.
- REMOVED PROBES SHOULD BE HANDLED LIKE CONTAMINATED SHARPS AND SHOULD BE PLACED IN A URINE SPECIMEN CONTAINER TO BE PROVIDED BY THE OFFICER/DEPUTY. THEY WILL LIKELY LOG THE PROBES INTO EVIDENCE.
- CLEANSE PUNCTURE SITES AND BANDAGE AS APPROPRIATE.
- IV AS NEEDED

ALS

IF ELECTRICAL CURRENT WAS RECEIVED BY THE PATIENT

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD EKG
- MONITOR FOR DYSRHYTHMIAS TREAT PER APPROPRIATE CARDIAC CARE PROTOCOL
- IF THE PATIENT IS COMBATIVE AND NEEDS TO BE CHEMICALLY RESTRAINED, SEE CHEMICAL RESTRAINT PROTOCOL
- ASSESS FOR THESE CO-MORBID FACTORS: AGITATED DELIRIUM, HYPERDYNAMIC DRUGS, AND HYPERTHERMIA, AS THEY INCREASE RISK FOR DEATH.
    - THEREFORE, IT IS IMPERATIVE THAT THESE PATIENTS RECEIVE A THOROUGH ASSESSMENT FOR THESE RISK FACTORS, AND ARE NOT RESTRAINED IN AN IMPROPER POSITION.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

BLS

- LOC, SAMPLE HISTORY
- CLEAR AIRWAY WITH REGARD TO C-SPINE
- MAINTAIN ABC'S
- 100% OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT
- IV NORMAL SALINE TKO, LAB DRAW
- GLUCOSE CHECK
- CONSIDER SPINAL IMMOBILIZATION
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- KEEP WARM

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- NG TUBE WHEN POSSIBLE
- QUICKLY DRY PATIENT AND PLACED ON A DRY SURFACE BEFORE DEFIBRILLATING
- EVALUATE CARDIAC RHYTHM AND GO TO APPROPRIATE TREATMENT PROTOCOL
- IF HYPOTHERMICGO TO HYPOTHERMIA PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

DYSBARISM

HISTORY

SCUBA DIVING: AIR TANK FAILURE; RAPID ASCENT; PROLONGED/REPETITIVE DIVE PROFILE

ALTITUDE: DEPRESSURIZATION OR INADEQUATE PRESSURIZATION WHILE FLYING AT HIGH ALTITUDE; HIGH ALTITUDE EXPOSURE AFTER SCUBA DIVING.

SIGNS AND D SYMPTOMS

CHEST PAIN *CRAMPS* *DYSPNEA* *HEADACHE*
JOINT PAIN *DIZZINESS* *FATIGUE* *NAUSEA AND VOMITING*
PARALYSIS *SKIN TENDERNESS* *SKIN MOTTLING* *COUGH*
CONFUSION *COMA* *SEIZURES* *RESPIRATORY DISTRESS*
NEURO DEFICITS *PNEUMOTHORAX* *TENSION PNEUMOTHORAX*

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT
- VITAL SIGNS
- SPINAL IMMOBILIZATION IF SUSPECTED TRAUMA
- TRANSPORT SUPINE
- IV NS, LAB DRAW
- GLUCOSE CHECK
- CARDIAC MONITOR (APPLY DEFIBRILLATOR IF SERIOUS SIGNS AND SYMPTOMS) IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- RECORD AND EVALUATE EKG STRIP
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- IO IF IV UNSUCCESSFUL AND CONDITION WARRANTS
- IF BP<90 MMHG SYSTOLIC, ADMINISTER BOLUSES OF NS 250-500 CC TO MAINTAIN SYSTOLIC BP > 90 TO 110 MMHG
    - *CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)*
- OBSERVE FOR SIGNS OF TENSION PNEUMOTHORAX
- PLEURAL DECOMPRESSION AS NEEDED
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT , CONSIDER AIR TRANSPORT

PROTECT YOURSELF FROM DANGER OF SNAKE BITE
DETERMINE TYPE OF SNAKE, IF POSSIBLE (NUMBER OF PUNCTURE MARKS NOT DIAGNOSTIC)
TREATMENT
BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT DEVICE
- VITAL SIGNS
- NOTHING BY MOUTH
- IV NS
- GLUCOSE CHECK
- SUPINE POSITION WITH AFFECTED EXTREMITY ELEVATED
- CARDIAC MONITOR IF ALS AVAILABLE
- ALLAY ANXIETY – KEEP PT CALM
- REMOVE JEWELRY

ALS

- OBSERVE FOR ANAPHYLAXIS AND TREAT ACCORDINGLY
- CONSIDER BENEDRYL 25MG IM/IV
- FLUID BOLUS 250-500 CC IF HYPOTENSIVE
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SIGNS AND SYMPTOMS

EXTREMITY PAIN

PARESTHESIA (FROSTBITE)

SHIVERING (OCCURS BETWEEN 89.6O F - 98.6O F)

RECTAL TEMPERATURE < 95O F BRADYCARDIA

DECREASED RESPIRATORY RATE

DECREASED LOC

BLANCHING AND/OR BLISTERING OF EXTREMITIES, EARS, NOSE

HYPOTENSION

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- MAINTAIN SUPINE HORIZONTAL POSITION - AVOID ROUGH MOVEMENT OR EXCESSIVE ACTIVITY
- CONSIDER LSB
- SUPPLEMENTAL OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 >90%
- DETERMINE TEMPERATURE OF PATIENT AS POSSIBLE.
- REMOVE WET, COLD, OR CONSTRICTING CLOTHING; WRAP PATIENT IN BLANKETS.
- PROTECT FROM FURTHER EXPOSURE AND HEAT LOSS
- HANDLE PATIENT GENTLY;
    - THE HYPOTHERMIC HEART IS IRRITABLE, AND ROUGHNESS MAY RESULT IN VENTRICULAR ARRHYTHMIAS.
- REWARMING IS THE PRIORITY.
- IV AND DRAW LABS
- GLUCOSE CHECK
- IF HYPOTHERMIA INJURY IS LOCAL (FROSTBITE);
    - HANDLE INJURED PART GENTLY; LEAVE UNCOVERED.
    - DO NOT ALLOW INJURED PART TO THAW IF CHANCE EXISTS FOR REFREEZING BEFORE ARRIVAL AT DEFINITIVE CARE FACILITY.
- MAINTAIN CORE TEMPERATURE OF PATIENT WITH BLANKETS, HOT PACKS IN AXILLA, GROIN AND KIDNEY AREA
- CARDIAC MONITOR IF ALS AVAILABLE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD EKG IF TIME PERMITS
- RECORD & MONITOR 02 SATURATION & END-TIDAL C02 (IF AVAILABLE)
- PAIN MANAGEMENT SEE PAIN MANAGEMENT PROTOCOL.
- REASSESS PATIENT FREQUENTLY.
- IF CARDIAC ARRHYTHMIAS DEVELOP GO TO APPROPRIATE PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SPECIFIC INFORMATION NEEDED:

ONSET AND DURATION *PATIENT AGE* *PATIENT ATTIRE*
ACTIVITY LEVEL (EXERCISE INDUCED?) *AIR TEMPERATURE, HUMIDITY*
DRUG OR ALCOHOL USE

SIGNS AND SYMPTOMS

CHILLS	*WEAKNESS*	*DELIRIUM*
LOSS OF CONSCIOUSNESS	*BEHAVIORAL CHANGES*	*SWEATS*
MUSCLE CRAMPS	*HEADACHE*	*THIRST*
NAUSEA/VOMITING	*VISUAL DISTURBANCES*	*HIGH TEMP*
WARM TO HOT SKIN	*SKIN PALLOR OR FLUSHING*	*WHEEZING*
SKIN MOIST OR DRY	*RESTLESSNESS*	*PSYCHOSIS*
SEIZURES		

HEAT CRAMPS

S/S

PAINFUL SPASMS OF THE EXTREMITIES OR ABDOMINAL MUSCLES CAUSED BY SALT DEPLETION, PATIENT A&O X 4, V/S NORMAL

HEAT EXHAUSTION

S/S

DIZZINESS, LIGHT-HEADEDNESS, HEADACHE, IRRITABILITY CAUSED BY FLUID/ELECTROLYTE LOSS AND RESULTING HYPOVOLEMIA, NORMAL OR SLIGHTLY DECREASED LOC, NORMAL OR DECREASED BP, TACHYCARDIA, NORMAL OR SLIGHTLY ELEVATED WAVE SEGMENT

HEAT STROKE

S/S

MARKED ALTERATION IN LOC, EXTREMELY HIGH TEMPERATURE [OFTEN > 104] WITH RED/HOT/DRY SKIN, CAUSED BY HYPOTHALAMIC IMBALANCE).

BLS

- LOC, SAMPLE HISTORY
- TAKE ORAL OR AUXILIARY TEMPERATURE
- REMOVE EXCESS CLOTHING
- MOVE PATIENT TO COOL AREA
- CONSIDER COOL/COLD LIQUIDS ORALLY AS TOLERATED
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO > 90%
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- WET PATIENT AND MAXIMIZE EXTERNAL VENTILATION
- ESTABLISH IV ACCESS, CONSIDER A FLUID CHALLENGE 250 TO 1000 ML
    - IF HYPOTENSIVE (SBP<90 OR SIGNS OF POOR PERFUSION), FLUID CHALLENGE OF 250-1000 ML NS. IF SBP REMAINS <90 CONTINUE FLUID RESUSCITATION. TITRATE TO SBP OF 90 OR SYMPTOMS OF IMPROVED PERFUSION DO NOT EXCEED 2 LITERS TOTAL
- LAB DRAW
- CONTINUE COOLING MEASURES DURING TRANSPORT
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12 LEAD AS TIME PERMITS
- MONITOR 02 SATURATION & END-TIDAL C02 (IF AVAILABLE)
- CONSIDER COLD PACKS IN AXILLA AND GROIN
- IF UNRESPONSIVE OR HAVING SEIZURES SEE APPROPRIATE PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

PRECAUTIONS AND COMMENTS:

- THOSE AT GREATEST RISK OF HYPERTHERMIA ARE THE ELDERLY, INDIVIDUALS IN ENDURANCE ATHLETIC EVENTS, AND PATIENTS ON MEDICATIONS WHICH IMPAIR THE BODY'S ABILITY TO REGULATE HEAT (E.G. BETA BLOCKERS, TRICYCLIC ANTIDEPRESSANTS)
- BE AWARE THAT HEAT EXHAUSTION MAY PROGRESS TO HEAT STROKE
- DO NOT USE ICE WATER OR COLD WATER TO COOL PATIENT DUE TO POTENTIAL VASOCONSTRICTION AND INDUCTION OF SHIVERING
- DO NOT PLACE TOWELS OR BLANKETS ON THE PATIENT AS THEY MAY INCREASE CORE TEMPERATURE
- BE ALERT FOR SIGNS OF TRAUMA, E.G. FALLS. BEGIN APPROPRIATE TREATMENT IF SUSPECTED

SPECIAL CONSIDERATIONS

- MULTIPLE DEATHS COMMONLY OCCUR WHEN IMPROPERLY EQUIPPED PERSONS ATTEMPT RESCUE IN A CONFINED SPACE ACCIDENT; DO NOT ATTEMPT RESCUE UNLESS PROPERLY TRAINED AND EQUIPPED.
- INHALATION OF TOXIC PRODUCTS OF COMBUSTION OR CHEMICAL IRRITANTS PRODUCES VARYING DAMAGE, DEPENDING ON NATURE AND DURATION OF EXPOSURE.
- SIGNS AND SYMPTOMS MAY BE MINIMAL OR ABSENT INITIALLY; FATAL BURNS TO RESPIRATORY TRACT MAY OCCUR WITH LITTLE OR NO EXTERNAL EVIDENCE; NONCARDIOGENIC PULMONARY EDEMA MAY DEVELOP AS LATE AS 24 TO 72 HOURS AFTER INHALATION OF SOME IRRITANT SUBSTANCES.
- SUSPECT AIRWAY INJURY FOR BURNS SUSTAINED IN CONFINED SPACE, IF FACIAL BURNS OR SINGING ARE PRESENT. AIRWAY EDEMA USUALLY DOES NOT BECOME SEVERE UNTIL AFTER THE FIRST HOUR, BUT IT MAY DEVELOP WITH DRAMATIC RAPIDLY IN RESPIRATORY BURNS.
- MANY IRRITANT GASES (AMMONIA, NITROGEN OXIDE, SULFUR DIOXIDE, SULFUR TRIOXIDE) COMBINE WITH WATER TO FORM CORROSIVE ACID OR ALKALI THAT CAUSES BURNS OF THE UPPER RESPIRATORY TRACT WITH POTENTIAL EARLY UPPER AIRWAY COMPROMISE.

CARBON MONOXIDE AND TOXIC INHALATION

SPECIFIC INFORMATION NEEDED:

DESCRIPTION OF SCENE:
(ENCLOSED SPACE, BROKEN CONTAINERS, DISTINCTIVE ODORS, SIGNS OF FIRE OR SMOKE, POOR VENTILATION)
NATURE OF INHALANT OR COMBUSTIBLE MATERIAL
DURATION OF EXPOSURE
TIME SINCE EXPOSURE

SIGNS AND SYMPTOMS

BURNING SENSATION IN MOUTH, NOSE, THROAT, OR CHEST *WEAKNESS*
THERMAL BURNS TO MOUTH, FACE, NOSE, CHEST *EYE IRRITATION OR BURNING* *DIZZINESS* *HYPOVENTILATION*
COUGH/WHEEZING *DYSPNEA/LABORED BREATHING*
LOSS OF CONSCIOUSNESS *NAUSEA AND VOMITING CYANOSIS*
CHERRY RED SKIN (LATE SIGN) *SINGED NASAL/FACIAL HAIR*
SOOT IN MOUTH/NOSE *STRIDOR OR HOARSENESS SEIZURES*
BEHAVIOR CHANGES *RALES, RHONCHI OR WHEEZING*
DECREASED LOC *SEIZURES* *HEADACHE*

BLS

- PROTECT YOURSELF, REMOVE PATIENT FROM SOURCE
- LOC, SAMPLE HISTORY INCLUDING DRUG OR ALCOHOL USE
- OXYGEN 100% VIA NRB OR APPROPRIATE AIRWAY ADJUNCT
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- IV NORMAL SALINE (LARGE BORE CATHETER), SECOND IV IF CONDITION WARRANTS
- LAB DRAW
- GLUCOSE CHECK
- MINIMIZE PATIENT MOTION.
- PREPARE SUCTION EQUIPMENT FOR LIKELY EMESIS.

ALS

- MONITOR OXYHEMOGLOBIN SATURATION CLOSELY DURING TRANSPORT
  - (WARNING: SAO_2 READINGS MAY BE **FALSELY HIGH** IN THE PRESENCE OF SIGNIFICANTLY ELEVATED CARBON MONOXIDE LEVELS. DON'T BE MISLEAD BY "NORMAL" SAO_2 READINGS.
- DETAILED ASSESSMENT
- CONSIDER FACILITY WITH HYPERBARIC SERVICES AS PRIMARY DESTINATION.
- CALL MEDICAL CONTROL TO DETERMINE TRANSPORT DESTINATION
- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12-LEAD EKG
- RECORD & MONITOR O_2 SATURATION & END-TIDAL CO_2 (IF AVAILABLE)
- IV OR IO (IF CONDITION WARRANTS) IF NOT ALREADY ESTABLISHED
- IF BP < 90MMHG SYSTOLIC, ADMINISTER NORMAL SALINE BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP > 90 MMHG
  - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
  - EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT PER DESTINATION GUIDELINES

GENERAL INFORMATION

HISTORY OF INJURY

ROUTE, TYPE, TIME, QUANTITY OF EXPOSURE ACCIDENTAL, INTENTIONAL
BYSTANDER ACTION PRIOR TO ARRIVAL EMESIS (INDUCED, SPONTANEOUS)
ANY ANTIDOTE GIVEN DEPRESSION OR SUICIDAL
PREVIOUS OVERDOSES/POISONINGS

SIGNS AND SYMPTOMS

MOUTH OR THROAT PAIN
EYE IRRITATION/BURNING
SLEEPINESS
ABDOMINAL PAIN
HEADACHE
CHEST PAIN
CYANOSIS, RASH, DIAPHORESIS
INCREASED SALIVATION
ABNORMAL BREATHING PATTERNS
WHEEZING
DECREASED LOC
SEIZURES
BURNS AROUND THE MOUTH
DYSPNEA
NAUSEA/ VOMITING
DIARRHEA
ITCHING
DEPRESSION
ABNORMAL BREATH ODOR
EXCESSIVE TEARING
LABORED RESPIRATIONS,
DYSRHYTHMIAS
COMA

ADDITIONAL INFORMATION NEEDED:

PARTICULAR AGENT(S) INVOLVED
THE TIME OF THE INGESTION/EXPOSURE
THE AMOUNT INGESTED.
BRING EMPTY PILL BOTTLES, ETC., TO THE RECEIVING FACILITY.
SEE HAZMAT PROTOCOL FOR EXPOSURE TO HAZARDOUS MATERIALS.

BLS

- LOC, SAMPLE HISTORY INCLUDING DRUG OR ALCOHOL USE
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- NOTHING BY MOUTH
- IF INDICATED
    - SECURE SPINAL IMMOBILIZATION/STABILIZATION(LSB, CID AND COLLAR)
    - CONSIDER KED IF APPROPRIATE
- IV NORMAL SALINE (LARGE BORE CATHETER)
- CARDIAC MONITOR IF ALS AVAILABLE
- GLUCOSE CHECK
    - IF HYPOGLYCEMIC GO TO HYPOGLYCEMIC PROTOCOL.

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- RECORD AND MONITOR SPO2 AND END-TIDAL CO_2 (IF AVAILABLE)
- IV OR IO (IF INDICATED) IF NOT ALREADY ESTABLISHED
- DETAILED ASSESSMENT
- IF BP < 90 MMHG SYSTOLIC, ADMINISTER NORMAL SALINE BOLUS 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- IF PATIENT UNRESPONSIVE AND HAS AN AIRWAY COMPROMISE
    - NALOXONE (NARCAN) 0.4 MG IVP EVERY 1 MIN AS NEEDED TO STIMULATE SPONTANEOUS RESPIRATORY EFFORT (MAXIMUM 4 MG)
    - IF IV ACCESS HAS NOT BEEN ESTABLISHED, ADMINISTER NALOXONE (NARCAN) 2.0 MG IM (THIGH MUSCLE INJECTION SITE FOR ITS FLUID CAPACITY)
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

CENTRAL NERVOUS SYSTEM AGENTS

- **SEDATIVES:**
  - BARBITURATES: SECONAL, NEMBUTAL, TUINAL, ETC.
  - NON-BARBITURATES: QUAALUDE, SOPORS, DALMANE, CHLORAL HYDRATE, PLACIDYL, ETC.
- **ANALGESICS:**
  - NARCOTICS (OPIUM DERIVATES): HEROIN, MORPHINE, DEMEROL, CODEINE, PERCODAN, PAREGORIC, METHADONE
  - NON-NARCOTICS: TALWIN, DARVON, ACETAMINOPHEN, SALICYLATES, PHENYLBUTAZONE, PHENACETIN
  - TRANQUILIZERS: VALIUM, LIBRIUM, MEPROBAMATE, VISTARIL, THORAZINE
- **ALCOHOLS:**
  - ETHANOL, METHANOL, ISOPROPYL ALCOHOL
- **HALLUCINOGENICS:**
  - MARIJUANA, LSD, COCAINE, STP, HASHISH
- **AMPHETAMINES:**
  - DIET PILLS, BENZEDRINE, "SPEED"
- **ANTIDEPRESSANTS:**
  - ELAVIL, TOFRANIL, MELLARIL

CARDIAC MEDICATIONS

- DIGITALIS, QUINIDINE, PROPRANOLOL

HYPOGLYCEMIC AGENTS

- ORINASE, DIABINESE, DYMELOR
- INSULINS: REGULAR, NPH, LENTE, SEMILENTE)

ANTCOAGULANTS

- COUMADIN, HEPARIN

ANTIBIOTICS

- AMOXIL, CECLOR, CEFOBID. CLEOCIN, EES, ERYTHROMYCIN, GEOCILLIN, ULTRACEF, VIBRAMYCIN, DURICEF, KEFLEX, PENICILLIN, TETRACYLINE

POISONOUS SUBSTANCES

- ARSENIC , STRYCHNINE, HYDROCARBONS, POISONOUS PLANTS, ACIDS AND ALKALINES

BETA BLOCKERS (SOME COMMONLY USED):

PROPRANOLOL (INDERAL)
METROPROLOL (LOPRESSOR)
TIMOLOL (BLOCADREN)
ESMOLOL (BREVIBLOC)
ATENOLOL (TENORMIN)
NADOLOL (CORGARD)
LABETOLOL (TRANDATE)
ACEBATOLOL (SECTRAL)

BETA BLOCKER COMBINATION DRUGS.

IT IS THE BETA-BLOCKER COMPONENT THAT LEADS TO SPECIFIC TOXICITY. COMBINATION BETA-BLOCKER DRUGS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

CORZIDE (NADOLOL/BENDROFLUMETHLAZIDE) INDERIDE (PROPRANOLOL/HCTZ)
INDERIDE LA (PROPRANOLOL/HCTZ) LOPRESSOR HCT (METOPROLOL/HCTZ)
ZIAC (BISOPROLOL/HCTZ) TENORETIC (ATENOLOL/CHLORTHALIDONE)
TIMOLIDE (TIMOLOL/HCTZ)

CALCIUM CHANNEL BLOCKERS (SOME COMMONLY USED):

- AMLODIPINE (NORVASC)
- FELODIPINE (PLENDIL, RENEDIL)
- ISRADIPINE (DYNACIRC)
- NICARDIPINE (CARDENE)
- NIFEDIPINE (PROCARDIA, ADALAT)
- VERAPAMIL (CALAN)

- DILTIAZEM (CARDIZEM)
    - PATIENTS INGESTING DILTIAZEM TYPICALLY PRESENT WITH HEART BLOCK AND LESSER DEGREES OF HYPOTENSION.
    - DELAYED-RELEASE FORMULATIONS REQUIRE LONGER OBSERVATION PERIODS TO INSURE NO DELAYED ONSET OF TOXICITY.
    -
- BEPRIDIL (VASCOR):
    - USED FOR REFRACTORY ANGINA, IS A UNIQUE CALCIUM CHANNEL BLOCKER WITH SOME SODIUM CHANNEL BLOCKING ACTIVITY, IT HAS BEEN SHOWN TO PROLONG THE QTC INTERVAL THROUGH ITS POTASSIUM CHANNEL BLOCKING EFFECT; THEREFORE, IT MAY CAUSE TORSADE DE POINTES

ANTIDEPRESSANTS

CATEGORY	DRUGS	OVERDOSE EFFECTS
TRICYCLIC ANTIDEPRESSANTS	♦ AMITRIPTYLINE *(ELAVIL, ENDEP, ETRAFON, VANATRIP, LEVATE)*	HYPOTENSION ANTI-CHOLINERGIC EFFECTS TACHYCARDIA SEIZURES ALTERED MENTAL STATUS MYDRIASIS AV CONDUCTION BLOCKS PROLONGED QT INTERVAL **WIDE QRS** VT AND VF
	♦ CLOMIPRAMINE *(ANAFRANIL)*	
	♦ DOXEPIN *(SINEQUAN, ZONALON, TRIADAPIN)*	
	♦ IMIPRAMINE *(TOFRANIL, IMPRIL)*	
	♦ NORTRIPTYLINE *(AVENTYL;PAMELOR, NORVENTYL)*	
	♦ DESIPRAMINE *(NORPRAMIN)*	
	♦ PROTRIPTYLINE *(VIVACTIL)*	
	♦ TRIMIPRAMINE *(SURMONTIL)*	
	♦ *(LIMBITROL)* AMITRIPTYLINE + CHLORDIAZEPOXIDE	

ANTIDEPRESSANTS

CATEGORY	DRUGS	EFFECTS
OTHER CYCLIC ANTIDEPRESSANTS	♦ MAPROTILINE *(LUDIOMI*L)	LUDIOMIL IS SIMILAR TO TRICYCLICS, ASENDIN PRODUCES MOSTLY SEIZURES
	♦ AMOXAPINE *(ASENDI*N)	
	♦ BUPROPION *(WELLBUTRI*N)	MINIMAL-MODERATE EFFECTS SEIZURES
	♦ TRAZODONE *(DESYREL, TRAZORE*L)	LESS SEIZURES AND CARDIAC EFFECTS THAN TRICYCLICS
SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI'S)	♦ CITALOPRAM *(CELEX*A)	HYPERTENSION TACHYCARDIA AGITATION DIAPHORESIS SHIVERING TREMORS MUSCLE RIGIDITY MALIGNANT HYPERTHERMIA
	♦ FLUOEXITINE *(PROZA*C)	
	♦ FLUVOXAMINE *(LUVO*X)	
	♦ PAROXETINE *(PAXI*L)	
	♦ SERTRALINE (ZOLOFT)	

TREATMENT OF TRICYCLIC AND TETRACYCLIC ANTIDEPRESSANT OVERDOSE

ADDITIONAL INFORMATION NEEDED:

ROUTE, TYPE, TIME, QUANTITY OF EXPOSURE
BYSTANDER ACTION PRIOR TO ARRIVAL
SPONTANEOUS)
ANY ANTIDOTE GIVEN
PREVIOUS OVERDOSES/POISONINGS
ACCIDENTAL, INTENTIONAL
EMESIS (INDUCED,
DEPRESSION OR SUICIDAL

BLS

- LOC, SAMPLE HISTORY INCLUDING DRUG OR ALCOHOL USE
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- MAINTAIN ABC'S WITH REGARD TO C-SPINE
- RAPID ASSESSMENT
- IV NORMAL SALINE (LARGE BORE CATHETER), LAB DRAW
- SECONDARY IV NORMAL SALINE (LARGE BORE CATHETER) IF CONDITION WARRANTS
- CARDIAC MONITOR IF ALS AVAILABLE
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- DETAILED HEAD TO TOE EXAMINATION TO ASSESS FOR INJURIES
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12-LEAD EKG
- RECORD & MONITOR SPO_2 & $ETCO_2$
- IV OR IO (IF INDICATED) IF NOT ALREADY ESTABLISHED
    - IF BP < 90 MMHG SYSTOLIC, ADMINISTER NORMAL SALINE BOLUS 250-500 CC TO MAINTAIN SYSTOLIC BP > 110 MMHG
- IF ALTERED MENTAL STATUS
    - SEE ALTERED MENTAL STATUS PROTOCOL
- SODIUM BICARBONATE 1MEQ/KG IV
- IF SEIZURES
    - SEE SEIZURE PROTOCOL AND:
- IF TORSADES DE POINTES
    - MAGNESIUM SULFATE 2GM IN 100CC WITH 60GTT TUBING WIDE OPEN (IF NO RENAL DISEASE)
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

BETA BLOCKER OVERDOSE TREATMENT

SIGNS AND SYMPTOMS

CARDIOVASCULAR:

HYPOTENSION *BRADYARRHYTHMIAS*
ATRIOVENTRICULAR BLOCK
INTRAVENTRICULAR CONDUCTION DISTURBANCE, CARDIOGENIC SHOCK
ASYSTOLE

RESPIRATORY:

BRONCHOSPASM MAY BE SEEN USUALLY IN PATIENTS WITH PRE-EXISTING BRONCHOSPASTIC DISEASES SUCH AS ASTHMA.

CNS:

OVERDOSES OF MEMBRANE DEPRESSANT AND LIPOPHILIC DRUGS SUCH AS PROPRANOLOL MAY PRODUCE SEIZURES AND COMA.

RENAL :

OLIGURIA AND ACUTE RENAL FAILURE ARE SECONDARY TO VASCULAR HYPOPERFUSION/SHOCK USUALLY NOT SEEN PREHOSPITAL

ADDITIONAL INFORMATION NEEDED:

ROUTE, TYPE, TIME, QUANTITY OF EXPOSURE *ACCIDENTAL, INTENTIONAL*
BYSTANDER ACTION PRIOR TO ARRIVAL *EMESIS (INDUCED, SPONTANEOUS)*
ANY ANTIDOTE GIVEN *DEPRESSION OR SUICIDAL*
PREVIOUS OVERDOSES/POISONINGS

BLS

- LOC, SAMPLE HISTORY INCLUDING DRUG OR ALCOHOL USE
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT, MAINTAIN SPO2 ABOVE 90%
- RAPID ASSESSMENT
- VITAL SIGNS
- CARDIAC MONITOR IF ALS AVAILABLE
- IV NORMAL SALINE (LARGE BORE CATHETER), LAB DRAW
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- DETAILED HEAD TO TOE EXAMINATION, ASSESS FOR INJURIES
- 12-LEAD EKG
- RECORD & MONITOR O2 SATURATION & END-TIDAL CO2 (IF INDICATED)
- IV OR IO (IF INDICATED) IF NOT ALREADY ESTABLISHED
    - IF BP < 90 MMHG SYSTOLIC ADMINISTER NORMAL SALINE BOLUS OF 250-500 ML UNTIL SYSTOLIC BP>110 MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- MONITOR CLOSELY FOR PULMONARY EDEMA
- IF SYMPTOMATIC:
    - GLUCAGON 1 MG IV PUSH
        - DO NOT USE THE PHENOL-CONTAINING DILUENT SUPPLIED BY THE MANUFACTURER AS IT IS INTENDED FOR IM ADMINISTRATION; USE NS INSTEAD.
    - EPINEPHERINE 1 MCG/KG/MIN AND TITRATE RAPIDLY TO EFFECT.
        - AS MUCH AS 6 MG HAS BEEN ADMINISTERED OVER ONE HOUR FOR THE TREATMENT OF BETA-BLOCKER POISONING.
- ARRHYTHMIAS
    - ARRHYTHMIAS ARE USUALLY BRADYARRHYTHMIAS, MAKING ATROPINE THE FIRST-LINE INTERVENTION.
    - IT IS NOT UNCOMMON FOR BETA-BLOCKER INDUCED BRADYARRHYTHMIAS TO BE REFRACTORY TO ATROPINE THERAPY.
    - ATROPINE 0.5 TO 1.0 MG (0.02 MG/KG IN KIDS) IV EVERY 2 TO 3 MINUTES TO A MAXIMUM DOSE OF 3 MG.
    - CARDIAC PACING WILL GENERALLY FOLLOW ATROPINE FOR THE TREATMENT OF REFRACTORY BRADYARRHYTHMIA
    - WIDE COMPLEX CONDUCTION DEFECTS MAY RESPOND TO
        - **SODIUM BICARBONATE 1-2 MEQ/KG IV** BOLUS
- RESPIRATORY - BRONCHOSPASMS
    - DUO NEB ATROVENT 0.5MG AND ALBUTEROL 2.5MG NEBULIZED
- SEIZURES
    - SEE SEIZURE PROTOCOL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

CALCIUM CHANNEL BLOCKER OVERDOSE TREATMENT

SIGNS AND SYMPTOMS

HYPOTENSION
BRADYCARDIA, WITH VARIABLE DEGREES OF HEART BLOCK
ALTERED MENTAL STATUS
SEIZURES SECONDARY TO HYPOTENSION

ADDITIONAL INFORMATION NEEDED:

ROUTE, TYPE, TIME, QUANTITY OF INGESTION
BYSTANDER ACTION PRIOR TO ARRIVAL
ANY ANTIDOTE GIVEN
PREVIOUS OVERDOSES/POISONINGS
ACCIDENTAL, INTENTIONAL
EMESIS (INDUCED, SPONTANEOUS)
DEPRESSION OR SUICIDAL

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- ADMINISTER SUPPLEMENTAL OXYGEN, MAINTAIN SATURATION BETWEEN 90-100%
- RECORD AND MONITOR VITAL SIGNS
- ESTABLISH IV AND DRAW LABS (IF TIME PERMITS)
- CARDIAC MONITOR IF ALS AVAILABLE
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12-LEAD EKG
- RECORD & MONITOR SPO_2 & $ETCO_2$
- IF BP < 90 MMHG
    - NORMAL SALINE BOLUS OF 250-500 CC TO MAINTAIN SYSTOLIC BP>110MMHG
    - CONTRAINDICATED IF EVIDENCE OF CONGESTIVE HEART FAILURE (E.G. RALES)
- FOR PATIENTS WITH CARDIOVASCULAR TOXICITY:
    - CHEST PAIN, SYNCOPE, SBP < 90 MMHG, ALTERED MENTAL STATUS
    - BADYCARDIA WITH RATE < 60 OR
    - HEART BLOCK, INCLUDING THIRD DEGREE HEART BLOCK AND HIGH GRADE SECOND DEGREE HEART BLOCKS I.E. - MOBITZ TYPE II SECOND DEGREE
        - ADMINISTER THE FOLLOWING AGENTS
            - ATROPINE 0.5 MG TO 1.0 MG IV, MAY REPEAT TO TOTAL MAX. 3MG
            - IF NO RESPONSE, CALCIUM CHLORIDE 1 GRAM IVP
            - AVOID IF PATIENT TAKING DIGOXIN (LANOXIN)
        - IF NO RESPONSE, MAY REPEAT CALCIUM CHLORIDE 1 GRAM IVP
        - IF NO RESPONSE, BEGIN TRANSCUTANEOUS PACING
- **<u>DOPAMINE INFUSION, OR ADDITIONAL ORDERS IF CARDIOVASCULAR TOXICITY PERSISTS</u>**
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

SYMPATHOMIMETIC OVERDOSE (COCAINE, ECT)

COMMON DRUG NAMES:
PRESCRIPTION AGENTS: ALBUTEROL, APPETITE SUPPRESSANTS (PHENTERMINE)
NONPRESCRIPTION AGENTS: OTC COLD MEDICINES(CONTAINING EPHEDRINE),
ILLEGAL STREET DRUGS: COCAINE, AMPHETAMINES, METHAMPHETAMINE,MDMA, "ECSTASY"
DIETARY SUPPLEMENTS: EPHEDRA ALKALOIDS, MA-HUANG,

SIGNS AND SYMPTOMS

PHYSICAL SIGNS

DIAPHORESIS	*HYPERTHERMIA*	*ENLARGED PUPILS*
SEIZURES	*HYPERTENSION*	*MYOCARDIAL INFARCTION*
STROKE	*CHEST PAIN*	*CARDIAC RHYTHM DISORDERS*
TACHYCARDIA	*HEART FAILURE*	*RESPIRATORY COLLAPSE*

MENTAL SIGNS

ACUTE PSYCHOSIS *PARANOIA* *DELIRIUM* *AGITATION*

SYMPTOMS USUALLY ONSET WITHIN 2 HOURS, LIFE-THREATENING
SYMPTOMS ONSET WITHIN 2-6 HOURS POST EXPOSURE

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT TO MAINTAIN SPO_2 >90 %
- VITAL SIGNS
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- ESTABLISH IV AND DRAW LABS
- GLUCOSE CHECK
- ASSESS TEMPERATURE

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- 12-LEAD EKG
- RECORD & MONITOR SPO_2 & $ETCO_2$
- SEIZURES
    - VALIUM 1-10 MG TITRATE TO EFFECT. MAINTAIN ADEQUATE OXYGENATION/VENTILATION
- REFRACTORY SEIZURES (CONTACT MEDICAL CONTROL AND CONSIDER)
    - **SODIUM BICARB 1-2MEQ/KG**
- IF PATIENT COMBATIVE USE CAUTION WITH CHEMICAL RESTRAINTS:
    - HALDOL IN COMBINATION WITH COCAINE OR METH CAN PRECIPITATE SEIZURES
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- Rapid transport

PERTINENT DATA

- DUE DATE
- RUPTURED MEMBRANES
- VAGINAL FLUID DRAINAGE, BLEEDING
- PRENATAL CARE
- AGE
- NUMBER OF PRIOR PREGNANCIES (GRAVIDA)
- NUMBER OF LIVE BIRTHS (PARA)
- PROBLEMS WITH CURRENT PREGNANCY
- PROBLEMS WITH PREVIOUS PREGNANCIES
- LAST MENSTRUAL PERIOD

SIGNS AND SYMPTOMS

ABDOMINAL PAIN/CONTRACTIONS *CROWNING*
URGE TO PUSH *BLEEDING*

FIRST STAGE: DILATION OF THE CERVIX:

- FREQUENCY AND DURATION OF UTERINE CONTRACTIONS?
- HEMORRHAGE? ESTIMATED BLOOD LOSS?

SECOND STAGE: EXPULSION OF THE FETUS:

- URGE TO PUSH?
- PRESENTATION OF FETAL PARTS (CEPHALIC? BREECH? LIMB?)
- HEMORRHAGE? ESTIMATED BLOOD LOSS?
- UMBILICAL CORD? WRAPPED AROUND INFANT'S NECK?
- INJURIES (TEARS) OF EXTERNAL GENITALIA OR VAGINA?
- EVALUATE INFANT ON DELIVERY. FETAL DISTRESS: CYANOSIS? RESPIRATIONS?

THIRD STAGE: EXPULSION OF PLACENTA:

- EVALUATE AND MANAGE INFANT.
- HEMORRHAGE? ESTIMATED BLOOD LOSS?
- EVALUATION OF UTERINE TONE.
- INJURIES (TEARS) OF EXTERNAL GENITALIA OR VAGINA?
- EVALUATE PLACENTA ON DELIVERY FOR COMPLETENESS.
- PLACENTA MUST BE BROUGHT TO THE HOSPITAL FOR EVALUATION.

BLS (MOTHER)

- SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE ADJUNCT TO MAINTAIN SPO >90%
- IV NS TKO AS TIME ALLOWS.
- REMOVE CLOTHING FROM VAGINAL AREA
- PREPARE EQUIPMENT (OB KIT, SUCTION, BLANKETS, BLOW BY OXYGEN, BVM)
- IF SIGNS OF NEWBORN DELIVERY ARE IMMINENT, AND THERE IS NO TIME TO TRANSPORT, PREPARE FOR DELIVERY.
  - AS BABY'S HEAD BEGINS TO EMERGE FROM VAGINA, SUPPORT IT GENTLY WITH HAND AND TOWEL TO PREVENT AN EXPLOSIVE DELIVERY.
  - SUCTION – MOUTH AND NOSE
- IF DELIVERY OCCURS
  - SEE NEWBORN INFANT GUIDELINES
- IF PLACENTA DELIVERS SPONTANEOUSLY, CONTAIN AND DELIVER TO HOSPITAL WITH MOTHER. RECORD TIME OF PLACENTAL DELIVERY, AND ESTIMATED AMOUNT OF FLUID LOSS.
- FOLLOWING PLACENTAL DELIVERY, EXTERNALLY MASSAGE THE UTERUS TO AID IN CONTRACTION OF THE UTERUS (BREASTFEEDING ALSO HELPS THIS)

ALS (MOTHER)

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- ALLOW DELIVERY OF PLACENTA – SAVE AND BRING TO THE HOSPITAL WITH MOTHER AND CHILD.
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

DELIVERED INFANT

BLS AND ALS

- IF INFANT IS PREMATURE (<36 WEEKS GESTATION), PREPARE FOR NEONATAL RESUSCITATION AND EARLY TRANSPORT
- PROTECT AGAINST EXPLOSIVE DELIVERY
- IF OR WHEN DELIVERY OCCURS:
  - AFTER HEAD IS DELIVERED, LOOK AND FEEL TO SEE IF CORD IS WRAPPED AROUND BABY'S NECK
  - IF THE CORD IS AROUND NECK AND LOOSE, SLIDE IT GENTLY - OVER THE HEAD - DO NOT TUG.
  - IF THE CORD IS AROUND NECK AND SNUG, CLAMP THE CORD WITH 2 CLAMPS AND CUT BETWEEN THE CLAMPS.
  - SUCTION THE MOUTH THEN NOSE
  - IF MECONIMUM IF PARTICULATE OR THICK MECONIUM USE SUCTION BEFORE THE INFANT'S FIRST BREATH AND BEFORE STIMULATION.
  - **ALS -** IT IS CRITICAL TO SUCTION IMMEDIATELY AND COMPLETELY PRIOR TO DELIVERY OF THE BODY. (ET TUBE WITH MECONIUM ASPIRATOR) CONTACT MEDICAL CONTROL IMMEDIATELY
  - AS THE SHOULDERS DELIVER, CAREFULLY HOLD AND SUPPORT THE HEAD AND SHOULDERS AS THE BODY DELIVERS, USUALLY VERY SUDDENLY - AND THE BABY IS VERY SLIPPERY!
  - PLACE THE BABY ON ITS SIDE WITH HEAD LOWER THAN THE BODY AND GENTLY SUCTION MOUTH AND THEN NOSE MAKING SURE THE AIRWAY IS CLEAR.
  - STIMULATE CHILD BY TAPPING FEET, RUBBING BABIES BACK
  - IF NO SPONTANEOUS CRY WITHIN ONE MINUTE, REPEAT SUCTIONING AND PREPARE FOR INFANT RESUSCITATION
  - NOTE THE EXACT TIME OF DELIVERY.
  - PREVENT HEAT LOSS FROM THE BABY
  - DRY BABY OFF AND REMOVE ALL WET LINEN, KEEP WARM, (SILVER SWADDLER),
- MAINTAIN AIRWAY, SUCTION PRN
- OXYGEN 100% VIA APPROPRIATE AIRWAY ADJUNCT PER PATIENTS CONDITION
- ALLOW CORD TO STOP PULSATING, THEN CLAMP AND CUT 6-8 INCHES FROM BABY.
- ASSESS BABY FOR HEART RATE, RESPIRATIONS, AND COLOR, APGAR IF POSSIBLE AT 1 AND 5 MINUTES.
- DO NOT ALLOW INFANT TO NURSE UNTIL BOTH HAVE BEEN EVALUATED IN THE EMERGENCY DEPARTMENT
- SEE NEWBORN RESUSCITATION GUIDELINES FOR CARE OF NEONATE
- RE-EVALUATE CORD FOR BLEEDING, ADD ADDITIONAL CLAMP IF NECESSARY AND RE-EVALUATE
- KEEP INFANT ON THE SAME LEVEL AS MOTHER UNTIL CORD IS CLAMPED AND CUT
- ECG MONITOR PRN IF ALS CARE IS AVAILABLE
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

MECONIUM STAIN

ASSESSMENT

AMNIOTIC FLUID THAT IS GREENISH OR BROWNISH-YELLOW, FECAL MATERIAL EXPELLED WITH THE AMNIOTIC FLUID

BLS

- DO NOT STIMULATE RESPIRATORY EFFORT BEFORE SUCTIONING.
- SUCTION THE **MOUTH, THEN THE NOSE.**
- SUCTION THE OROPHARYNX
- SIMULTANEOUSLY PROVIDING OXYGEN 100% BY BLOW-BY METHOD AND WHILE MAINTAINING THE AIRWAY APPROPRIATE TO THE PATIENT'S CONDITION

ALS

- IF THICK MECONIUM IS PRESENT, AND THE INFANT IS NOT CRYING, INTUBATION AND DIRECT SUCTIONING THROUGH AN ENDOTRACHEAL TUBE SHOULD BE DONE IMMEDIATELY AFTER DELIVERY, BEFORE ANY STIMULATION OR DRYING.
- THE ENDOTRACHEAL TUBE SHOULD BE WITHDRAWN DURING EACH SUCTIONING
- ATTEMPT.
- NO MORE THAN THREE (3) INTUBATION/SUCTION/EXTUBATION SEQUENCES SHOULD BE DONE
- IF INFANT CYANOTIC, DECREASED HEART RATE, INADEQUATE RESPIRATORY EFFORT –
    - SEE NEWBORN RESUSCITATION PROTOCOL
- OBTAIN AN A.P.G.A.R. SCORE AFTER AIRWAY TREATMENT PRIORITIES. SCORE AT ONE MINUTE AFTER DELIVERY AND AT FIVE MINUTES AFTER DELIVERY. (TIME PERMITTING)
- REPEAT INITIAL ASSESSMENT AND COMPLETE VITAL SIGNS UNTIL PATIENT CARE IS TRANSFERRED TO THE APPROPRIATE ER STAFF.

OBSTETRICS/GYNECOLOGY

NEWBORN RESUSCITATION

FOR NEWBORN INFANTS WITH:

- PERSISTENT CENTRAL CYANOSIS (LONGER THAN 15 TO 30 SECONDS);
- RESPIRATORY RATE LESS THAN 30 BREATHS PER MINUTE (HYPOVENTILATION);
- HEART RATE LESS THAN 100 BEATS PER MINUTE (BRADYCARDIA); OR
- CARDIAC ARREST (ABSENCE OF BREATHING AND PULSE):

BLS

INITIATE NEWBORN RESUSCITATION PROCEDURES. (SEE GUIDELINES BELOW.)

- REQUEST ADVANCED LIFE SUPPORT ASSISTANCE.
- BEGIN RAPID TRANSPORT, KEEPING THE NEWBORN WARM.

ALS

IF THE NEWBORN HAS:

- PERSISTENT CENTRAL CYANOSIS;
- A RESPIRATORY RATE LESS THAN 30 BREATHS PER MINUTE; **OR**
- A HEART RATE BETWEEN 60 AND 100 BEATS PER MINUTE:
    - ASSIST VENTILATION AT A RATE OF 40 TO 60 BREATHS PER MINUTE.
    - START CPR IF THE HEART RATE IS BETWEEN 60 AND 80 BEATS PER MINUTE AND NOT RAPIDLY INCREASING AFTER 30 SECONDS OF ASSISTED VENTILATION
    - STOP CPR AND RESUME ASSISTED VENTILATION AT A RATE OF 40 TO 60 BREATHS PER MINUTE ONCE THE HEART RATE IS GREATER THAN 100 BEATS PER MINUTE.
    - SWITCH TO HIGH CONCENTRATION MASK OR "BLOW BY" OXYGEN ONCE THE RESPIRATORY RATE IS GREATER THAN 30 BREATHS PER MINUTE, THE HEART RATE IS GREATER THAN 120 BEATS PER MINUTE, AND CENTRAL CYANOSIS DISAPPEARS.

IF THE NEWBORN HAS:

- HEART RATE LESS THAN 60 BEATS PER MINUTE; OR
- CARDIAC ARREST:
- START CPR IMMEDIATELY.

NOTE: **CARDIOPULMONARY RESUSCITATION IN A NEWBORN IS PERFORMED UTILIZING CHEST COMPRESSIONS WITH INTERPOSED VENTILATIONS IN A RATIO OF 3:1 AT A RATE OF 120 (90 COMPRESSIONS, 30 VENTILATIONS) PER MINUTE.**

- STOP CPR AND BEGIN ASSISTED VENTILATION AT A RATE OF 40 TO 60 BREATHS PER MINUTE ONCE THE HEART RATE IS GREATER THAN 100 BEATS PER MINUTE.
- SWITCH TO HIGH CONCENTRATION MASK OR "BLOW BY" OXYGEN ONCE THE HEART RATE IS GREATER THAN 120 BEATS PER MINUTE, THE RESPIRATORY RATE IS GREATER THAN 30 BREATHS PER MINUTE, AND CENTRAL CYANOSIS DISAPPEARS.
- EARLY NOTIFICATION TO ED OF PATIENTS CONDITION
- RAPID TRANSPORT

APGAR SCORE

	SIGN	0 POINTS	1 POINT	2 POINTS
A	APPEARANCE (SKIN COLOR)	BLUE-GRAY, PALE ALL OVER	NORMAL, EXCEPT FOR EXTREMITIES	NORMAL OVER ENTIRE BODY
P	PULSE	ABSENT	BELOW 100 BPM	ABOVE 100 BPM
G	GRIMACE (REFLEX IRRITABILITY)	NO RESPONSE	GRIMACE	SNEEZE, COUGH, PULLS AWAY
A	ACTIVITY (MUSCLE TONE)	ABSENT	ARMS AND LEGS FLEXED	ACTIVE MOVEMENT
R	RESPIRATION	ABSENT	SLOW, IRREGULAR	GOOD, CRYING

- THE GREATEST RISKS TO THE NEWBORN INFANT ARE AIRWAY OBSTRUCTION AND HYPOTHERMIA.
- KEEP THE INFANT WARM, DRY, COVERED, AND ITS AIRWAY MAINTAINED WITH A BULB SYRINGE. ALWAYS REMEMBER TO SQUEEZE THE BULB PRIOR TO INSERTION INTO THE INFANT'S MOUTH OR NOSE.
- THE GREATEST RISK TO THE MOTHER IS POST-PARTUM HEMORRHAGE. WATCH CLOSELY FOR SIGN OF HYPOVOLEMIC SHOCK AND EXCESSIVE VAGINAL BLEEDING.
- CONSIDER THE POSSIBILITY OF PREGNANCY IN ANY FEMALE OF CHILDBEARING AGE WITH COMPLAINTS OF VAGINAL BLEEDING, MENSTRUAL CYCLE IRREGULARITY, ABDOMINAL PAIN, CRAMPING, OR LOW BACK PAIN NOT ASSOCIATED WITH A TRAUMATIC INJURY.
- RECORD A BLOOD PRESSURE AND THE PRESENCE OR ABSENCE OF EDEMA IN EVERY PREGNANT WOMAN YOU EXAMINE-- NO MATTER WHAT THE CHIEF COMPLAINT.
- SPONTANEOUS OR INDUCTED ABORTIONS MAY RESULT IN COPIOUS VAGINAL BLEEDING. REASSURE THE MOTHER, ELEVATE LEGS, TREAT FOR SHOCK, AND TRANSPORT.

BREECH PRESENTATION DEFINITION

PRESENTATION OF BUTTOCKS OR BOTH FEET

BLS AND ALS

- SAMPLE HISTORY
- SECURE ABC'S
- OXYGEN VIA APPROPRIATE ADJUNCT TO MAINTAIN SPO >90%
- IV NS TKO AS TIME ALLOWS.
- PREPARE EQUIPMENT (OB KIT, SUCTION, BLANKETS, BLOW BY OXYGEN, BVM)
- BEGIN RAPID TRANSPORT WITH EARLY NOTIFICATION TO L&D OF PATIENT CONDITION
  - TRANSPORT SHOULD BE CAUTIOUS IF BABY NOT FULLY DELIVERED
- ALLOW DELIVERY TO PROCEED PASSIVELY UNTIL BABY'S WAIST APPEARS.
- ROTATE BABY TO FACE DOWN POSITION (DO NOT PULL).
- IF HEAD DOES NOT DELIVER IN 3 MINUTES, INSERT GLOVED HAND INTO VAGINA TO CREATE AN AIR PASSAGE FOR INFANT.
- AS MOTHER BEARS DOWN, SWEEP THE HEAD OUT OF THE VAGINA.
- IV NS TKO IF CAN BE ACCOMPLISH WITHOUT DELAYING TRANSPORT.
- IF DELIVERY OCCURS:
  - SEE INFANT GUIDELINES

ALS

MOTHER

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- ALLOW DELIVERY OF PLACENTA – SAVE AND BRING TO THE HOSPITAL WITH MOTHER AND CHILD.
- RAPID TRANSPORT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION

LIMB PRESENTATION

BLS (MOTHER)

- SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN VIA APPROPRIATE ADJUNCT TO MAINTAIN SPO >90%
- IV NS TKO AS TIME ALLOWS.
- PREPARE EQUIPMENT (OB KIT, SUCTION, BLANKETS, BLOW BY OXYGEN, BVM)
- BEGIN RAPID TRANSPORT WITH EARLY NOTIFICATION TO L&D OF PATIENT CONDITION
- ALLOW DELIVERY TO PROCEED PASSIVELY UNTIL BABY'S WAIST APPEARS.
- ROTATE BABY TO FACE DOWN POSITION (DO NOT PULL).
- IF HEAD DOES NOT DELIVER IN 3 MINUTES, INSERT GLOVED HAND INTO VAGINA TO CREATE AN AIR PASSAGE FOR INFANT.
- AS MOTHER BEARS DOWN, SWEEP THE HEAD OUT OF THE VAGINA.
- IV NS TKO IF CAN BE ACCOMPLISH WITHOUT DELAYING TRANSPORT.

ALS

MOTHER

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- ALLOW DELIVERY OF PLACENTA – SAVE AND BRING TO THE HOSPITAL WITH MOTHER AND CHILD.

GENERAL INFORMATION

SIGNS AND SYMPTOMS

- *HYPERTENSION*
- *TACHYCARDIA*
- *TACHYPNEA*
- *DECREASED URINE OUTPUT*
- *RALES*
- *PULMONARY EDEMA*
- *VOMITING*
- *MENTAL STATUS CHANGES*
- *MUSCLE SPASMS*
- *LOCALIZING NEUROLOGICAL DEFICITS*
- *CEREBROVASCULAR ACCIDENT*
- *GENERALIZED EDEMA (ESPECIALLY FACE, HANDS, ANKLES*
- *HEADACHE*
- *RIGHT UPPER QUADRANT (RUQ) ABDOMINAL PAIN*
- *SHORTNESS OF BREATH OR DYSPNEA ON EXERTION*
- *VISUAL DISTURBANCES*
- *CONFUSION AND APPREHENSION*
- *NAUSEA*

HYPERTENSION IN PREGNANCY IS PRESENT WHEN DIASTOLIC BP >90 MM HG, SYSTOLIC BP >140; SYSTOLIC BP RISES AT LEAST 30 MM HG OVER BASELINE VALUE OR DIASTOLIC BP RISES AT LEAST 15 MM HG OVER BASELINE VALUE

MILD PRE-ECLAMPSIA

HYPERTENSION AS DEFINED ABOVE.
NON-DEPENDENT EDEMA (FACIAL OR HAND EDEMA). EDEMA IS NOT A RELIABLE SIGN AS IT IS OFTEN NOT PRESENT IN PREECLAMPSIA/ECLAMPSIA.
PERSISTENT OR RECURRING HEADACHE
VISION CHANGES (FLASHING LIGHTS, DOTS BEFORE EYES, DIMMING OR BLURRING OF VISION)
ABDOMINAL PAIN
DIMINISHED OR INFREQUENT URINATION (OLIGURIA)
WEIGHT GAIN > 2 LB/WEEK

SEVERE PRE-ECLAMPSIA

BLOOD PRESSURE GREATER THAN 160/110
GENERALIZED EDEMA
WEIGHT GAIN > 6 LB/WEEK
PERSISTENT OR RECURRING HEADACHE
VISION CHANGES (FLASHING LIGHTS, DOTS BEFORE EYES, DIMMING OR BLURRING OF VISION)
ABDOMINAL PAIN
DIMINISHED OR INFREQUENT URINATION (OLIGURIA)

ECLAMPSIA –

- SEIZURE ACTIVITY OR POSTICTAL STATE AFTER REPORTED SEIZURE ACTIVITY
- SUSTAINED SYSTOLIC BLOOD PRESSURE (SBP) GREATER THAN 160 MM HG OR DIASTOLIC BLOOD PRESSURE (DBP) GREATER THAN 110 MM HG

SEIZURES CAN OCCUR UP TO 8 WEEKS POSTPARTUM. THERE IS USUALLY NO AURA PRECEDING THE SEIZURE AND THE PATIENT MAY HAVE MORE THAN ONE. THE PATIENT HYPERVENTILATES AFTER THE SEIZURE TO COMPENSATE FOR THE RESPIRATORY AND LACTIC ACIDOSIS.

TREATMENT

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- LEFT LATERAL RECUMBENT POSITION
- 100% OXYGEN VIA NRB
- IV LACTATED RINGERS TKO, LAB DRAW
- GLUCOSE CHECK
- BEGIN RAPID TRANSPORT WITH EARLY NOTIFICATION TO L&D OF PATIENT CONDITION
- MINIMIZE SENSORY STIMULATION
  - DIM THE LIGHTS AND KEEP THE PATIENT IN A QUIET ENVIRONMENT.
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- PROTECT AGAINST MATERNAL INJURY DURING SEIZURE ACTIVITY

ALS:

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- IF HYPERTENSIVE AND/OR HAVING SEIZURES
  - MAGNESIUM SULFATE 1-4 GRAMS IN 100CC NORMAL SALINE OVER 15-30 MIN TO DECREASE OR PREVENT FURTHER SEIZURE ACTIVITY
  - ADVERSE EFFECTS INCLUDE LOSS OF DEEP TENDON REFLEXES, SMOOTH MUSCLE RELAXATION CAUSING HYPOTENSION AND RESPIRATORY DEPRESSION.
  - MAGNESIUM SULFATE CAN CAUSE RESPIRATORY DEPRESSION WITH CARDIOVASCULAR COLLAPSE.
  - ANTIDOTE IS CALCIUM CHLORIDE 2-4 MG/KG OF A 10% SOLUTION OVER 5 MINUTES, MAY BE REPEATED AT 10-MINUTE INTERVALS
- IF REFRACTORY SEIZURES: CONSIDER: **VALIUM 5-10 MG IV**
- DETAILED SURVEY.
- EVALUATE FOR EVALUATE RESPIRATORY STATUS:
  - CONSIDER **MORPHINE 2-5 MG IV OVER 1-2 MINUTES**
  - CONSIDER **LABETOLOL 10MG IVP** REPEAT IN 5-10 MINUTES IF NOT DESIRED EFFECT
- CONTACT MEDICAL CONTROL FOR ANY QUESTIONS OR PROBLEMS
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

PERTINENT DATA

- ONSET
- PREGNANCY STATUS (DUE DATE)
- VAGINAL FLUID DRAINAGE, BLEEDING
- MENSTRUAL HISTORY - LAST MENSTRUAL PERIOD
- DURATION
- AMOUNT (NUMBER OF PADS OR TAMPONS, CLOTS AND TISSUE FRAGMENTS)
- CONTRACEPTION
- GRAVIDA, PARA, ABORTION (GPA)
- POSTPARTUM (TIME AND PLACE OF DELIVERY)

SIGNS AND SYMPTOMS

- ABDOMINAL PAIN, CRAMPING
- WEAKNESS
- PASSAGE OF CLOTS, TISSUE FRAGMENTS (BRING TO ED)
- NAUSEA, VOMITING
- THIRST
- DIZZINESS
- ORTHOSTASIS, TACHYCARDIA, HYPOTENSION
- SKIN: COOL, CLAMMY, DIAPHORESIS, PALLOR
- ABDOMINAL: TENDERNESS, DISTENSION, GUARDING, REBOUND

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- LEFT LATERAL RECUMBENT POSITION
- 100% OXYGEN VIA NRB
- IV LACTATED RINGERS TKO, LAB DRAW
- GLUCOSE CHECK
- BEGIN RAPID TRANSPORT WITH EARLY NOTIFICATION TO L&D OF PATIENT CONDITION
- MINIMIZE SENSORY STIMULATION
  - DIM THE LIGHTS AND KEEP THE PATIENT IN A QUIET ENVIRONMENT.
- CARDIAC MONITOR IF ALS CARE AVAILABLE
- PROTECT AGAINST MATERNAL INJURY DURING SEIZURE ACTIVITY

ALS:

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
- IDENTIFY, RECORD, AND NOTE ANY CHANGES IN CARDIAC RHYTHM
- IV IF NOT ALREADY ESTABLISHED
- APPLY PAD TO VAGINAL AREA
- POSITION OF COMFORT
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

NEONATIAL ASSESSMENT GUIDELINES

ASSESS THE FOLLOWING:

1. **AXILLARY TEMPERATURE**
   - NORMAL 98.6º F. GREATER THAN 100º OR LESS THAN 97º F. IS ABNORMAL.
   - KEEP THE INFANT WARM
2. **VENTILATION** IS INSUFFICIENT WHEN
   - PERSISTENT APNEA OCCURS
   - THE INFANT IS GASPING FOR AIR
   - LIPS AND TONGUE ARE BLUE IN 40% OXYGEN
   - SPONTANEOUS RESPIRATIONS ARE ABSENT
   - BRADYCARDIA (HEART RATE LESS THAN 100/MIN)
   - TARGET RESPIRATORY RATE SHOULD BE BETWEEN 30-60/MIN

- **TREATMENT**
  - CLEAR AIRWAY (SUCTION ORAL BEFORE NASAL)
  - ASPIRATE THE STOMACH WITH AN 8 FRENCH OROGASTRIC TUBE
  - VENTILATE WITH BAG-MASK 40-60 TIME PER MINUTE
  - OXYGEN CONCENTRATIONS OF UP TO 100% MAY BE USED

- IF VENTILATION IS INSUFFICIENT AFTER 1 MINUTE OF BAG MASK VENTILATION
- SUCTION AGAIN
- INTUBATE (SEE BROSLOW TAPE)
  - 2.5 ET TUBE FOR WEIGHTS LESS THAN 1000 G (2 POUNDS)
  - 3.0 ET TUBE FOR WEIGHTS OF 1000-3000 G (2-6 POUNDS)
  - 3.5 ET TUBE FOR WEIGHTS MORE THAN 3000 G (6 POUNDS)

3. **HEART RATE**
   A. TARGET HEART RATE SHOULD BE BETWEEN 100-180/MIN AND REGULAR
4. **BLOOD PRESSURES**
   A. TARGET BLOOD PRESSURE SHOULD BE BETWEEN 50-90 SYSTOLIC AND 20-60 DIASTOLIC
5. **GLUCOSE LEVEL** (BY DEXTROSTIX) IS ABNORMAL WHEN
   A. LESS THAN 40 MG/DL
   B. GREATER THAN 140 MG/DL

RESPIRATORY EMERGENCY ASSESSMENT

THIS ASSESSMENT SEGMENT OF THE PEDIATRIC RESPIRATORY PROTOCOL SHALL BE USED FOR ALL RESPIRATORY DISTRESS PATIENTS. WHILE TREATMENTS WILL CHANGE, DEPENDENT ON THE FINDINGS DURING THE ASSESSMENT, A COMPLETE AND COMPREHENSIVE ASSESSMENT IS NECESSARY FOR ALL RESPIRATORY DISTRESS PATIENTS AND SHOULD INCLUDE THE FOLLOWING:

- AIRWAY, BREATHING, AND CIRCULATION.
- LEVEL OF CONSCIOUSNESS
- VITAL SIGNS: BLOOD PRESSURE, PULSE RATE, AND RESPIRATORY RATE.
- SKIN CONDITIONS (TO INCLUDE: COLOR, TEMPERATURE, AND MOISTURE.)
- PUPILS
- PRESENCE OR ABSENCE OF JUGULAR VEIN DISTENSION (WHAT POSITION)
- BREATH SOUNDS
- ROOM AIR OXYGEN SATURATIONS-UNLESS PATIENT'S CONDITION WARRANTS (CONTINUOUS OXYGENATION.)
- PRESENCE OR ABSENCE OF DISTAL PULSES, MOVEMENT, & SENSATION.
- ASSESSMENT OF CAPILLARY REFILL.
- USE OF ACCESSORY MUSCLES TO BREATH AND POSITION TO BREATH
- PAST MEDICAL HISTORY, CURRENT MEDICATIONS, AND ALLERGIES
- HISTORY OF FEBRILE ILLNESS OR COUGH (PRODUCTIVE OR NON-PRODUCTIVE)
- HISTORY OF ONSET OF SYMPTOMS & ANY TREATMENTS RENDERED PRIOR TO EMS ARRIVAL.
- NOTE ANY EDEMA TO THE EXTREMITIES OR ABDOMEN

MEDICAL DIRECTOR APPROVAL_____

CROUP

SIGNS AND SYMPTOMS

- CHILDREN UNDER 6 YRS OLD WITH COLD SYMPTOMS FOR 1-3 DAYS
- HOARSENESS
- BARKING, SEAL-LIKE COUGH
- STRIDOR, NOT WHEEZES
- LOW GRADE FEVER
- NO HISTORY OF OBSTRUCTION, FOREIGN BODY, TRAUMA

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGENATE AND SUPPORT RESPIRATIONS AS NECESSARY
  - PROVIDE MAXIMUM FLOW OXYGEN – BVM, NRB MASK OR BLOW-BY.
- PLACE PATIENT IN POSITION OF COMFORT.
- ALLOW CHILD TO REMAIN WITH CAREGIVER IF NECESSARY TO KEEP PATIENT CALM.
- CRYING AGGRAVATES THE CONDITION.
- APPLY CARDIAC MONITOR IF ALS AVAILABLE

ALS

- IF THE PATIENT IS EXPERIENCING RESPIRATORY DISTRESS,
  - **CONSIDER NEBULIZED SALINE 3CC**
    - CONNECT TO 6-8 LITERS OF OXYGEN. HAVE PATIENT BREATHE THROUGH NEBULIZER OR ADMINISTER VIA BLOW-BY TECHNIQUE UNTIL TREATMENT IS COMPLETE.
- APPLY CARDIAC MONITOR
- IF PATIENT IS NOT RESPONDING AND LEVEL OF CONSCIOUSNESS IS DETERIORATING, INITIATE PERIPHERAL IV ACCESS.
- PREPARE FOR INTUBATION (CONSIDER ONE SIZE SMALLER ET TUBE THAN RECOMMENDED DUE TO AIRWAY INFLAMMATION)
- CONSULT MEDICAL CONTROL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

PEDIATRIC RESPIRATORY

SUSPECT EPIGLOTTIS

SIGNS AND SYMPTOMS

- *STRIDOR*
- *TRIPOD POSITION*
- *FEVER*
- *ACCESSORY MUSCLE USE*
- *DIFFICULT AND PAINFUL SWALLOWING*
- *DROOLING DUE TO SEVERE PAIN WHEN SWALLOWING*
- *A MUFFLED VOICE*
- *HARSH, RASPY BREATHING*
- *DIFFICULTY BREATHING*
- *ANXIETY*
- *BLUE SKIN OR LIPS*

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- SUSPECT FBAO- RULE OUT POSSIBILITIES
- OXYGENATE AND SUPPORT RESPIRATIONS AS NECESSARY
    - PROVIDE MAXIMUM FLOW OXYGEN – BVM, NRB MASK OR BLOW-BY.
- PLACE PATIENT IN POSITION OF COMFORT.
- ALLOW CHILD TO REMAIN WITH CAREGIVER IF NECESSARY TO KEEP PATIENT CALM.
- CRYING AGGRAVATES THE CONDITION.
- APPLY CARDIAC MONITOR IF ALS AVAILABLE

ALS

- IF THE PATIENT IS EXPERIENCING RESPIRATORY DISTRESS,
    - **CONSIDER NEBULIZED SALINE 3CC**
        - CONNECT TO 6-8 LITERS OF OXYGEN. HAVE PATIENT BREATHE THROUGH NEBULIZER OR ADMINISTER VIA BLOW-BY TECHNIQUE UNTIL TREATMENT IS COMPLETE.
- APPLY CARDIAC MONITOR
- IF PATIENT IS NOT RESPONDING AND LEVEL OF CONSCIOUSNESS IS DETERIORATING, INITIATE PERIPHERAL IV ACCESS.
- PREPARE FOR INTUBATION (CONSIDER ONE SIZE SMALLER ET TUBE THAN RECOMMENDED DUE TO AIRWAY INFLAMMATION)
- SEVERE RESPIRATORY DISTRESS DESPITE THE ABOVE MEASURES REQUIRES INTUBATION.
- CONSIDER INTUBATING WITH A TUBE ONE FULL SIZE SMALLER THAN WOULD NORMALLY BE USED. USE AN UNCUFFED TUBE.
- CONSIDER INSERTING AN NG TUBE FOR GASTRIC DECOMPRESSION IF INTUBATED.
- IF NECESSARY, RESTRAIN THE CHILD TO PROTECT THE ET TUBE.
- AGITATION MAY BE TREATED WITH VALIUM 0.1 - 0.3 MG/KG IV (WITH A MAXIMUM DOSE OF 5.0 MG)
- CONSULT MEDICAL CONTROL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT
- ***DO NOT EXAMINE PHARYNX AS THIS MAY CAUSE LARYNGOSPASM AND COMPLETE AIRWAY COLLAPSE.***

MEDICAL DIRECTOR APPROVAL_____

RESPIRATORY DISTRESS - GENERAL

ASSESSMENT

A) DYSPNEA/CYANOSIS
B) DIAPHORESIS
C) MARKED ORTHOPNEA/ERECT POSTURE
D) DISTENDED NECK VEINS
E) TACHYCARDIA
F) BILATERAL RALES/WHEEZES

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGENATE AND SUPPORT RESPIRATIONS AS NECESSARY
    - PROVIDE MAXIMUM FLOW OXYGEN – BVM, NRB MASK OR BLOW-BY.
- MONITOR VITAL SIGNS
- PLACE PATIENT IN POSITION OF COMFORT.
- ALLOW CHILD TO REMAIN WITH CAREGIVER IF NECESSARY TO KEEP PATIENT CALM.
- APPLY CARDIAC MONITOR IF ALS AVAILABLE
- UNDRESS PATIENT IF FEBRILE AND HEAVILY CLOTHED
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
    - SUCTION
- IV ACCESS TKO USING BURETROL FOR VOLUME CONTROL
- LASIX (FUROSEMIDE) 1MG/KG IV/IO (GIVE IVP OVER 2 MIN) UP TO 40 MG.
- CONTACT MEDICAL CONTROL FOR ANY QUESTIONS OR IF ADDITIONAL THERAPY IS REQUIRED.
- MAY REPEAT **LASIX (FUROSEMIDE) 1MG/KG IV/IO (GIVE IVP OVER 2 MIN) UP TO 40 MG IN 15 MIN IF NO RESPONSE**
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

RESPIRATORY DISTRESS - ASTHMA

ASTHMA SEVERITY	NORMAL	MILD	MODERATE	SEVERE
PAS	0-4	5-7	8-11	12-15
SCORING FACTORS	0	1	2	3
RESPIRATORY RATE 0-3 YEARS 4-5 YEARS 6-12 YEARS >12 YEARS	 18-26 16-24 14-20 12-18	 27-34 25-30 21-26 19-23	 35-39 31-35 27-30 24-27	 >40 >36 >31 >28
SP02	>98% ON ROOM AIR	95%TO97% ON ROOM AIR	90%TO 94% ON ROOM AIR	<90% ON ROOM AIR OR ON ANY OXYGEN
AUSCULTATION	NORMAL BREATH SOUNDS	END EXPIRATORY WHEEZES	EXPIRATORY WHEEZES	INSPIRATORY AND EXPIRATORY WHEEZES TO DIMINISHED BREATH SOUNDS
RETRACTIONS	NONE	INTERCOSTAL	INTERCOSTAL AND SUBSTERNAL	INTERCOSTAL, SUBSTERNAL AND SUPRACLAVICULAR
DYSPNEA	SPEAKS IN COMPLETE SENTENCES	SHORT SENTENCES, COOS, BABBLES	PARTIAL SENTENCES, SHORT CRY	SINGLE WORDS, SHORT PHRASES/GRUNTING

RESPIRATORY DISTRESS – ASTHMA CONTINUED

TREATMENT

MILD EXACERBATION= PAS 5-7 1. ALBUTEROL NEBULIZER TREATMENT 2. OXYGEN TO ACHIEVE > 94% SPO2 3. ORAL PREDNISONE 2MG/KG
MODERATE EXACERBATION= PAS 8-11 1. ALBUTEROL/ATROVENT (2.5MG/0.5MG) NEBULIZER TREATMENT(S) REPEATED UNTIL ARRIVAL AT ED 2. OXYGEN TO ACHIEVE > 94% SPO2 3. ORAL PREDNISONE 2MG/KG 4. SOLU-MEDROL 2MG/KG IVP CAN BE GIVEN IM IF UNABLE TO ESTABLISH IV ACCESS.
SEVERE EXACERBATION= PAS 12-15 1. ALBUTEROL/ATROVENT (2.5MG/0.5MG) NEBULIZER TREATMENT(S) REPEATED UNTIL ARRIVAL AT ED 2. OXYGEN TO ACHIEVE > 94% SPO2 3. SOLU-MEDROL 2MG/KG IVP CAN BE GIVEN IM IF UNABLE TO ESTABLISH IV ACCESS. 4. MAG SULFATE 40MG/KG (MAX DOSE OF 2G) IVPB IN 100CC NS OVER 20 MIN.
RESPIRATORY FAILURE OR ARREST 1. INTUBATION AND MECHANICAL VENTILATION WITH 100% O2 2. NEBULIZE PT WITH ALBUTEROL/ATROVENT (2.5MG/1.5MG) UNTIL ARRIVAL AT ED 3. SOLU-MEDROL 2MG/KG IVP 4. MAG SULFATE 40MG/KG (MAX DOSE OF 2G) IVPB IN 100CC NS OVER 20 MIN.

RESPIRATORY DISTRESS (STRIDOR)

ASSESSMENT

A. STRIDOR, GRUNTING, OR WHEEZING
B. HOARSENESS
C. DROOLING
D. CHOKING
E. RETRACTIONS, NASAL FLARING
F. CYANOSIS (PERIORAL, MUCOUS MEMBRANES, NAIL BEDS)
G. AGITATION
H. FATIGUE
I. TACHYPNEA

TREATMENT

AVOID HYPEREXTENSION AND ALLOW CHILD TO SELECT POSITION OF COMFORT.

EXAMINATION: CYANOTIC, BREATH SOUNDS PRESENT (STRIDOR, WHEEZING)

A. STRIDOR
B. CROUP (USUALLY LESS THAN 3 YRS OLD, RECENT COLD)
C. EPIGLOTTITIS (USUALLY OVER 3 YRS. OLD, DROOLING, FEVER, TRIPOD POSITION, SUDDEN ONSET)
   I. OXYGEN 100% USE MASK IF TOLERATED - HUMIDIFIED OXYGEN
   II. ATTEMPT TO KEEP CHILD CALM
   III. AVOID ATTEMPTS TO SUCTION, FINGER SWEEP, OR VISUALIZE PHARYNX
   IV. **DO NOT ATTEMPT INTUBATION UNLESS BY MEDICAL CONTROL**
   V. BE PREPARED FOR NEEDLE OR SURGICAL/NEEDLE AIRWAY

D. FOREIGN BODY (ASYMMETRICAL BREATH SOUNDS, POSITIVE HISTORY)
   I. OXYGEN 100%
   II. BASIC LIFE SUPPORT (BLS) WITH POSITIVE HX OF FOREIGN BODY
   III. FOREIGN BODIES ARE THE MOST COMMON CAUSE OF AIRWAY OBSTRUCTION IN CHILDREN.

EXAMINATION: CYANOTIC, BREATH SOUNDS NOT CLEAR

E. IF APNEIC OR GASPING:
   I. OXYGEN 100%

F. IF CONDITION DETERIORATES
   I. OXYGEN 100% WITH POSITIVE PRESSURE VENTILATION
      A) LESS THAN ONE YR. OLD @ 40 RESPIRATIONS PER MINUTE
         MORE THAN ONE YR. OLD @ 30 RESPIRATIONS PER MINUTE

SUSPECTED EPIGLOTTITIS

ASSESSMENT

- *STRIDOR*
- *TRIPOD POSITION*
- *FEVER*
- *ACCESSORY MUSCLE USE*
- *DIFFICULT AND PAINFUL SWALLOWING*
- *DROOLING DUE TO SEVERE PAIN WHEN SWALLOWING*
- *A MUFFLED VOICE*
- *HARSH, RASPY BREATHING*
- *DIFFICULTY BREATHING*
- *ANXIETY*

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- SUSPECT FBAO- RULE OUT POSSIBILITIES
- OXYGENATE AND SUPPORT RESPIRATIONS AS NECESSARY
    - PROVIDE MAXIMUM FLOW OXYGEN – BVM, NRB MASK OR BLOW-BY.
- PLACE PATIENT IN POSITION OF COMFORT.
- ALLOW CHILD TO REMAIN WITH CAREGIVER IF NECESSARY TO KEEP PATIENT CALM.
- CRYING AGGRAVATES THE CONDITION.
- APPLY CARDIAC MONITOR IF ALS AVAILABLE

ALS

- IF THE PATIENT IS EXPERIENCING RESPIRATORY DISTRESS,
    - **CONSIDER NEBULIZED SALINE 3CC**
        - CONNECT TO 6-8 LITERS OF OXYGEN. HAVE PATIENT BREATHE THROUGH NEBULIZER OR ADMINISTER VIA BLOW-BY TECHNIQUE UNTIL TREATMENT IS COMPLETE.
- APPLY CARDIAC MONITOR
- IF PATIENT IS NOT RESPONDING AND LEVEL OF CONSCIOUSNESS IS DETERIORATING, INITIATE PERIPHERAL IV ACCESS.
- PREPARE FOR INTUBATION (CONSIDER ONE SIZE SMALLER ET TUBE THAN RECOMMENDED DUE TO AIRWAY INFLAMMATION)

SUSPECTED EPIGLOTTITIS (CONTINUED)

SEVERE RESPIRATORY DISTRESS DESPITE THE ABOVE MEASURES REQUIRES INTUBATION.

CONSIDER INTUBATING WITH A TUBE ONE FULL SIZE SMALLER THAN WOULD NORMALLY BE USED. USE AN UNCUFFED TUBE.

- UTILIZE RSI PROTOCOL IF NECESSARY
- CONSIDER INSERTING AN NG TUBE FOR GASTRIC DECOMPRESSION IF INTUBATED.
- IF NECESSARY, RESTRAIN THE CHILD TO PROTECT THE ET TUBE.
- AGITATION MAY BE TREATED WITH VALIUM 0.1 - 0.3 MG/KG IV (WITH A MAXIMUM DOSE OF 5.0 MG)
- CONSULT MEDICAL CONTROL
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

DO NOT EXAMINE PHARYNX AS THIS MAY CAUSE LARYNGOSPASM AND COMPLETE AIRWAY COLLAPSEBLUE SKIN OR LIPS

HYPERGLYCEMIA

ASSESSMENT

A. LEVEL OF CONSCIOUSNESS MAY BE ALTERED
B. PULSE: TACHYCARDIA, THREADY PULSE
C. RESPIRATIONS: KUSSMAUL; DEEP AND RAPID
D. HYPOTENSION
E. DRY MUCOUS MEMBRANES
F. SKIN LAY BE COOL: CONSIDER HYPOTHERMIA
G. KETONE ODOR ON BREATH (FRUITY ODOR)
H. ABDOMINAL PAIN; NAUSEA, VOMITING
I. HISTORY OF POLYURIA, POLYDIPSIA, OR POLYPHAGIA

TREATMENT

- OXYGEN AT FLOW RATE APPROPRIATE TO PATIENT CONDITION
- IV NORMAL SALINE TKO
- DRAW RED TOP FROM IV PRIOR TO INFUSION AND CHECK DEXTROSTIX
- IF OVER 250 MG/DL, INCREASE IV RATE TO 10 CC/KG/HR
- CHECK FOR HYPERTHERMIA
- CHECK FOR UNDERLYING CAUSE
- CONTACT MEDICAL CONTROL

HYPOGLYCEMIA

ASSESSMENT

A. HISTORY OF ONSET IN MINUTES
B. HISTORY OF INSULIN EXCESS (OVERDOSE, MISSED MEAL, EXERCISE, VOMITING, OR DIARRHEA)
C. CONFUSION, AGITATION, HEADACHES, OR COMATOSE
D. PULSE RATE: NORMAL TO TACHYCARDIA
E. RESPIRATIONS: SHALLOW, SLOW
F. SKIN: SWEATY, OFTEN COOL
G. FLACCID MUSCLE TONE
H. GRAND MAL SEIZURES
I. FECAL, URINARY INCONTINENCE
J. CONTINUALLY MONITOR VITAL SIGNS
K. CARDIAC MONITOR IF COMATOSE

TREATMENT

L. OXYGEN AT FLOW RATE APPROPRIATE TO PATIENT CONDITION
M. DRAW RED TOP FROM IV PRIOR TO INFUSION AND CHECK DEXTROSTIX
N. IV NORMAL SALINE TKO
O. DEXTROSE (D25W) 1 CC/KG IV/IO PUSH IF DEXTROSTIX UNDER 60 MG/DL, OR IF SIGNS AND SYMPTOMS ARE PRESENT
P. GLUCAGON 0.1MG/KG CAN BE GIVEN IM OR SQ UP TO 1 MG IF IV ACCESS IS UNOBTAINABLE.

CONTACT MEDICAL CONTROL

MEDICAL DIRECTOR APPROVAL_____

SEIZURES

TONIC, CLONIC MOVEMENTS FOLLOWED BY A PERIOD OF UNCONSCIOUSNESS (POST-ICTAL PERIOD).
USUALLY FEBRILE IN NATURE, BETWEEN AGES OF 6 MONTHS AND 5 YEARS. MOST SEIZURES ARE SELF-LIMITING AND DO NOT REQUIRE FIELD TREATMENT.
CONTINUOUS/RECURRENT SEIZURES ARE SEIZURE ACTIVITY GREATER THAN 10 MINUTES OR RECURRENT SEIZURES WITHOUT PATIENT REGAINING CONSCIOUSNESS.

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGENATE AND SUPPORT RESPIRATIONS AS NECESSARY
    - PROVIDE MAXIMUM FLOW OXYGEN – BVM, NRB MASK OR BLOW-BY.
- PLACE PATIENT IN POSITION OF COMFORT, OR LEFT LATERAL IF NO TRAUMA SUSPECTED
- ALLOW CHILD TO REMAIN WITH CAREGIVER IF NECESSARY TO KEEP PATIENT CALM.
- CONSIDER SPINAL IMMOBILIZATION IF TRAUMA OCCURRED
- APPLY CARDIAC MONITOR IF ALS AVAILABLE
- PROTECT PATIENT FROM INJURY BY PLACING PADDING APPROPRIATELY
    - DO NOT FORCIBLY RESTRAIN THE PATIENT
- UNDRESS PATIENT IF FEBRILE AND HEAVILY CLOTHED
- GLUCOSE CHECK

ALS

- ADVANCED AIRWAY/VENTILATORY MANAGEMENT AS NEEDED
    - SUCTION
- IV ACCESS TKO USING BURETROL FOR VOLUME CONTROL
- FOR CONTINUOUS OR RECURRENT SEIZURES, CONSIDER:
    - VALIUM 0.1 MG/KG IV OR PR (TITRATED IN 1MG INCREMENTS - MAX DOSE 5MG)
    - VALIUM IM 0.2 MG/KG (MAXIMUM 10MG) IF IV ROUTE UNAVAILABLE

CONSIDER

    - DEXTROSE- 0.5 GM/KG IVP OR IO IF BLOOD GLUCOSE LEVEL EQUAL TO OR LESS THAN 70 IN THE FOLLOWING CONCENTRATIONS & VOLUMES: (MAY REPEAT IF PATIENT IS NOT RESPONDING AND RE-TEST OF GLUCOSE IS LESS THAN OR EQUAL TO 60)
        - D- 25% - 2 ML/KG IF 1 MONTH OR OLDER
        - D -12.5% - 4 ML/KG IF LESS THAN 1 MONTH OLD. (DILUTE D 25 1:1 WITH STERILE SALINE)
    - NARCAN - 0.1 MG/KG IVP OR IM (IF UNABLE TO ESTABLISH IV) IF PATIENT HAS RESPIRATORY COMPROMISE AND NARCOTIC OVERDOSE SUSPECTED - MAXIMUM DOSE 2MG
- CONTACT MEDICAL CONTROL FOR ANY QUESTIONS OR IF ADDITIONAL THERAPY IS REQUIRED
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION

RAPID TRANSPORT

MEDICAL DIRECTOR APPROVAL_____

CARDIOGENIC SHOCK

ASSESSMENT

A. FREQUENTLY ASSOCIATED WITH SEPSIS, CARDITIS, OR CARDIOMYOPATHY WITH TACHY OR BRADY DYSRHYTHMIA, OR BLUNT CHEST TRAUMA.
B. NECK VEIN DISTENTION IN SITTING POSITION
C. MOIST SOUNDING LUNGS (RALES, RHONCHI)
D. PERIPHERAL EDEMA IF CHRONIC HEART FAILURE
E. DETERMINE IF CARDIAC DYSRHYTHMIA EXISTS
F. CONSIDER TENSION PNEUMOTHORAX
G. CONSIDER CARDIAC TAMPONADE

TREATMENT

H. SEMI-FOWLERS OR POSITION OF COMFORT
I. OXYGEN 100%
J. IV NORMAL SALINE TKO WITH LARGEST CATHETER SIZE POSSIBLE
K. TREAT DYSRHYTHMIA ACCORDING TO APPROPRIATE CARDIAC PROTOCOL
L. CONTACT MEDICAL/TRAUMA CONTROL
M. **EPINEPHRINE 0.6 MG/KG IN 100 CC NS IV ADMIX** BEGIN DRIP AT 1 CC/HR (TITRATE)

CONSIDER INTRAOSSEOUS INFUSION

ANAPHYLACTIC SHOCK

ASSESSMENT

A. ASSOCIATED WITH STINGS OR INGESTION OF ALLERGEN.
B. RESPIRATORY SIGNS AND SYMPTOMS SHOULD PREDOMINATE I.E., DYSPNEA, BILATERAL WHEEZES, OR HYPOTENSION
C. UTICARIA, GENERALIZED ERYTHEMIA.

TREATMENT

D. OXYGEN 100%
E. EPINEPHRINE (1:1000) 0.01 MG/KG SQ. – MAX 0.3 MG
F. MAY REPEAT Q 15 MINUTES, 3 TIMES (MAXIMUM 0.3 MG PER DOSE)
G. PRIMARY IV NORMAL SALINE TKO WITH LARGE BORE CATHETER
H. BENADRYL (DIPHENHYDRAMINE) 1 MG/KG IV OR IM.
I. CONTACT MEDICAL/TRAUMA CONTROL
J. **CONSIDER IV EPINEPHRINE 1:10,000 0.3 – 0.5 MG**

- MANAGE HYPOTENSION AS NECESSARY

HYPOVOLEMIC SHOCK

ASSESSMENT

A. COOL, CLAMMY SKIN
B. POOR CAPILLARY REFILL (GREATER THAN 5 SECONDS)

TACHYCARDIA	
NEWBORN	GREATER THAN 180/MIN
INFANT	GREATER THAN 160/MIN
TODDLERS	GREATER THAN 140/MIN
PRESCHOOLER	GREATER THAN 130/MIN
ADOLESCENT	GREATER THAN 120/MIN

LOW SYSTOLIC BLOOD PRESSURE	
NEWBORN	LESS THAN 60 MM HG
INFANT	LESS THAN 70 M HG
TODDLERS	LESS THAN 80 MM HG
PRESCHOOLER	LESS THAN 90 MM HG
ADOLESCENT	LESS THAN 100 MM HG

TREATMENT

C. OXYGEN 100%
D. TRENDELENBURG POSITION
E. PRIMARY IV NORMAL SALINE 10 - 20 CC/KG OVER 20 MINUTES WITH LARGEST IV CATHETER POSSIBLE
F. MAY REPEAT ONCE IF NECESSARY IF BREATH SOUNDS REMAIN CLEAR
G. CONTACT MEDICAL/TRAUMA CONTROL
H. SECONDARY IV LACTATED RINGERS (LARGE BORE CATHETER)
I. MAINTAIN TEMPERATURE ABOVE 97º F, WARM IV FLUID

IF DEXTROSTIX IS LESS THAN 60 MG/DL USE PEDIATRIC HYPOGLYCEMIA PROTOCOL

MEDICAL DIRECTOR APPROVAL_____

NEUROGENIC SHOCK

ASSESSMENT

A. ASSOCIATED WITH SPINAL CORD INJURIES AND OVERDOSES
B. SIGNS OF HYPOVOLEMIC SHOCK WITHOUT A DELAY IN CAP REFILL

TREATMENT

C. SECURE SPINE AND AIRWAY
D. OXYGEN 100%
E. POSITION MAST
F. TRENDELENBURG POSITION
G. PRIMARY IV NORMAL SALINE 10-20 CC/KG BOLUS
H. SECONDARY IV RINGERS LACTATE TKO
I. CONSIDER OCCULT BLEEDING AND TREAT AS HYPOVOLEMIA
J. NEUROLOGIC ASSESSMENT
K. CONTACT MEDICAL/TRAUMA CONTROL
L. **REBOLUS WITH 10-20 CC/KG NORMAL SALINE IV**
M. **EPINEPHRINE 0.6 MG/KG IN 100 CC NS IV ADMIX** BEGIN DRIP AT 1 CC/HR (TITRATE)

CONSIDER INTRAOSSEOUS INFUSION

SEPTIC SHOCK

ASSESSMENT

A. COOL, CLAMMY SKIN OR COOL, CLAMMY EXTREMITIES WITH FEBRILE CORE
B. POOR CAPILLARY REFILL
C. TACHYCARDIA/HYPOTENSION
D. POTENTIAL FOR UNDERLYING INFECTION

TACHYCARDIA	
NEWBORN	GREATER THAN 180/MIN
INFANT	GREATER THAN 160/MIN
TODDLERS	GREATER THAN 140/MIN
PRESCHOOLER	GREATER THAN 130/MIN
ADOLESCENT	GREATER THAN 120/MIN

LOW SYSTOLIC BLOOD PRESSURE	
NEWBORN	LESS THAN 60 MM HG
INFANT	LESS THAN 70 MM HG
TODDLERS	LESS THAN 80 MM HG
PRESCHOOLER	LESS THAN 90 MM HG
ADOLESCENT	LESS THAN 100 MM HG

TREATMENT

E. OXYGEN 100%
F. TRENDELENBURG POSITION
G. IV NORMAL SALINE 20 CC/KG OVER 20 MINUTES
H. CONTACT MEDICAL/TRAUMA CONTROL
I. MAINTAIN TEMPERATURE ABOVE 97º F AND LESS THAN 101º F
J. IF DEXTROSTIX IS LESS THAN 60 MG/DL USE PEDIATRIC HYPOGLYCEMIA PROTOCOL, PAGE 121

CONSIDER INTRAOSSEOUS INFUSION

MEDICAL DIRECTOR APPROVAL_____

PEDIATRIC PULSELESS ELECTRICAL ACTIVITY (PEA)

1. ABC' S
2. CPR
3. INTUBATE AND OXYGENATE WITH 100% OXYGEN
1. IV OR IO
4. HYPERVENTILATE
5. EPINEPHRINE IV OR IO 0.01 MG/KG (1:10,000), OR ET 0. 1 MG/KG (1:1,000)
6. REPEAT EVERY 3 MINUTES EPINEPHRINE (1:1,000)
7. IV, IO, OR ET 0. 1 - 0.2 MG/KG

- *IDENTIFY AND TREAT CAUSES:*
  - HYPOXIA
  - ACIDOSIS
  - HYPOVOLEMIA
  - TENSION PNEUMOTHORAX
  - CARDIAC TAMPONADE
  - HYPOTHERMIA

SUPRAVENTRICULAR TACHYCARDIA (SVT)

ASSESSMENT

A. P.A.T. (PAROXYSMAL ATRIAL TACHYCARDIA)
B. ATRIAL FLUTTER
C. ATRIAL FIBRILLATION
D. SYMPTOMATIC

TREATMENT

E. OXYGEN 100%
F. IV NORMAL SALINE TKO
G. STABLE
   I. ADENOSINE 0.1 MG/KG UP TO 6 MG
   II. MAY REPEAT ONCE IN 2-3 MIN AT DOUBLE THE ORIGINAL DOSE
H. UNSTABLE
   I. PRE-MEDICATE WITH VALIUM (DIAZEPAM) IV 0.25 MG /KG IF TIME IS AVAILABLE
   II. CARDIOVERSION AT 0.5 – 1.0 – 2.0 – 4.0 J/KG
I. CONTACT MEDICAL CONTROL

TACHYCARDIA	
NEWBORN	GREATER THAN 180/MIN
INFANT	GREATER THAN 160/MIN
TODDLERS	GREATER THAN 140/MIN
PRESCHOOLER	GREATER THAN 130/MIN
ADOLESCENT	GREATER THAN 120/MIN

LOW SYSTOLIC BLOOD PRESSURE	
NEWBORN	LESS THAN 60 MM HG
INFANT	LESS THAN 70 M HG
TODDLERS	LESS THAN 80 MM HG
PRESCHOOLER	LESS THAN 90 MM HG
ADOLESCENT	LESS THAN 100 MM HG

MEDICAL DIRECTOR APPROVAL_____

SYMPTOMATIC BRADYCARDIA

ASSESSMENT

A. HEART RATE LESS THAN 60 BEATS PER MINUTE
B. SIGNS OF DECREASED PERFUSION
C. CARDIAC RHYTHM MAY BE SINUS BRADYCARDIA, JUNCTIONAL, OR HEART BLOCK

TREATMENT

D. ASSESS ABC'S
E. SECURE AIRWAY ADMINISTER 100% OXYGEN, START IV OR IO
F. SEVERE CARDIORESPIRATORY COMPROMISE? (POOR PERFUSION, HYPOTENSION, RESPIRATORY DIFFICULTY)
    I. NO
        A) OBSERVE
        B) SUPPORT ABC'S,
        C) CONSIDER TRANSFER OR TRANSPORT TO ALS FACILITY
    II. YES
        A) OXYGENATE AND VENTILATE!
        B) DO CHEST COMPRESSIONS IF DESPITE OXYGENATION AND VENTILATION:
        C) (SPECIAL CONDITIONS MAY APPLY IN SEVERE HYPOTHERMIA)
G. EPINEPHRINE
    I. IV / IO: 0.01 MG/KG (1:10,000)
    II. ET: 0. 1 MG/KG (1:1,000)
    III. DOSES UP TO 0.2 MG/KG (1:1,000) MAY BE EFFECTIVE)
    IV. REPEAT EVERY 3 - 5 MINUTES AT SAME DOSE
H. ATROPINE 0.02 MG/KG
    I. (MINIMUM DOSE: 0. 1 MG)
    II. (MAXIMUM SINGLE DOSE: 0.5 MG FOR CHILD; 1.0 MG FOR ADOLESCENT)
    III. MAY BE REPEATED ONCE

IF ASYSTOLE DEVELOPS - SEE PEDIATRIC VENTRICULAR ASYSTOLE ALGORITHM PAGE

FOR NEONATES: GIVE EPINEPHRINE .01-.03 MG/KG OF 1:10,000 IV, IO, ET.

VENTRICULAR ASYSTOLE

ASSESSMENT

- CHECK FOR PULSE

BLS

- PULSE LESS THAN 40 IN AN INFANT BEGIN CHEST COMPRESSIONS AND RESCUE BREATHING IF NECESSARY, WITH BVM WITH HIGH FLOW OXYGEN.
- NO PULSE, BEGIN OR CONTINUE CPR.
- CALL FOR ALS UNIT TO RESPOND.
- CONTINUE CPR. 5 CYCLES = 2 MIN
- REASSESS PATIENT, TREAT APPROPRIATELY ACCORDING TO ASSESSMENT.
- GLUCOSE CHECK

ALS

- CHECK FOR A PULSE AND REASSESS PATIENT.
- ATTACH MONITOR WHILE ASSESSING PATIENT OR CONTINUING CPR. IF ASYSTOLE CONFIRM IN 3 LEADS.
- RESUME CPR IMMEDIATELY, PRE-PLAN AIRWAY.
- IV/ IO ACCESS
- NS BOLUS 20ML/KG IV OR IO.
- EPINEPHRINE 1:10000 = 0.1 ML/KG IV/IO OR
  EPI 1:1000 0.01MG/KG
  - **REPEAT EVERY 3 TO 5 MINS.**
- **CONTINUE CPR**, CHECK RHYTHM AFTER EACH 2 MINUTE CYCLE FOR POSSIBLE CHANGE AND TREAT APPROPRIATELY.
- CONTACT MEDICAL CONTROL

REMEMBER TO CONSIDER CAUSES:

HYPOVOLEMIA	HYPOXIA
ACIDOSIS	HYPO/HYPERKALEMIA
HYPOGLYCEMIA	HYPOTHERMIA
TOXINS	CARDIAC TAMPONADE
TENSION PNEUMOTHORAX	THROMBOSIS
TRAUMA	

MEDICAL DIRECTOR APPROVAL_____

VENTRICULAR FIBRILLATION / VENTRICULAR TACHYCARDIA WITHOUT A PULSE

BLS

- CHECK FOR A PULSE, NO PULSE BEGIN OR CONTINUE CPR,
- GIVE HIGH FLOW OXYGEN ASAP
- CPR FOR 2 MIN. CALL FOR ALS
- CONTINUE CPR. 5 CYCLES = 2 MI
- IV
- GLUCOSE CHECK

ALS

- CHECK FOR PULSE
- ATTACH MONITOR, SHOCKABLE? 1 SHOCK MANUAL DEFIBRILLATOR 2 JOULES/KG RESUME CPR IMMEDIATELY 5 CYCLES
- CHECK RHYTHM IF SHOCKABLE
- CONTINUE CPR WHILE CHARGING, BE SURE TO CLEAR EVERYONE SHOCK AT 2-4 JOULES/KG RESUME CPR
- 5 CYCLES
- IV/IO ACCESS
- GIVE EPINEPHRINE IV/IO 1:10000 = 0.1ML/KG OR 1:1000 .01MG/KG REPEAT EVERY 3 TO 5 MINS.
- PRE-PLAN AIRWAY.
- AFTER 5 CYCLES OF CPR CHECK RHYTHM, SHOCKABLE?
- CONTINUE CPR WHILE DEFIBRILLATOR IS CHARGING AND CLEAR EVERYONE. SHOCK AT 4 JOULES/KG
- RESUME CPR AMIODARONE 5 MG/KG IV/IO OR LIDOCAINE 1MG/KG IV/IO
- CONSIDER MAGNESIUM SULFATE 25 TO 50 MG/KG IV/IO, MAX 2 G FOR TORSADES DEPOINTES
- CONTINUE CPR 5 CYCLES UNTIL RHYTHM CHANGE THEN TREAT APPROPRIATELY.

VENTRICULAR TACHYCARDIA

ASSESSMENT

A. CONFIRM CARDIAC RHYTHM WITH QUICK LOOK PADDLES OR ELECTRODES.
B. CHECK FOR PALPABLE PULSE, (BRACHIAL FOR INFANTS - CAROTID FOR ADOLESCENTS)
C. CAUTION: IF THE SUSPECTED ETIOLOGY OF THE V-TACH IS COCAINE OR CRACK INGESTION OR IV INJECTION, CONTACT MEDICAL CONTROL IMMEDIATELY.

TREATMENT

- PULSELESS: TREAT WITH VENTRICULAR FIBRILLATION PROTOCOL

D. OXYGEN 100%
E. IV NORMAL SALINE
F. CONTACT MEDICAL CONTROL
G. PULSE PRESENT: STABLE
   I. LIDOCAINE 1.0 MG/KG
   II. LIDOCAINE 1.0 MG/KG IN 10-15 MINUTES
   III. CARDIOVERSION AS IN UNSTABLE PATIENTS
H. PULSE PRESENT: UNSTABLE

PREMEDICATE WITH VALIUM (DIAZEPAM) IV 0.25 MG/KG IF TIME IS AVAILABLE

   I. LIDOCAINE 1 MG/KG
   II. SYNCHRONIZED CARDIOVERSION 0.5-1 JOULES/KG
   III. SYNCHRONIZED CARDIOVERSION 2 JOULES/KG
   IV. LIDOCAINE 120 MG/100 CC IV ADMIX A 1.0-2.5 CC/KG/HR (TITRATE) UPON CONVERSION
I. CONTACT MEDICAL CONTROL
J. START IV INFUSION OF ANTIARRHYTHMIC AGENT THAT RESOLVED ARRHYTHMIA.

UNSTABLE INDICATES SYMPTOMS (E.G., CHEST PAIN OR DYSPNEA), HYPOTENSION, CONGESTIVE HEART FAILURE, ISCHEMIA, OR INFARCT.

MEDICAL DIRECTOR APPROVAL_____

TRAUMA ASSESSMENT

1. PRIMARY SURVEY: A. B. C. 'S WITH REGARD TO C-SPINE

2. SECONDARY SURVEY: HEAD TO TOE

   A. PERFORM PATIENT TRIAGE WITH EMPHASIS ON THE CARDIORESPIRATORY SYSTEM, CONTROL OF BLEEDING, LEVEL OF CONSCIOUSNESS, AND VITAL SIGNS.
   B. DETERMINE MECHANISM OF INJURY AND ESTIMATE FORCE INVOLVED.
   C. GATHER HISTORY INCLUDING MEDICATIONS AND UNDERLYING MEDICAL PROBLEMS.

3. TRAUMA CENTER DESTINATION GUIDELINES:

   WHEN TRANSPORT TO A TRAUMA CENTER WILL EXCEED THIRTY (30) MINUTES, THE PATIENT WILL BE TRANSPORTED TO THE CLOSEST APPROPRIATE MEDICAL FACILITY UNLESS OTHERWISE DICTATED BY LOCAL DESTINATION GUIDELINES. MEDICAL CONTROL SUPERVISION WILL HAVE FINAL JURISDICTION OVER DESTINATION.

IF A PATIENT'S CONDITION DETERIORATES DURING TRANSPORT, SUCH THAT THE PATIENT'S LIFE OR HEALTH ARE IN SERIOUS JEOPARDY IF THE REQUESTED OR PLANNED DESTINATION IS PURSUED, OR IF MEDICAL CONTROL DEEMS TRANSPORT TO A LEVEL I TRAUMA CENTER MAY NOT BE NECESSARY, THE PATIENT MAY BE TRANSPORTED TO ANOTHER APPROPRIATE FACILITY.

PEDIATRIC TRAUMA SCORE (15 years of age & under)

COMPONENT	+2 POINTS	+1 POINT	-1 POINT
SIZE	GREATER THAN 20 KG	10-20 KG	LESS THAN 10 KG
AIRWAY	NORMAL	ORAL/NASAL AIRWAY	UNMAINTAINABLE/ INTUBATED
SYSTOLIC B/P	GREATER THAN 90 MM HG	50-90 MM HQ	LESS THAN 50 MM HG
CNS	AWAKE	OBTUNDED/LOC	COMA
OPEN WOUND	NONE	MINOR	MAJOR/PENETRATING
SKELETAL	NONE	CLOSED FRACTURE	OPEN/MULTIPLE FRACTURES

TOTAL POINT VALUES FROM PHYSICAL PRESENTATION OR INJURY FOR TRAUMA SCORE _____ SUM IN POINTS

PEDIATRIC TRIAGE DECISION SCHEME

(15 YEARS OF AGE & UNDER)

PEDIATRIC TRAUMA SCORE OF 8 OR LESS REFER TO DESTINATION GUIDELINES PAGE 61	
YES	NO
TRANSPORT TO LEVEL I PEDIATRIC TRAUMA CENTER ADVISE MEDICAL CONTROL	ASSESS ANATOMY OF INJURY
♦ PENETRATING INJURY PROXIMAL TO ELBOW, AND KNEE, INCLUDING HEAD AND NECK. FLAIL CHEST ♦ TRAUMATIC RESPIRATORY ARREST ♦ PELVIC FRACTURE WITH SHOCK ♦ AMPUTATION PROXIMAL TO WRIST AND ANKLE ♦ COMBINATION TRAUMA WITH BURNS OF 15% BSA, OR TO THE FACE OR AIRWAY ♦ 2 OR MORE PROXIMAL LONG BONE FRACTURES LIMB PARALYSIS	
YES	NO
CONTACT MEDICAL CONTROL FOR CONSIDERATION OF TRANSFER TO LEVEL I OR II PEDIATRIC TRAUMA CENTER. IF MEDICAL CONTROL IS UNAVAILABLE, THEN TRANSPORT TO HIGHEST LEVEL TRAUMA CENTER.	ASSESS MECHANISM OF INJURY
♦ EVIDENCE OF HIGH IMPACT ♦ EJECTION FROM AUTOMOBILE ♦ DEATH OF VEHICLE OCCUPANT (PARTICULARLY IF UNRESTRAINED) ♦ FALL GREATER THAN 20 FEET ♦ VELOCITY CHANGE GREATER THAN 20 MPH ♦ PASSENGER INTRUSION GREATER THAN 12 INCHES ♦ PEDESTRIAN IMPACT (SIGNIFICANT) 5-20+ MPH ♦ MOTORCYCLE ACCIDENT GREATER THAN 20 MPH OR WITH SEPARATION OF RIDER AND BIKE BICYCLE ACCIDENT WITH SIGNIFICANT IMPACT	
YES	NO
CONTACT MEDICAL CONTROL FOR CONSIDERATION OF TRANSFER TO LEVEL I OR II PEDIATRIC TRAUMA CENTER. IF MEDICAL CONTROL IS UNAVAILABLE, THEN TRANSPORT TO HIGHEST LEVEL TRAUMA CENTER	RE-EVALUATE WITH MEDICAL CONTROL

MEDICAL DIRECTOR APPROVAL_____

TRAUMA TREATMENT PRIORITIES

1. SECURE AIRWAY/BREATHING WITH REGARD TO C-SPINE
2. ASSESS AND TREAT A.B.C.'S
3. OXYGEN 100%
4. POSITION PATIENT ON STRETCHER
5. TRENDELENBURG POSITION
6. PRIMARY IV LACTATED RINGERS (LARGE BORE CATHETER)
7. SECONDARY IV NORMAL SALINE (LARGE BORE CATHETER) RATE COMMENSURATE TO BLOOD LOSS OR VITAL SIGNS, WARM FLUID
8. CONTACT MEDICAL/TRAUMA CONTROL INDICATED VIA DESTINATION GUIDELINES
9. MONITOR VITAL SIGNS AND NEURO STATUS
10. AVOID HEAT LOSS

CONSIDER INTRAOSSEOUS INFUSION

MEDICAL DIRECTOR APPROVAL_____

THERMAL BURN

ASSESSMENT

A. LOOK FOR BURNS OF THE NARES, OROPHARYNGEAL MUCOSA, FACE OR NECK
B. LISTEN FOR ABNORMAL BREATH SOUNDS
C. NOTE IF BURN OCCURRED IN CLOSED SPACE
D. DETERMINE EXTENT OF INJURY (INCLUDE EVALUATION OF OTHER INJURIES)
E. REMOVE CLOTHING FROM AFFECTED PARTS IF NOT ATTACHED
F. CARDIAC MONITOR ALL PEDIATRIC BURN PATIENTS

TREATMENT

G. OXYGEN 100%
H. REMOVE RINGS EVEN IF EXTREMITIES ARE NOT AFFECTED
I. COVER BURNED AREA WITH STERILE DRESSING OR BURN SHEET
J. SOAK DRESSING WITH NORMAL SALINE IF LESS THAN 10% BSA
K. DO NOT USE ICE UNDER ANY CIRCUMSTANCES IF GREATER THAN 10% BSA
L. PRIMARY IV RINGERS LACTATE @ 10 CC/KG/HR
M. SECONDARY IV NORMAL SALINE TKO
N. CONTACT MEDICAL/TRAUMA CONTROL
O. **PAIN MEDICATION: MORPHINE SULFATE 0.1 - 0.2 MG/KG**

CONSIDER SMOKE INHALATION - DRAW BLOOD FOR CARBON MONOXIDE LEVEL

MEDICAL DIRECTOR APPROVAL_____

CHEMICAL EXPOSURE

ASSESSMENT

A. HISTORY OF EXPOSURE TO CHEMICAL
B. PROTECT YOURSELF FROM DANGER OR EXPOSURE
C. IDENTIFY SUBSTANCE AND VERIFY WITH DOCUMENTATION (M.S.D.S.) MATERIAL SAFETY DATA SHEETS IF AVAILABLE.
D. CONSIDER SELF CONTAINED BREATHING APPARATUS
E. EMS FUNCTIONS IN THE "COLD ZONE". CARE SHOULD NOT BE RENDERED IN THE " WARM/HOT ZONE". PATIENT DECON SHOULD BE COMPLETED PRIOR TO TREATMENT.

TREATMENT

BLS

A. IF INTERNAL EXPOSURE AND CONSCIOUS
   I. CONTACT MEDICAL/POISON CONTROL 1-800-288-9999
   II. TREAT AS DRUG INGESTION, PAGE ____

B. IF EXTERNAL EXPOSURE
   I. REMOVE VICTIM'S CLOTHING
   II. REMOVE (BRUSH OFF) ANY DRY CHEMICAL
   III. DECONTAMINATE AS ORDERED BY MEDICAL/POISON CONTROL
   IV. NOTIFY FOR POSSIBLE NEED OF DECONTAMINATION IF NECESSARY

C. IF INHALATION
   I. RECONSIDER SELF CONTAINED BREATHING APPARATUS
   II. REMOVE VICTIM FROM SOURCE
   III. OXYGEN 100% AND AIRWAY MAINTENANCE

FOLLOW ADULT CHANGES

MEDICAL DIRECTOR APPROVAL_____

ASSESSMENT

BLS

A. HISTORY OF DRUG INGESTION TO INCLUDE

2. MEDICAL /PSYCHIATRIC ILLNESSES

3. LIST OF MEDICATIONS (BRING ALL PILL BOTTLES-FULL OR EMPTY-TO HOSPITAL)

4. HAS PATIENT VOMITED?

5. APPROXIMATE TIME OF INGESTION

6. AMOUNT OF SUSPECTED INGESTION

7. ANY SEIZURE ACTIVITY

8. PATIENT'S MAIN COMPLAINT/SYMPTOM(S)

B. LEVEL OF CONSCIOUSNESS

ALS

MONITOR CARDIAC RHYTHM IF SUSPECTED CARDIOTOXIN, UNCONSCIOUS, OR HYPOTENSIVE

TREATMENT

BLS

A. PROTECT YOURSELF FROM TOXIN AND/OR COMBATIVE PATIENT

B. · ABCS, MONITOR VITALS

C. OXYGEN AND AIRWAY MAINTENANCE APPROPRIATE TO PATIENT CONDITION. IE..BLOW BY, NON-REBREATHER, BVM

D. IV ACCESS TKO.

ALS

A. INTUBATE AS APPROPRIATE

B.. DRAW LABS FROM IV PRIOR TO INFUSION

C. CHECK CHEMSTICK IF HYPOGLYCEMIC GIVE -*GIVE ORAL GLUCOSE OR 2CC/KG D25 IV*

D. IF ETIOLOGY IS KNOWN:

 NOTE: ONLY IF LOC DEEPLY DEPRESSED WITH RESPIRATORY INSUFFICIENCY AND DRUG IS A/AN):

I. OPIATE -NARCAN (NALOXONE) 0.1 MG/KG UP TO 20KG

A. 2MG PTS OVER 20 KG

II. ORGANOPHOSPHATE OR CARBAMATE INSECTICIDE – ATROPINE 0.05 MG/KG EVERY 15-30 MIN. – NO MAX – MIN DOSE 0.1 MG

III. TRICYCLIC – SODIUM BICARBONATE 1 MEQ/KG IV

E. IF SEIZING - VALIUM (DIAZEPAM) 0.2 MG/KG IV TITRATE10 MG MAX. DOSE

K. CONTACT MEDICAL/POISON CONTROL

MEDICAL DIRECTOR APPROVAL_____

HYPERTHERMIA

ASSESSMENT

A. HISTORY OF EXPOSURE TO WARM TEMPERATURE
B. USUALLY SEEN WITH INCREASED EXERTION
C. FEBRILE
D. MAY HAVE HOT AND DRY SKIN
E. MAY BE HYPOTENSIVE

TREATMENT

F. OXYGEN 100% AND AIRWAY MAINTENANCE
G. REMOVE CLOTHING, COVER WITH WET LINEN, EXPOSE TO CIRCULATING AIR, AND COOL WITH COLD PACKS TO GROIN, AXILLARY, NECK
H. IV NORMAL SALINE TKO AND MONITOR CARDIAC RHYTHM
I. VALIUM (DIAZEPAM) IV 0.25 MG/KG IV FOR SEIZURES
J. CONTACT MEDICAL CONTROL

INCREASE IV RATE TO 5 CC/KG/HR IF PATIENT REMAINS TACHYCARDIAC OR HYPOTENSIVE

HYPOTHERMIA

ASSESSMENT

A. HISTORY OF EXPOSURE TO COLD TEMPERATURE
B. ALTERED LEVEL OF CONSCIOUSNESS
C. BRADYCARDIA
D. HYPOTENSION
E. CORE TEMPERATURE BELOW 94 DEGREES F
F. EXAMINE FOR ASSOCIATED TRAUMA

TREATMENT

BLS

HANDLE GENTLY! SLIGHTEST JOLT MAY TRIGGER V-FIB.

A. IF UNCONSCIOUS AND PULSELESS EVALUATE FOR ONE FULL MINUTE
   I. IF NO PULSE FOR 1 MINUTE PERFORM CPR WITH 100% OXYGEN.
   II. REMOVE WET CLOTHING AND COVER WITH BLANKETS
   III. IV WARMED NORMAL SALINE @ 10 CC/KG/HR

ALS

DO NOT PERFORM CPR IF BRADYCARDIC RHYTHM EXISTS

IV. IDENTIFY CARDIAC RHYTHM, GO TO APPROPRIATE TREATMENT PROTOCOL IF TEMPERATURE GREATER THAN 85 DEGREES F.
V. CONTACT MEDICAL CONTROL

B. IF FIBRILLATING AND CORE TEMPERATURE LESS THAN 85 F
   I. DEFIBRILLATE @ 2 JOULES/KG ONLY ONCE, THEN CPR IF UNSUCCESSFUL

C. IF FIBRILLATING AND CORE TEMPERATURE GREATER THAN 85 E
   I. GO TO VENTRICULAR FIBRILLATION PROTOCOL, PAGE 52

E. IF GREATER THAN 10 MINUTE TRANSPORT TIME
   I. ADD HEAT VIA WARM HEAT PACKS TO HEAD, NECK, CHEST, & GROIN.
II. DO NOT WARM EXTREMITIES!

MEDICAL DIRECTOR APPROVAL_____

NEAR DROWNING

ASSESSMENT

- HISTORY COMPATIBLE WITH DROWNING
- SUSPECT HYPOTHERMIA IN "COLD WATER" DROWNING
- SUSPECT CERVICAL SPINE INJURY

BLS

- REMOVE PATIENT FROM THE WATER WITH APPROPRIATE C SPINE PRECAUTIONS.
- CLEAR AIRWAY WITH REGARD TO C-SPINE. HEIMLICH MANEUVER MAY BE INDICATED FOR AIRWAY OBSTRUCTION
- 100% OXYGEN VIA BVM
- CPR AND ATTACH AED WHILE PERFORMING CPR
    - PATIENT SHOULD BE QUICKLY DRIED AND PLACED ON A DRY SURFACE BEFORE ATTACHING AED TO PREVENT HYPOTHERMIA AND INJURY TO RESCUERS PERFORMING DEFIBRILLATION.

ALS

- INTUBATE IF APNEIC OR UNCONSCIOUS
- CONSIDER NG TUBE
- IF UNRESPONSIVE AND PULSELESS
    - CPR 100% OXYGEN
    - EVALUATE EKG AND GO TO APPROPRIATE TREATMENT PROTOCOL
    - CONTACT MEDICAL CONTROL

- IF HYPOTHERMIC

GO TO HYPOTHERMIA PROTOCOL, PAGE

POISONOUS SNAKE BITE

PROTECT YOURSELF FROM DANGER OF SNAKE BITE
DETERMINE TYPE OF SNAKE, IF POSSIBLE (NUMBER OF PUNCTURE MARKS NOT DIAGNOSTIC)

TREATMENT

BLS

- LOC, SAMPLE HISTORY
- MAINTAIN ABC'S
- OXYGEN WITH APPROPRIATE AIRWAY ADJUNCT DEVICE
- VITAL SIGNS
- NOTHING BY MOUTH
- IV NS
- GLUCOSE CHECK
- SUPINE POSITION WITH AFFECTED EXTREMITY ELEVATED
- CARDIAC MONITOR IF ALS AVAILABLE
- ALLAY ANXIETY – KEEP PT CALM
- REMOVE JEWELRY

ALS

- OBSERVE FOR ANAPHYLAXIS AND TREAT ACCORDINGLY
- CONSIDER BENEDRYL IM/IV (CONSULT BROSLOW TAPE)
- FLUID BOLUS (CONSULT BROSLOW TAPE) IF HYPOTENSIVE
- EARLY NOTIFICATION TO ED OF PATIENT CONDITION
- RAPID TRANSPORT

EZ-IO PROTOCOL PEDIATRIC

INDICATIONS:
PEDIATRIC PATIENTS: ***(39KG AND BELOW)***

1. CRITICALLY ILL, UNCONSCIOUS PEDIATRIC PATIENT REQUIRING IV FLUIDS OR DRUGS, WHICH CANNOT BE ADMINISTERED BY A NONVASCULAR ROUTE SUCH AS ENDOTRACHEAL TUBE OR PR (PER RECTUM).
   I. TRAUMATIC SHOCK
   II. SEIZURES WITH AIRWAY COMPROMISE
   III. CARDIAC ARREST WITHOUT ENDOTRACHEAL TUBE OR PERIPHERAL VASCULAR ACCESS.
2. FAILURE TO ACHIEVE VASCULAR ACCESS BY OTHER MORE TRADITIONAL MEANS.
3. ENROUTE OR WAITING ARRIVAL OF A SECONDARY RESPONDER.
4. TRANSPORT TIME IS PROLONGED GREATER THAN FIFTEEN (15) MINUTES IN SHOCK REQUIRING FLUID BOLUS.
5. UNDER THE DIRECTION OF MEDICAL CONTROL.

CONTRAINDICATIONS:
FRACTURE OF THE TIBIA OR FEMUR (*CONSIDER ALTERNATE TIBIA*)
PREVIOUS ORTHOPEDIC PROCEDURES (IO WITHIN 24 HOURS, KNEE REPLACEMENT) (*CONSIDER ALTERNATE TIBIA)*
PRE-EXISTING MEDICAL CONDITION (*TUMOR NEAR SITE OR PERIPHERAL VASCULAR DISEASE*)
INFECTION AT INSERTION SITE (*CONSIDER ALTERNATE SITE*)
INABILITY TO LOCATE LANDMARKS (*SIGNIFICANT EDEMA*)
EXCESSIVE TISSUE AT INSERTION SITE

CONSIDERATIONS:
FLOW RATES:
DUE TO THE ANATOMY OF THE IO SPACE YOU WILL NOTE FLOW RATES TO BE SLOWER THAN THOSE ACHIEVED WITH IV CATHETERS.

- ✓ ENSURE THE ADMINISTRATION OF A 5 ML RAPID BOLUS (FLUSH) WITH A SYRINGE.
- ✓ USE A PRESSURE BAG OR PUMP FOR CONTINUOUS INFUSIONS

PAIN:
INSERTION OF THE EZ-IO IN CONSCIOUS PATIENTS CAUSES MILD TO MODERATE DISCOMFORT AND IS USUALLY NO MORE PAINFUL THAN A LARGE BORE IV. IO INFUSION MAY CAUSE SEVERE DISCOMFORT FOR CONSCIOUS PATIENTS. PRIOR TO IO BOLUS OR FLUSH ON AN ALERT PATIENT, SLOWLY ADMINISTER **LIDOCAINE (PRESERVATIVE FREE) 0.5 MG/KG** 2% THROUGH THE EZ-IO™ HUB.
COMPATIBLE FLUIDS AND MEDICATIONS:

- ✓ ANY FLUID THAT IS ADMINISTERED IV MAY BE ADMINISTERED THROUGH THE EZ IO.

MEDICAL DIRECTOR APPROVAL_____

PRECAUTIONS:
THE EZ-IO IS NOT INTENDED PROPHYLACTIC USE.

EQUIPMENT:
EZ-IO DRIVER
EZ-IO NEEDLE SET
ALCOHOL OR BETADINE SWAB
EXTENSION SET OR EZ-CONNECT
10 ML SYRINGE
NORMAL SALINE (OR SUITABLE STERILE FLUID)
TAPE OR GAUZE
PRESSURE BAG
2 % LIDOCAINE (PRESERVATIVE FREE)

PROCEDURE:
IF THE PATIENT IS CONSCIOUS, ADVISE THEM OF THE EMERGENT NEED FOR THIS PROCEDURE AND OBTAIN INFORMED CONSENT.
1. WEAR APPROVED BODY SUBSTANCE ISOLATION EQUIPMENT
2. DETERMINE EZ-IO INDICATIONS
3. RULE OUT CONTRAINDICATIONS
4. LOCATE INSERTION SITE:
   IDENTIFY THE LANDMARKS WITH THE CHOICE SITE BEING THE PROXIMAL TIBIA.
   I. PROXIMAL TIBIA 1-2 FINGER BREADTHS (1-3 CM) DISTAL TO TIBIAL TUBEROSITY ON THE ANTEROMEDIAN SURFACE
   II. DISTAL TIBIA 1-2 FINGER BREADTHS (1-3 CM) ABOVE THE MEDIAL MALLEOLUS AT THE ANKLE.
5. CLEANSE INSERTION SITE WITH BETADINE USING ASEPTIC TECHNIQUE
6. PREPARE THE EZ-IO DRIVER AND NEEDLE SET
7. STABILIZE LEG AND INSERT EZ-IO NEEDLE SET
8. REMOVE EZ-IO DRIVER FROM NEEDLE SET WHILE STABILIZING CATHETER HUB
9. REMOVE STYLET FROM NEEDLE SET, PLACE STYLET IN SHUTTLE OR SHARPS CONTAINER
10. CONFIRM PLACEMENT BY NOTING AT LEAST ONE OF THE FOLLOWING:
   III. ASPIRATION WITH SYRINGE YIELDS BLOODY FLUID.
   IV. INFUSION OF FLUID WITH A SYRINGE DOES NOT MEET RESISTANCE AND DOES NOT INFILTRATE.
   V. NEEDLE STANDS WITHOUT SUPPORT.
   VI. A "POP" OR "GIVE" IS SENSED DURING PLACEMENT.
11. CONNECT PRIMED EZ-CONNECT.
12. CONSCIOUS PATIENTS SHOULD NOW RECEIVE **0.5 MG/KG 2% LIDOCAINE IO**.

13. HARD FLUSH OR BOLUS THE EZ-IO CATHETER WITH 5 ML OF NORMAL SALINE USING A 10 ML SYRINGE.
14. PLACE A PRESSURE BAG INFLATED TO 300 TORR ON SOLUTION BEING INFUSED WHERE APPLICABLE.
15. BEGIN INFUSION
16. DRESS SITE WITH STERILE GAUZE AND SECURE WITH TAPE, AVOIDING TENSION ON THE NEEDLE, SECURE TUBING AND APPLY WRISTBAND.
17. MONITOR EZ-IO SITE AND PATIENT CONDITION.

INTRAOSSEOUS INFUSION MAY BE PERFORMED ONLY BY PARAMEDICS TRAINED

SPECIFICALLY IN THIS PROCEDURE AND APPROVED BY THE MEDICAL DIRECTOR.

1. 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.

2. PROCEDURE:

   A. EMT/PARAMEDIC SHALL:
      I. INFORM THE PHYSICIAN THAT THE EMT/PARAMEDIC MUST CONTACT MEDICAL/TRAUMA CONTROL.
      II. INFORM MEDICAL/TRAUMA CONTROL OF THE PRESENCE OF A PHYSICIAN ON SCENE.
   B. MEDICAL/TRAUMA CONTROL MAY:
      I. SPEAK TO THE PHYSICIAN TO DETERMINE QUALIFICATIONS.
      II. REQUEST EMT/PARAMEDIC TO VERIFY LICENSURE OF THE PHYSICIAN.
   C. PHYSICIAN (INTERVENING) MAY:
      I. OFFER ASSISTANCE BUT ALLOW THE EMT/PARAMEDIC TO REMAIN UNDER MEDICAL/TRAUMA CONTROL; OR,
      II. REQUEST TO TALK TO MEDICAL/TRAUMA CONTROL TO OFFER MEDICAL ADVICE AND ASSISTANCE; OR,
      III. TAKE TOTAL RESPONSIBILITY FOR THE CARE GIVEN BY THE EMT/PARAMEDIC AND PHYSICALLY ACCOMPANY THE PATIENT UNTIL THE PATIENT ARRIVES AT A HOSPITAL AND RESPONSIBILITY IS ASSUMED BY THE RECEIVING PHYSICIAN; AND SHALL,
         A) SIGN FOR ALL INSTRUCTIONS GIVEN TO EMTS/PARAMEDICS.
         B) MAINTAIN MEDICAL/TRAUMA CONTROL CONTACT WHENEVER POSSIBLE.
   D. IF THE PATIENT'S PRIVATE PHYSICIAN INTERVENES IN PERSON OR BY TELEPHONE THE EMT/PARAMEDIC SHALL:
      I. INFORM THE PHYSICIAN THAT THE EMT/PARAMEDIC MUST CONTACT MEDICAL/TRAUMA CONTROL.
      II. REQUEST THE PATIENT'S PHYSICIAN TO CONTACT MEDICAL/TRAUMA CONTROL. ONCE CONTACTED, PARAGRAPH C.III PREVAILS.
      III. AT NO TIME SHOULD ANY ORDERS BE TAKEN OVER THE TELEPHONE EXCEPT FROM MEDICAL/TRAUMA CONTROL.

CIRCUMSTANTIAL INFORMATION

FIELD DETERMINATION OF DEATH

PULSELESS, NON-BREATHING PATIENTS FALL INTO ONE OF TWO CATEGORIES:

1. PATIENTS WITH DEFINITIVE SIGNS OF DEATH.
   - **DEFINITIVE SIGNS OF DEATH**. IF THERE IS ANY QUESTION, CPR SHOULD BE INITIATED. THE PATIENT MUST HAVE **AT LEAST ONE** OF THE FOLLOWING CONDITIONS;
     I. RIGOR MORTIS
     II. DEPENDENT LIVIDITY
     III. DECOMPOSITION OF BODY TISSUES.
     IV. DEVASTATING, UNSURVIVABLE INJURY(S) - AN INJURY CLEARLY INCOMPATIBLE WITH LIFE.
        1. I.E. DECAPITATION, INCINERATION, SEPARATION OF VITAL INTERNAL ORGANS FROM THE BODY OR TOTAL DESTRUCTION OF ORGANS.
2. PATIENTS NOT HAVING DEFINITIVE SIGNS OF DEATH MUST RECEIVE RESUSCITATION UNLESS A PROPERLY EXECUTED STATE APPROVED PRE-HOSPITAL DO-NOT-RESUSCITATE ORDER IS WITH THE PATIENT OR UPON ASSESSMENT THE FOLLOWING SIGNS ARE PRESENT:
   - ASYSTOLE ON EKG MONITOR, CONFIRM ASYSTOLE IN 3 LEADS (HARD LEADS AND PADDLE MODE)
   - FIXED DILATED PUPILS, GLAZED
   - ABSENCE OF SPONTANEOUS PULSE, RESPIRATIONS, AND NEUROLOGICAL REFLEXES
   - COOL SKIN, (BE ALERT FOR ELECTRIC BLANKETS AND AMBIENT TEMPERATURE), CYANOSIS

PROCEDURE FOR ATTENDING PARAMEDIC:

AFTER CONFIRMATION OF DEATH:

CONTACT SUPERVISOR

COLLECT AND DOCUMENT

PATIENT MEDICAL INFORMATION (PHYSICIAN, MEDICATIONS, ALLERGIES)
EVENTS PRECEDING DEATH
LAST TIME SEEN ALIVE
POSITION/LOCATION FOUND UPON ARRIVAL
ANY REPOSITIONING OF BODY
PRESENCE OF INJURIES, APPARENT CAUSES
INTERVENTIONS

IF A NATURAL DEATH IS EVIDENT, CONTACT PHYSICIAN FOR SIGNATURE ON DEATH CERTIFICATE

IF PHYSICIAN AGREES TO SIGN DEATH CERTIFICATE, CONTACT FUNERAL HOME OF FAMILY CHOICE AND WAIT WITH THE BODY UNTIL FH ARRIVAL.

IF PHYSICIAN DOES NOT AGREE TO SIGN DEATH CERTIFICATE, CONTACT SUPERVISOR.

IF DEATH IS UNNATURAL OR SUSPICIOUS - CONTACT SUPERVISOR, MCSO OR CPD FOR INVESTIGATION, STAND BY IF NEEDED, IF NOT NEEDED-GO AVAILABLE UNTIL BODY IS READY FOR TRANSPORT.

MEDICAL DIRECTOR APPROVAL_____

CIRCUMSTANTIAL INFORMATION

DNR ORDERS

- IF A FAMILY MEMBER OR CAREGIVER CAN PRODUCE A PROPERLY EXECUTED STATE APPROVED PRE-HOSPITAL DNR ORDER OR POST ORDER, RESUSCITATION CAN BE WITHHELD.
- THIS DOES NOT MEAN WITHHOLD CARE. COMFORT MEASURES SHOULD BE ADMINISTERED AS DETERMINED BY THE POST ORDER OR COMFORT MEASURES IF THE PATIENT HAS A DNR. (OXYGEN BY NRB OR NASAL CANNULA ARE NOT CONSIDERED HEROIC MEASURES)
- SUCTION, OXYGEN, POSITION OF COMFORT ARE ALLOWED
- TREAT PATIENTS WITH KNOWN DNR ORDERS APPROPRIATELY; JUST DO NOT INITIATE CPR IF THEY DEVELOP CARDIOVASCULAR OR RESPIRATORY ARREST.
- WHEN THERE IS ANY DOUBT ABOUT WHAT TO DO, BEGIN RESUSCITATIVE EFFORTS WITH ALL SKILLS AVAILABLE.
- NO CODE OR NO 813 ORDERS RECEIVED FROM THE HOSPITAL OR NURSING HOME ARE NOT APPROVED FORMS FOR PREHOSPITAL CARE PROVIDERS. IF PRESENTED WITH SUCH, INITIATE CPR AND RESUSCITATIVE MEASURES UNTIL MEDICAL CONTROL IS CONTACTED FOR VERBAL ORDERS TO CEASE EFFORTS.

RESUSCITATION INITIATED PRIOR TO EMS ARRIVAL.

ANYTIME CPR OR AN ATTEMPT AT RESUSCITATION HAS BEEN INITIATED BY ANYONE AT THE SCENE,
RESUSCITATIVE EFFORTS WILL BE CONTINUED UNTIL:

1. A **PHYSICIAN** DIRECTS THE TEAM TO STOP (EITHER ON-LINE OR ON-SCENE)
   NOTE: IF RESUSCITATION EFFORTS ARE TERMINATED ON THE ORDER OF A PHYSICIAN, THAT PHYSICIAN'S NAME AND THE TIME THAT DEATH IS DETERMINED MUST BE DOCUMENTED ON THE EMS MEDICAL RECORD.
2. IT IS DETERMINED THE PATIENT MEETS THE CRITERIA FOR "DEFINITIVE SIGNS" OF DEATH.
3. A PROPERLY EXECUTED **DNR ORDER FORM** OR **POST FORM** IS PRESENTED.

NOTE THESE CRITERIA HAVE BEEN APPROVED BY THE STATE MEDICAL EXAMINER

CONSIDER TERMINATION OF RESUSCITATIVE EFFORTS

AFTER 20 MIN OF EFFECTIVE CPR AFTER EMS ARRIVAL ON SCENE AND ALS INTERVENTIONS (E.G. ET, IV, MEDICATIONS, DEFIBRILLATION) ORDERS MAY BE REQUESTED VIA MEDICAL CONTROL FOR TERMINATION OF EFFORTS. IF ALS INTERVENTIONS HAVE NOT BEEN SUCCESSFUL (E.G. IV, ET) AND/OR VFIB/VTACH PERSISTS, CONTINUE EFFORTS AND TRANSPORT. EFFORTS SHOULD BE CONTINUED WHILE REQUEST IS CONFIRMED.

MEDICAL DIRECTOR APPROVAL_____

CIRCUMSTANTIAL INFORMATION

TERMINALLY ILL PATIENTS

PURPOSE:

TO PROVIDE GENERAL GUIDELINES FOR THE DELIVERY OF MEDICAL CARE TO A PATIENT IN THE TERMINAL PHASE OF A CHRONIC DISEASE WITH DEATH IMMINENT.

PROCEDURE:

PRE-HOSPITAL PROVIDERS ARE OCCASIONALLY CALLED TO A RESIDENCE WHERE THERE IS A "TERMINALLY ILL" PATIENT UNDER THE DIRECT AND CONTINUOUS CARE OF A PHYSICIAN. THE PATIENT'S FAMILY AND PHYSICIAN MAY ONLY DESIRE THAT THE PATIENT BE KEPT COMFORTABLE. HOWEVER, FAMILY MEMBERS OR OTHER PERSONS MAY BECOME OVERWHELMED BY THE SITUATION AND CALL AN EMERGENCY NUMBER THAT MAY INVOLVE BOTH AMBULANCE AND FIRE SERVICE.

THE SUDDEN ARRIVAL OF A NUMBER OF PEOPLE AT THE RESIDENCE MAY RESULT IN CONFUSION. CONSEQUENTLY, THE PATIENT MAY PRESENT WITH WHAT IS PERCEIVED, BY A FIRST RESPONDER OR AMBULANCE PERSONNEL, AS A SUDDEN ONSET OF SYMPTOMS, WHICH APPEAR TO BE LIFE THREATENING (MOST LIKELY ALTERED MENTAL STATUS, RESPIRATORY DISTRESS OR CARDIAC/PULMONARY ARREST). THE PROVIDER, THEREFORE, SHOULD BE ESPECIALLY ALERT FOR PATIENT INFORMATION THAT MAY INDICATE THE PATIENT IS IN THE TERMINAL PHASE OF A CHRONIC DISEASE WITH DEATH IMMINENT (THE "TERMINALLY ILL PATIENT") AND PROCEED AS FOLLOWS:

A. MAINTAIN A CALM ENVIRONMENT AND AVOID AUTOMATICALLY PERFORMING HEROIC AND PERHAPS INAPPROPRIATE MEASURES BEYOND BASIC LIFE SUPPORT (BLS).
B. ELICIT AS MUCH INFORMATION FROM PERSONS PRESENT WHO ARE FAMILIAR WITH THE PATIENT'S CONDITION.
C. GET THE NAME AND TELEPHONE NUMBER OF THE PATIENT'S PHYSICIAN IF POSSIBLE.
D. MAINTAIN BLS AND SUPPORTIVE PROCEDURES (ELEVATE HOB, SUCTION, OXYGEN) AND CONTACT THE MEDICAL CONTROL AS SOON AS POSSIBLE. PROVIDE FULL INFORMATION ON THE PATIENT'S PRESENT CONDITION, HISTORY (OF TERMINAL ILLNESS), AND THE NAME OF THE PATIENT' S PHYSICIAN AND TELEPHONE NUMBER.
E. MEDICAL CONTROL SHOULD BE PROVIDED FULL INFORMATION AND DIRECT THE MANAGEMENT OF THE CALL. WHEN POSSIBLE, THE PATIENT'S PHYSICIAN SHOULD BE CONSULTED BY MEDICAL CONTROL.
F. IF THE PATIENT'S PRIVATE PHYSICIAN INTERVENES IN PERSON OR BY TELEPHONE THE PARAMEDIC SHALL:
    I. PROVIDE THE PHYSICIAN WITH INFORMATION ON THE PATIENT CONDITION.
    II. INFORM THE PHYSICIAN THAT THEY MUST MAKE CONTACT WITH MEDICAL CONTROL.
        A) PROVIDE DIRECT TELEPHONE NUMBER AND PHYSICIANS NAME AT MEDICAL CONTROL
    III. AT NO TIME SHOULD ANY ORDERS BE TAKEN OVER A PHONE, EXCEPT FROM MEDICAL CONTROL

MEDICAL DIRECTOR APPROVAL_____

ALS PROCEDURES

ADMINISTRATION OF BLOOD PRODUCTS

PURPOSE:
PATIENTS MAY REQUIRE TRANSPORTATION TO ANOTHER MEDICAL/TRAUMA CENTER WITH BLOOD OR BLOOD PRODUCTS INFUSING. A PARAMEDIC, REGISTERED NURSE, MUST ACCOMPANY THESE PATIENTS IN THE PATIENT COMPARTMENT OR PHYSICIAN TRAINED IN THESE PROCEDURES. THE PARAMEDIC SHALL BE KNOWLEDGEABLE IN THE ADMINISTRATION OF BLOOD, BLOOD PRODUCTS, ADVERSE REACTIONS, AND ALL NECESSARY EQUIPMENT USED IN ADMINISTERING AND REGULATING THE BLOOD PRODUCTS. ***EMERGENCY MEDICAL TECHNICIANS WHO HAVE IV CERTIFICATION ARE NOT AUTHORIZED TO TRANSPORT PATIENTS WITH ANY ADMIXTURE, BLOOD, OR BLOOD PRODUCTS.*** PRIOR TO INITIATING TRANSPORTATION THE PHYSICIAN WILL PROVIDE THE PARAMEDIC WITH WRITTEN MEDICAL ORDERS FOR THE TREATMENT OF ANY ADVERSE REACTION(S) THE PATIENT MIGHT HAVE. WHEN TRANSPORTING THE PATIENT, AT LEAST EPINEPHRINE, BENADRYL, AND A SUITABLE DIURETIC SHOULD BE AVAILABLE IN THE PATIENT COMPARTMENT. IF THE TRANSPORTING PARAMEDIC HAS NOT RECEIVED SPECIFIC TRAINING, THE PARAMEDIC MAY REFUSE TO TRANSPORT THE PATIENT WITH BLOOD OR BLOOD PRODUCTS INFUSING. THE AMBULANCE SERVICE MUST MAINTAIN A RECORD OF ALL PERSONNEL COMPLETING THIS SPECIALIZED TRAINING.

PROCEDURE
BLOOD SHOULD BE ADMINISTERED IMMEDIATELY AFTER TAKEN FROM THE BLOOD BANK. ROOM STORAGE SHOULD NOT EXCEED THIRTY (30) MINUTES. CAREFULLY CHECK BLOOD TYPE FOR COMPATIBILITY WITH THE PATIENT PRIOR TO BEGINNING THE INFUSION. CHECK VITAL SIGNS PRIOR TO THE INFUSION. THE BLOOD SHOULD BE RUN THROUGH AT LEAST AN 18-GAUGE IV CATHETER OR LARGER WITH THE BLOOD HUNG 3-4 FEET ABOVE THE PATIENT. THE IV LINE SHOULD BE FLUSHED WITH NORMAL SALINE PRIOR TO BEGINNING THE INFUSION. BLOOD SHOULD BE ADMINISTERED ONLY WITH NORMAL SALINE IV FLUID. THE INFUSION SHOULD BE INITIATED AT A RATE OF 50 CC'S/HR FOR THE FIRST 10 MINUTES THEN AS ORDERED BY THE REFERRING PHYSICIAN. PATIENT CONDITION AND VITAL SIGNS SHOULD BE MONITORED CLOSELY DURING THE INFUSION. THE BLOOD SHOULD BE MIXED DURING THE INFUSION BY INVERTING THE BAG OCCASIONALLY. AFTER THE INFUSION IS COMPLETED, FLUSH THE IV TUBING UNTIL CLEAR WITH NORMAL SALINE AND MAINTAIN THE IV AS ORDERED BY THE REFERRING PHYSICIAN. IF A REACTION OCCURS DURING THE INFUSION, TERMINATE THE INFUSION IMMEDIATELY. INITIATE THE TREATMENT ORDERED BY THE REFERRING PHYSICIAN AND ESTABLISH MEDICAL CONTROL AS SOON AS POSSIBLE. SAVE THE DONOR BLOOD FOR TESTING AT THE RECEIVING FACILITY. IF PATIENT CONDITION PERMITS, DRAW VENOUS BLOOD IN A PURPLE TOP TUBE FROM ANOTHER PERIPHERAL SITE FOR EVALUATION AT THE RECEIVING FACILITY.

ADVERSE REACTIONS:
CIRCULATORY OVERLOADING: DYSPNEA, INCREASE IN BLOOD PRESSURE, AND JUGULAR VEIN DISTENTION.
FEBRILE REACTION: CHILLING, FEVER, HEADACHE, FLUSHING, TACHYCARDIA, AND ANXIETY.
SEPTIC REACTION: CHILLING, FEVER, HEADACHE, TACHYCARDIA, AND HYPOTENSION.
IMMUNOLOGIC REACTION: FLUSHING, ITCHING, RASH, UTICARIA, AND ASTHMATIC WHEEZING.
ACUTE HEMOLYTIC REACTION: SEVERE REACTION WHICH MAY CAUSE BACK PAIN, DYSPNEA, HYPOTENSION, DIAPHORESIS, COLD SKIN, JUGULAR VEIN DISTENTION, DISSEMINATED INTRAVASCULAR COAGULATION, AND DEATH.

ADULT ON-SCENE CLEARANCE OF C-SPINE

*THIS PROTOCOL SHOULD **ONLY** BE USED FOR AWAKE AND ALERT AMBULATORY PATIENTS WHO HAVE NOT HAD A LOSS OF CONSCIOUSNESS.*

THIS PROTOCOL DOES NOT APPLY TO PATIENTS ALREADY IN CERVICAL COLLAR AND/OR ALREADY IMMOBILIZED.

TO CONSIDER CLEARING THE CERVICAL SPINE FOR NON-IMMOBILIZATION, THE PATIENT MUST BE AWAKE, ALERT, AND AMBULATORY AT THE SCENE AND MUST BE OLDER THAN AGE 8 AND YOUNGER THAN AGE 60. IF THE PATIENT FALLS WITHIN THIS CATEGORY, THEN **ALL** THE FOLLOWING CRITERIA MUST APPLY AS ASSESSED BY A **PARAMEDIC** LEVEL PROVIDER IN ORDER TO FORGO IMMOBILIZATION:

- LOW ENERGY MECHANISM OF INJURY (E.G. INVOLVED IN LOW SPEED MVC UNDER 25-30 MPH, FALLS FROM STANDING OR SITTING POSITION).
- HAVE NO NEUROLOGICAL COMPLAINTS (INCLUDING WEAKNESS, PARESTHESIA, PARALYSIS, LOSS OF CONSCIOUSNESS SECONDARY TO TRAUMA, ETC.).
- HAVE NO DISTRACTING INJURIES (SMALL LACERATIONS ARE OKAY).
- NOT APPEAR TO BE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.
- HAVE NO SPINE TENDERNESS AND NO COMPLAINTS OF NECK OR BACK PAIN.

***TRAUMA PATIENTS MUST SATISFY ALL OF THE ABOVE CRITERIA**. IF NOT, THEY **MUST** BE APPROPRIATELY IMMOBILIZED FOR TRANSPORT.*

THE ABOVE ARE TO BE CONSIDERED AS GUIDELINES ONLY. THE PARAMEDIC ASSESSING PATIENT SHOULD MAKE THE DETERMINATION IF SPINAL IMMOBILIZATION IS NECESSARY. WHEN IN DOUBT, IMMOBILIZE.

***IN THOSE PATIENTS WHO ARE NOT IMMOBILIZED, THE PATIENT'S MEDICAL RECORD MUST REFLECT ALL 5 POINTS LISTED ABOVE.**

IF THIS PROTOCOL IS UTILIZED THE PARAMEDIC MAKING THE DECISION TO CLEAR C-SPINE SHOULD BE THE PRIMARY CARE GIVER THROUGHOUT CARE OF THE PATIENT.

MEDICAL DIRECTOR APPROVAL_____

PRE-HOSPITAL CHEMICAL RESTRAINT

INDICATIONS:

THE USE OF PHYSICAL RESTRAINTS ON PATIENTS IS PERMISSIBLE IF THE PATIENT POSES A DANGER TO HIMSELF OR OTHERS. ONLY REASONABLE FORCE IS ALLOWABLE, I.E., THE MINIMUM AMOUNT OF FORCE NECESSARY TO CONTROL THE PATIENT AND PREVENT HARM TO THE PATIENT OR OTHERS. IF YOU ARE UNCERTAIN AS TO WHETHER OR NOT A PATIENT SHOULD BE PHYSICALLY RESTRAINED, CALL MEDICAL CONTROL FOR DIRECTION ON THE UNWILLING OR UNCOOPERATIVE PATIENT.

RESTRAINTS ARE TO BE APPLIED ONLY IN LIMITED CIRCUMSTANCES:

ANY PATIENT EXHIBITING SIGNS AND SYMPTOMS OF A MEDICAL OR MENTAL CONDITION THAT WARRANTS IMMEDIATE AMBULANCE TRANSPORT AND IS EXHIBITING BEHAVIOR THAT THE CREW FEELS MAY OR WILL ENDANGER THE PATIENT OR OTHERS.
THERE IS REASONABLE BELIEF THAT THE PATIENT'S LIFE OR HEALTH IS IN DANGER AND DELAY IN TREATMENT AND TRANSPORT WOULD FURTHER ENDANGER THE PATIENT'S LIFE OR HEALTH, AND THERE IS NO REASONABLE OPPORTUNITY TO OBTAIN THE NECESSARY CONSENT TO PROVIDE TREATMENT OR OBTAIN INFORMED REFUSAL OF CARE (DNT AMA).
THE PATIENT IS BEING TRANSPORTED UNDER THE DIRECTION OF A MENTAL HEALTH HOLD, POLICE CUSTODY, BY THE DIRECTION OF MEDICAL CONTROL OR EMERGENCY COMMITTAL.

PRECAUTIONS:
RESTRAINTS SHALL ONLY BE USED TO RESTRAIN A PATIENT TO PREVENT A PATIENT FROM SERIOUSLY INJURING THEMSELVES OR OTHERS (TO INCLUDE THE MEDIC CREW), AND ONLY IF SAFE TRANSPORTATION AND TREATMENT CANNOT BE DONE WITHOUT SUCH RESTRAINT. THEY MAY NOT BE USED AS PUNISHMENT FOR BEHAVIOR, OR FOR THE CONVENIENCE OF THE CREW.
ANY ATTEMPT TO RESTRAIN A PATIENT POSES THE POSSIBILITY FOR INJURY TO THE PATIENT OR CREW PROVIDING CARE. ATTEMPTS AT RESTRAINT SHOULD ONLY BE PERFORMED WITH ADEQUATE NUMBERS OF ASSISTANCE PRESENT.
BE SURE TO EVALUATE THE PATIENT ADEQUATELY TO DETERMINE THE PATIENT'S CONDITION, MENTAL CONDITION, MENTAL STATUS AND DECISION-MAKING CAPACITY OF THE PATIENT. HOSTILE, ANGRY, OR UNWILLING PATIENTS WITH DIMINISHED DECISION MAKING CAPACITY MAY REFUSE TREATMENT.
BE SURE TO USE APPROPRIATE RESTRAINTS IN GOOD CONDITION SO THERE IS NO CHANCE THEY WILL BREAK AND CAUSE INJURY TO THE PATIENT.
DO NOT USE HOBBLE RESTRAINTS OR RESTRAIN THE PATIENT IN THE PRONE POSITION.
ENSURE THAT THE PATIENT HAS BEEN SEARCHED FOR WEAPONS OR OTHER ITEMS THAT MIGHT OTHERWISE POSE A THREAT TO THE PATIENT OR CREW.

MEDICAL DIRECTOR APPROVAL_____

PRE-HOSPITAL CHEMICAL RESTRAINT CONTINUED

PROCEDURE

1. DETERMINE THAT THE PATIENT'S MEDICAL OR MENTAL CONDITION WARRANTS AMBULANCE TRANSPORT AND THAT THE PATIENT LACKS DECISION MAKING CAPABILITY, OR THERE IS A BASIS FOR POLICE CUSTODY, MENTAL HEALTH HOLD, EMERGENCY COMMITTAL, OR ORDER FROM MEDICAL DIRECTION.
2. TREAT THE PATIENT WITH RESPECT AND EXHAUST ALL ATTEMPTS AT VERBAL DE-ESCALATION EXPLAIN YOUR ACTIONS TO THE EXTENT ALLOWABLE BASED ON THE CONDITIONS ON THE SCENE AT THE TIME OF PATIENT ENCOUNTER.
3. HAVE ALL EQUIPMENT AND PERSONNEL READY. (RESTRAINTS, SUCTION, A WAY TO IMMEDIATELY REMOVE RESTRAINTS AND ADEQUATE NUMBER OF PERSONNEL TO APPLY THE RESTRAINTS.)
4. CONSIDER THE PATIENT'S AMOUNT OF STRENGTH AND RANGE OF MOTION WHEN DETERMINING HOW TO APPLY THE RESTRAINTS.
5. APPLY THE RESTRAINTS TO THE EXTENT TO RESTRAIN THE PATIENT ONLY; RESTRAINTS ARE NOT USED TO PUNISH THE PATIENT.
6. AFTER APPLYING THE RESTRAINTS, THE PATIENT'S PMS MUST BE ASSESSED IMMEDIATELY TO DETERMINE IT'S PRESENCE. A MEMBER OF THE CREW WILL ACCOMPANY THE PATIENT AT ALL TIMES AND VITAL SIGNS WILL BE ASSESSED EVERY FIFTEEN MINUTES.
7. DOCUMENTATION WILL INCLUDE ATTEMPTS AT VERBAL DE-ESCALATION, A BRIEF DESCRIPTION OF THE FACTS AS TO WHY RESTRAINTS WERE INDICATED, THE TYPE OF RESTRAINT, WHO APPLIED THEM, A DESCRIPTION OF THE EFFORTS TAKEN TO ENSURE PATIENT SAFETY, COMFORT, AND OVERALL WELL-BEING, THE CONDITION OF THE PATIENT WHILE RESTRAINED, AND THE CONDITION OF THE PATIENT UPON ARRIVAL OF THE HOSPITAL.
8. REMOVAL OF RESTRAINTS SHOULD BE DONE SO AT THE HOSPITAL WITH ADEQUATE NUMBERS OF PERSONNEL AND BY ORDER OF THE ATTENDING PHYSICIAN.
9. UTILIZE POLICE ASSISTANCE IF NECESSARY.
10. HARD RESTRAINTS SUCH AS HANDCUFFS ARE NOT TO BE APPLIED BY MEDIC CREWS. IF POLICE APPLY HANDCUFFS, AN OFFICER WILL ACCOMPANY THE MEDIC CREW UPON REQUEST OR IF PATIENT'S CONDITION DOES NOT ALLOW FOR POLICE PRESENCE, THE OFFICER APPLYING THE CUFFS WILL PROVIDE A MEANS FOR AND INSTRUCTION IN REMOVING THE CUFFS.
11. THE USE OF CHEMICAL RESTRAINT WILL BE LIMITED TO THE USE OF IM HALDOL/VALIUM. (SEE THE CHEMICAL RESTRAINT PROTOCOL) A PATIENT UNDER CHEMICAL RESTRAINT WILL BE ACCOMPANIED BY A PARAMEDIC AND WILL BE PLACED ON A CARDIAC MONITOR AND AN IV WILL BE ESTABLISHED AT THE EARLIEST POSSIBLE TIME.

COMPLICATIONS:

1. CONTINUAL AIRWAY MONITORING IS ESSENTIAL TO PREVENT THE POSSIBILITY OF ASPIRATION IN THE SUPINE PATIENT.
2. NERVE INJURY CAN RESULT FROM HARD RESTRAINTS.
3. <u>DO NOT</u> OVERLOOK POSSIBLE MEDICAL CAUSES FOR COMBATIVENESS. (HYPOXIA, HYPOGLYCEMIA, HYPERGLYCEMIA, STOKE, HYPERTHERMIA, OVERDOSE!)

MEDICAL DIRECTOR APPROVAL_____

CHEMICAL RESTRAINT

HALDOL/VALIUM

INDICATIONS:
PATIENTS REQUIRING TREATMENT OR TRANSPORT BEHAVING IN A MANNER THAT POSES A THREAT TO THEIR OWN WELL BEING OR OTHERS.

CONTRAINDICATIONS:
DO NOT ADMINISTER TO ANY PATIENT:
- WITH SUSPECTED ACUTE MYOCARDIAL INFARCTION.
- WITH A SYSTOLIC BLOOD PRESSURE UNDER 100MMHG, OR ABSENCE OF RADIAL PULSES.
- EXHIBITING SIGNS OF SEDATION, RESPIRATORY DEPRESSION, OR CNS DEPRESSION.
- WITH KNOWN PARKINSON'S DISEASE.
- WITH KNOWN PREGNANCY.
- WITH SEVERE LIVER OR CARDIAC DISEASE.
- UNDER THE AGE OF 8.

PRECAUTIONS:
- HALDOL MAY CAUSE HYPOTENSION, TACHYCARDIAC, AND PROLONG QT INTERVAL.
    - PATIENTS MUST BE PUT ON A CARDIAC MONITOR AND HAVE AN IV ESTABLISHED AS SOON AS PATIENT CONDITION ALLOWS.
- VASODILATATION CAUSED BY THE HALDOL CAN CAUSE TRANSIENT HYPOTENSION, WHICH IS USUALLY EASILY RESOLVED WITH POSITIONING AND FLUID CHALLENGE.
- SHOULD PROFOUND HYPOTENSION DEVELOP THAT IS REFRACTORY TO POSITIONING AND FLUID CHALLENGE AND THE USE OF VASOPRESSORS IS INDICATED, EPINEPHRINE SHOULD BE AVOIDED DUE TO ITS ABILITY TO CAUSE A REFLEXIVE TACHYCARDIAC AND FURTHER WORSEN THE HYPOTENSION. HALDOL CAN ALSO LIMIT THE EFFECTS OF DOPAMINE, CAUSING THE NEED FOR HIGHER DOSES.
- EXTRA-PYRAMIDAL (DYSTONIC) EFFECTS CAN BE SEEN HOURS TO DAYS AFTER ADMINISTRATION OF HALDOL, TREAT WITH 50-100MG OF BENADRYL IM.
- HALDOL LOWERS THE SEIZURE THRESHOLD AND SHOULD BE USED WITH EXTREME CAUTION IN PATIENTS KNOWN TO HAVE SEIZURE DISORDERS.
- PATIENT IS COMBATIVE OR OTHERWISE UNMANAGEABLE AND PATIENT IS A THREAT TO THEMSELVES AND OTHERS AND VERBAL DE-ESCALATION TECHNIQUES HAVE BEEN EXERCISED TO NO AVAIL.

PROCEDURE
- ADMINISTER: 5MG OF HALDOL WITH 5MG OF VALIUM IM. FOLLOW WITH 50-100MG OF BENADRYL IM.
    - AFTER 10 MINUTES, IF DESIRED EFFECT HAS NOT BEEN ACHIEVED, CONTACT MEDICAL CONTROL FOR REPEAT DOSING.
- DOCUMENT:
    - INDICATIONS
    - TIME OF USE, DOSE AND SITE AND ALL OTHER NECESSARY DOCUMENTATION TO SUPPORT THE USE OF THE CHEMICAL RESTRAINT PROTOCOL.
    - LIST ALL VERBAL DE-ESCALATION TECHNIQUES IMPLEMENTED
    - PATIENT RESPONSE

MEDICAL DIRECTOR APPROVAL_____

COMBITUBE (ADULTS ONLY)

THE ESOPHAGEAL TRACHEAL COMBITUBE IS A ***SECONDARY*** METHOD FOR AIRWAY CONTROL WHEN CONVENTIONAL ENDOTRACHEAL INTUBATION CANNOT BE ACCOMPLISHED OR BY AN EMT-IV IF ALS INTERVENTION IS NOT READILY AVAILABLE.

EMT'S MAY FOLLOW THIS PROTOCOL WHEN A PARAMEDIC IS NOT READILY AVALIBLE.

INDICATIONS:
APNEA
ABSENCE OF PROTECTIVE GAG REFLEX
INABILITY TO ENDOTRACHEAL INTUBATE

CONTRAINDICATIONS:
- PATIENT <5 FEET TALL OR >7 FEET TALL OR < 16 YEARS OLD
- CAUSTIC SUBSTANCE INGESTION
- PRESENT GAG REFLEX OR ESOPHAGEAL DISEASE

PROCEDURE

1. ENSURE ADEQUATE BLS AIRWAY WITH HIGH FLOW O2
2. GATHER EQUIPMENT
    A. COMBITUBE® WITH INCLUDED SYRINGES
    B. BAG VALVE MASK (BVM) WITH CLEAR FACE MASK AND OXYGEN SOURCE
    C. WATER SOLUBLE LUBRICANT
    D. APPROPRIATE SIZED ORAL AIRWAYS
    E. PULSE OXIMETER AND CARDIAC MONITOR
    F. SUCTION
3. ENSURE ALS ENROUTE
4. HYPERVENTILATE WITH BVM @ 15LPM PRIOR TO INSERTION
5. EVALUATE PULSE OXIMETRY AND IF ALS AVAILABLE CARDIAC MONITOR FOR CHANGES
6. ASSURE CONTINUOUS OXYGENATION
7. FREQUENTLY REASSESS PATIENT
8. TEST DEVICE FOR PROPER OPERATION
9. PLACE PATIENT SUPINE WITH NECK EXTENDED (USE NEUTRAL POSITION IN TRAUMA PATIENTS)
    A. SNIFFING POSITION, HOWEVER, SHOULD BE AVOIDED!
10. PREPARE SUCTION
11. LUBRICATE DISTAL END OF DEVICE
12. THE POSITION OF THE OPERATOR MAY BE BEHIND THE PATIENT, TO ONE SIDE OF THE PATIENT'S HEAD, OR FACE TO FACE
13. THE BACK OF THE PATIENT'S TONGUE AND LOWER JAW ARE GRASPED BETWEEN THE THUMB AND FOREFINGER OF THE NON-DOMINANT HAND, WHILE A JAW LIFT IS PERFORMED.
14. THEN THE COMBITUBE IS INSERTED BLINDLY WITH A GENTLE DOWNWARD CURVED DORSO-CAUDAL MOVEMENT ALONG THE TONGUE UNTIL THE TWO PRINTED RING MARKS LIE BETWEEN THE TEETH , OR THE ALVEOLAR RIDGES IN EDENTULOUS PATIENTS.
15. THE COMBITUBE SHOULD NOT BE INSERTED ALONG THE PALATE, IT SHOULD BE INSERTED ALONG THE TONGUE.

MEDICAL DIRECTOR APPROVAL_____

COMBITUBE (ADULTS ONLY) CONTINUED

16. THE OROPHARYNGEAL BALLOON IS INFLATED WITH 85 ML OF AIR THROUGH PORT NO. 1 WITH THE BLUE PILOT BALLOON USING THE LARGE SYRINGE.
    A. THE ETC MAY MOVE OUT OF THE PATIENT'S MOUTH IN ORDER TO SEAL THE UPPER AIRWAY AND TO FIX THE COMBITUBE IN THE CORRECT POSITION.
    B. RESISTANCE MAY BE FELT DURING INFLATION OF THE UPPER BALLOON. THE PLUNGER OF THE SYRINGE SHOULD BE HELD COMPRESSED WHILE DETACHING THE VALVE.
    C. IN CASE OF A LEAK, INFLATE IN INCREMENTS OF 10 ML EACH UNTIL A SUFFICIENT SEAL IS ACHIEVED. USUALLY 85 ML OF AIR IS SUFFICIENT TO OBTAIN A TIGHT SEAL, HOWEVER, HIGHER AMOUNTS UP TO 150 ML OF AIR MAY BE NECESSARY IN SOME INDIVIDUALS.
17. INFLATE THE DISTAL BALLOON 5 ML TO A MAXIMUM OF 15ML OF AIR THROUGH THE PORT NO. 2 WITH THE WHITE PILOT BALLOON USING THE SMALL SYRINGE.
    A. THIS BALLOON SEALS THE ESOPHAGUS OR THE TRACHEA.
    B. THERE IS A HIGH PROBABILITY (UP TO 98%) OF ESOPHAGEAL PLACEMENT AFTER BLIND INSERTION.
18. VENTILATE FIRST THROUGH THE LONGER BLUE TUBE, LABELED #1 LEADING TO THE PHARYNGEAL LUMEN. THIS BLUE OR ESOPHAGEAL LUMEN IS BLOCKED DISTALLY.
    A. CONFIRM ADEQUATE BILATERAL BREATH SOUNDS OVER THE LUNGS BY AUSCULTATION IN THE ABSENCE OF GASTRIC DISTENTION WHEN THE COMBITUBE HAS BEEN PLACED IN THE ESOPHAGUS.
19. IF AUSCULTATION OVER THE LUNGS IS NEGATIVE, THE COMBITUBE HAS BEEN POSITIONED IN THE TRACHEA. NOW, VENTILATION IS PERFORMED VIA THE SHORTER TRANSPARENT TUBE NO. 2, LEADING TO THE TRACHEAL LUMEN. EVALUATION HAS TO BE PERFORMED AGAIN, AND THE AIR FLOWS DIRECTLY INTO THE TRACHEA.
    A. CONFIRM ADEQUATE BILATERAL BREATH SOUNDS OVER THE LUNGS BY AUSCULTATION IN THE ABSENCE OF GASTRIC DISTENTION WHEN THE COMBITUBE HAS BEEN PLACED IN THE ESOPHAGUS
20. WHEN BILATERAL BREATH SOUNDS ARE HEARD
    A. ATTACH END-TIDAL CO2 DETECTION DEVICE THAT LUMEN
    B. OBSERVE FOR PRESENCE OR ABSENCE OF COLOR CHANGE IN DEVICE AFTER SEVERAL VENTILATIONS.
    C. IF POSITIVE COLOR CHANGE OCCURS; YELLOW = CO2 RETURN
21. IF VENTILATION DOES NOT FUNCTION NEITHER VIA THE ESOPHAGEAL NOR THE TRACHEAL LUMEN.
22. DEFLATE THE BALLOONS AND PULL THE TUBE BACK FOR ABOUT 2 TO 3 CM, AND BOTH BALLOONS RE-INFLATED. REPEAT STEPS 18-20
23. REASSESS FREQUENTLY
24. DOCUMENT
    A. NEED/REASON FOR INTUBATION
    B. TIME OF INTUBATION
    C. LANDMARKS USED TO VERIFY TUBE PLACEMENT
    D. ETCO2 AND EDD RESULTS
    E. TIMES AND RESULTS OF TUBE PLACEMENT CHECKS PERFORMED THROUGHOUT THE RESUSCITATION AND TRANSPORT.
    F. CONFIRMATION OF PLACEMENT UPON PATIENT TRANSFER

LIDOCAINE/BRETYLIUM – 2 GRAM MEDS/500 D5W = 4 MG/ML.

1 MG/MIN = 15 GTT/MIN
2 MG/MIN = 30 GTT/MIN
3 MG/MIN = 45 GTT/MIN
4 MG/MIN = 60 GTT/MIN

DOPAMINE– 800 MG/500 ML D5W = 1600 MCG/ML. ALWAYS USE 60 GTT. SET

50 KG PATIENT = 110 LBS.

2 MCG/KG/MIN = 4 GTT/MIN
5 MCG/KG/MIN = 9 GTT/MIN
10 MCG/KG/MIN = 19 GTT/KG/MIN
20 GTT/MIN = 37 GTT/MIN

75 KG PATIENT = 165 LBS.

2 MCG/KG/MIN = 5 GTT/MIN
5 MCG/KG/MIN = 14 GTT/MIN
10 MCG/KG/MIN = 28 MCG/KG/MIN
20 GTT/MIN = 56 GTT/MIN

100 KG PATIENT = 220 LBS.

2 MCG/KG/MIN = 7 GTT/MIN
5 MCG/KG/MIN = 19 GTT/MIN
10 MCG/KG/MIN = 37 MCG/KG/MIN
20 GTT/MIN = 75 GTT/MIN

EPINEPHRINE - 1 MG/250 ML D5W = 4 MCG/ML. ALWAYS USE 60 GTT. SET

2 MCG/MIN = 30 GTT/MIN
5 MCG/MIN = 75 GTT/MIN
10 MCG/MIN = 150 GTT/MIN
20 MCG/MIN = 300 GTT/MIN (WIDE OPEN RATE)

LIDOCAINE – PEDS – 120MG/100 ML NS = 1200 MCG/ML

20 MCG/KG/MIN = 1 ML/KG/MIN
30 MCG/KG/MIN = 1.5 ML/KG/MIN
40 MCG/KG/MIN = 2 ML/KG/MIN
50 MCG/KG/MIN = 2.5 ML/KG/MIN

EPINEPHRINE DRIP – PEDS – 0.6 MG/KG IN 100 ML NS = 1 ML/MIN

1 MCG/KG = 1 ML/MIN
5 MCG/KG = 5 ML/MIN
10 MCG/KG = 10 ML/MIN

MEDICAL DIRECTOR APPROVAL_____

INDICATIONS:

- *ADULT PATIENTS: **(40KG AND ABOVE)***
- *INTRAVENOUS FLUIDS OR MEDICATIONS NEEDED AND A PERIPHERAL IV CANNOT BE ESTABLISHED IN 2 ATTEMPTS OR 90 SECONDS **AND** EXHIBIT 1 OR MORE OF THE FOLLOWING:*
  - *AN ALTERED MENTAL STATUS (GCS OF 8 OR LESS)*
  - *RESPIRATORY COMPROMISE (SAO2 80% AFTER APPROPRIATE OXYGEN THERAPY, RESPIRATORY RATE < 10 OR > 40 MIN)*
  - *HEMODYNAMIC INSTABILITY (SYSTOLIC BP OF < 90).*
- *EZ-IO MAY BE CONSIDERED PRIOR TO PERIPHERAL IV ATTEMPTS IN THE FOLLOWING SITUATIONS:*
  - *CARDIAC ARREST (MEDICAL OR TRAUMATIC)*
  - *PROFOUND HYPOVOLEMIA WITH ALTERATION OF MENTAL STATUS*
  - *SEIZURES WITH AIRWAY COMPROMISE*

CONTRAINDICATIONS:

- FRACTURE OF THE TIBIA OR FEMUR (*CONSIDER ALTERNATE TIBIA*)
- PREVIOUS ORTHOPEDIC PROCEDURES (IO WITHIN 24 HOURS, KNEE REPLACEMENT) (*CONSIDER ALTERNATE TIBIA)*
- PRE-EXISTING MEDICAL CONDITION (*TUMOR NEAR SITE OR PERIPHERAL VASCULAR DISEASE*)
- INFECTION AT INSERTION SITE (*CONSIDER ALTERNATE SITE*)
- INABILITY TO LOCATE LANDMARKS (*SIGNIFICANT EDEMA*)
- EXCESSIVE TISSUE AT INSERTION SITE

CONSIDERATIONS:
FLOW RATES:
DUE TO THE ANATOMY OF THE IO SPACE YOU WILL NOTE FLOW RATES TO BE SLOWER THAN THOSE ACHIEVED WITH IV CATHETERS.

- ✓ ENSURE THE ADMINISTRATION OF A 10 ML RAPID BOLUS (FLUSH) WITH A SYRINGE.
- ✓ USE A PRESSURE BAG OR PUMP FOR CONTINUOUS INFUSIONS

PAIN:

- INSERTION OF THE EZ-IO IN CONSCIOUS PATIENTS CAUSES MILD TO MODERATE DISCOMFORT AND IS USUALLY NO MORE PAINFUL THAN A LARGE BORE IV. IO INFUSION MAY CAUSE SEVERE DISCOMFORT FOR CONSCIOUS PATIENTS.
- PRIOR TO IO BOLUS OR FLUSH ON AN ALERT PATIENT:
  - SLOWLY ADMINISTER LIDOCAINE 2% **20 TO 50 MG**

MEDICAL DIRECTOR APPROVAL_____

COMPATIBLE FLUIDS AND MEDICATIONS:

- ✓ ANY FLUID THAT IS ADMINISTERED IV MAY BE ADMINISTERED THROUGH THE EZ IO.

PRECAUTIONS:

THE EZ-IO IS NOT INTENDED PROPHYLACTIC USE.

EQUIPMENT:

EZ-IO DRIVER
EZ-IO NEEDLE SET BLUE NEEDLE FOR ADULT (PINK FOR PEDS)
ALCOHOL OR BETADINE SWAB
EXTENSION SET OR EZ-CONNECT
10 ML SYRINGE
NORMAL SALINE (OR SUITABLE STERILE FLUID)
TAPE OR GAUZE
PRESSURE BAG
2 % LIDOCAINE (PRESERVATIVE FREE)

PROCEDURE:
IF THE PATIENT IS CONSCIOUS, ADVISE THEM OF THE EMERGENT NEED FOR THIS PROCEDURE AND OBTAIN INFORMED CONSENT.

- DETERMINE EZ-IO INDICATIONS
- RULE OUT CONTRAINDICATIONS
- LOCATE INSERTION SITE:
- IDENTIFY THE LANDMARKS WITH THE CHOICE SITE BEING THE PROXIMAL TIBIA.
    - PROXIMAL TIBIA 1-2 FINGER BREADTHS (1-3 CM) DISTAL TO TIBIAL TUBEROSITY ON THE ANTEROMEDIAN SURFACE
    - DISTAL TIBIA 1-2 FINGER BREADTHS (1-3 CM) ABOVE THE MEDIAL MALLEOLUS AT THE ANKLE.
    - DISTAL FEMUR 1-2 FINGER BREADTHS (1-3 CM) PROXIMAL TO THE LATERAL CONDYLES.
- CLEANSE INSERTION SITE WITH BETADINE USING ASEPTIC TECHNIQUE
- PREPARE THE EZ-IO DRIVER AND NEEDLE SET
- STABILIZE LEG AND INSERT EZ-IO NEEDLE SET
- REMOVE EZ-IO DRIVER FROM NEEDLE SET WHILE STABILIZING CATHETER HUB
- REMOVE STYLET FROM NEEDLE SET, PLACE STYLET IN SHUTTLE OR SHARPS CONTAINER
- CONFIRM PLACEMENT BY NOTING AT LEAST ONE OF THE FOLLOWING:
    - ASPIRATION WITH SYRINGE YIELDS BLOODY FLUID.
    - INFUSION OF FLUID WITH A SYRINGE DOES NOT MEET RESISTANCE AND DOES NOT INFILTRATE.
    - NEEDLE STANDS WITHOUT SUPPORT.
    - A "POP" OR "GIVE" IS SENSED DURING PLACEMENT.
- CONNECT PRIMED EZ-CONNECT.
- CONSCIOUS PATIENTS SHOULD NOW RECEIVE LIDOCAINE 2% 20 – 50 MG IO.
- HARD FLUSH OR BOLUS THE EZ-IO CATHETER WITH 10 ML OF NORMAL SALINE USING A 10 ML SYRINGE.
- PLACE A PRESSURE BAG INFLATED TO 300 TORR ON SOLUTION BEING INFUSED WHERE APPLICABLE.
- BEGIN INFUSION.
- DRESS SITE WITH STERILE GAUZE AND SECURE WITH TAPE, AVOIDING TENSION ON THE NEEDLE, SECURE TUBING AND APPLY WRISTBAND.
- MONITOR EZ-IO SITE AND PATIENT CONDITION.

INTRAOSSEOUS INFUSION MAY BE PERFORMED ONLY BY PARAMEDICS TRAINED SPECIFICALLY IN THIS PROCEDURE AND APPROVED BY THE MEDICAL DIRECTOR/DESIGNEE.

MEDICAL DIRECTOR APPROVAL_____

EMT-IV AND PARAMEDICS

INDICATIONS

- *ANY PATIENT WITH AN ALTERED LEVEL OF CONSCIOUSNESS.*
- *KNOWN DIABETES AND SUSPECTED HYPOGLYCEMIA*
- *PATIENTS RECEIVING AN IV OR SALINE LOCK*

EQUIPMENT

- ALCOHOL SWABS
- FINGER LANCETS (FOR DIGIT SAMPLES)
- IV CATHETER AFTER IV INITIATION
- STERILE GAUZE PADS
- GLUCOSE TESTING DEVICE AND STRIPS
- BANDAID

PROCEDURE

- IF OBTAINING BLOOD SAMPLE VIA FINGER STICK:
  - CLEANSE FINGER WITH ALCOHOL SWAB.
  - PUNCTURE FINGER TIP WITH LANCET.
  - PLACE DROP OF BLOOD ON GLUCOSE TEST STRIP PER MANUFACTURER'S INSTRUCTIONS.
  - PLACE GAUZE/COTTON BALL ON PUNCTURE SITE WITH PRESSURE TO STOP BLEEDING.
- IF OBTAINING SAMPLE FROM VEINPUNCTURE CATHETER
  - USE END OF PEN TO DEPRESS COTTON PLUG IN THE END OF THE IV CATHETER TO EXPEL BLOOD DROPLET ONTO GLUCOSE TEST STRIP
- USE GLUCOSE TESTING DEVICE PER MANUFACTURER'S INSTRUCTIONS.
- DOCUMENT METHOD WHICH BLOOD SAMPLE WAS OBTAINED
- IF SECOND SAMPLE IS NEEDED:
  - AFTER DRUG ADMINISTRATION
    - USE EXTREMITY OPPOSITE DRUG ADMINISTRATION
    - DOCUMENT THIS

INTRAVENOUS FLUID ADMINISTRATION

EMT-IV AND PARAMEDICS

ANY PATIENT HAVING A CONDITION THAT REQUIRES AN IV MAY RECEIVE IT IF NECESSARY. WEIGH THE TIME IT WOULD TAKE TO START THE IV AGAINST PROXIMITY TO THE HOSPITAL. TIME SHOULD NOT BE SPENT ON SCENE ATTEMPTING IV'S ON CRITICAL TRAUMA PATIENTS; ATTEMPTS SHOULD BE MADE ENROUTE TO THE HOSPITAL.
NORMAL SALINE IS NOW THE FLUID OF CHOICE FOR ALL MEDICAL IV'S EXCEPT IN CASES OF HYPOGLYCEMIA.
IF HYPOGLYCEMIC, CONSIDER USING D5W**.**

1. EMT-IV'S MAY ATTEMPT 1 IV STICK ON SCENE BUT SHOULD NOT SPEND MORE THAN 15 MINUTES ON SCENE. ALL OTHER IV ATTEMPTS MUST BE DONE WHILE ENROUTE TO THE HOSPITAL UNLESS PATIENT IS PINNED IN VEHICLE OR PROLONGED SCENE TIME IS UNAVOIDABLE.
2. TWO IV LINES OF EITHER NS OR LR FOR TRAUMA PATIENTS WITH LARGE BORE IV RATE TO MAINTAIN A SYSTOLIC BP OF 80-90 MMHG.
3. IV NORMAL SALINE TKO FOR CHEST PAIN, CARDIAC ARREST OR OTHER MEDICAL CONDITIONS REQUIRING IV ACCESS.
4. BEFORE ADMINISTRATION OF FLUID, LABS SHOULD BE DRAWN FROM IV SITE ON ALL MEDICAL PATIENTS AND PLACED IN BLOOD TUBES USING THE VACUTANER SYSTEM.
5. BLOOD TUBES QUANTITIES FOR LOCAL FACILITIES ARE:
6. GATEWAY MEDICAL CENTER- DRAW A RAINBOW: RED, BLUE, GREEN, PURPLE IN THAT ORDER.
7. BLANCHFIELD ARMY COMMUNITY HOSPITAL- DRAW A RAINBOW
8. **THE MAXIMUM ALLOWED IV ATTEMPTS IS 3, UNLESS RADIO CONTACT WITH MEDICAL CONTROL IS ESTABLISHED FOR APPROVAL**
    A. NOTE: BLOOD MAY BE DRAWN BY EMT-IV'S ONLY WHILE IN THE PROCESS OF STARTING AN IV.
9. PARAMEDICS MAY MAKE 1 ATTEMPT AT EXTERNAL JUGULAR CANNULATION IF PERIPHERAL IV ACCESS UNSUCCESSFUL AND PATIENTS CONDITION WARRANTS
10. PARAMEDICS - CONSIDER IO WHEN PATIENT CONDITION WARRANTS

MEDICAL DIRECTOR APPROVAL_____

LEGAL BLOOD DRAW

PURPOSE

TO ESTABLISH A UNIFORM GUIDELINE FOR LEGAL BLOOD ALCOHOL LAB DRAWS WHEN REQUESTED BY LAW ENFORCEMENT PERSONNEL IN REGARDS TO A SERIOUS MOTOR VEHICLE COLLISION WHERE A DEATH HAS OCCURRED OR THERE IS SERIOUS INJURY OR THE POSSIBILITY OF DEATH FROM INJURY EXISTS.

TCA 55-10-410 AUTHORIZES EMS PERSONNEL TO DRAW LEGAL BLOOD ALCOHOL TESTS AS REQUESTED BY LAW ENFORCEMENT PERSONNEL.

GENERAL CONTRAINDICATIONS

1. IF THE TIME TAKEN TO DRAW THE BLOOD WILL PROLONG NECESSARY PATIENT CARE OR OVERALL BE DETRIMENTAL TO PATIENT CARE.
2. THE LAW ENFORCEMENT OFFICER IN CHARGE OF THE INVESTIGATION IS NOT ABLE TO OBSERVE THE BLOOD DRAW.

PROCEDURE

1. LAW ENFORCEMENT HAS REQUESTED THAT A LEGAL BLOOD ALCOHOL TEST BE DRAWN
2. OBTAIN A SPECIMEN KIT FROM THE LAW ENFORCEMENT OFFICER REQUESTING THE TEST.
3. USE BETADINE ONLY TO CLEANSE THE SITE. DO NOT USE ALCOHOL!
4. DRAW THE BLOOD WITH THE VACUTANER SYSTEM IN THE PRESENCE OF THE LAW ENFORCEMENT OFFICER REQUESTING THE BLOOD. RELEASE THE SAMPLE TO THIS INDIVIDUAL ONLY!
5. PROPERLY LABEL BLOOD TUBES AND SIGN OFF ON ALL PAPERWORK INCLUDED IN THE KIT. IF UNSURE OF WHAT TO FILL OUT, ASK LAW ENFORCEMENT!
6. DOCUMENT IN THE RUN REPORT THE REQUEST FOR A LEGAL BA, THE OFFICER'S NAME MAKING THE REQUEST, THE TIME, THE SITE AND TECHNIQUE USED IN THE LAB DRAW.

MEDICAL DIRECTOR APPROVAL_____

MAST TROUSERS (ADULT ONLY)

INDICATIONS:
TO STABILIZE PELVIC AND LOWER EXTREMITY FRACTURES

CONTRAINDICATIONS:
- CHF / PULMONARY EDEMA
- UNCONTROLLED HEMORRHAGE ABOVE DIAPHRAGM
- PENETRATING ABDOMINAL OR THORACIC TRAUMA

PROCEDURE
- PLACE MAST MID-LINE ON LONG SPINE BOARD UNDER PATIENTS LEGS, BUTTOCKS AND FLANK
- SLIDE MAST UNDERNEATH PATIENT UNTIL TOP IS AT LAST SET OF RIBS
- INFLATE MAST TO INCREASE SYSTOLIC B/P TO 90MMHG OR UNTIL VELCRO CRACKLES.
- INFLATE SLOWLY AND REASSESS DISTAL PULSES AND BLOOD PRESSURE FREQUENTLY

FREQUENTLY REASSESS SPLINTED EXTREMITY'S NEUROVASCULAR STATUS

NASOGASTRIC TUBE PLACEMENT

PURPOSE
RELIEVE GASTRIC DISTENTION IN CARDIAC ARREST.

CONTRAINDICATIONS:
FACIAL TRAUMA/POSSIBLE FACIAL FRACTURES
HEAD INJURY

NECESSARY EQUIPMENT
NG TUBE
WATER SOLUBLE LUBRICANT
TAPE
IRRIGATION SYRINGE
EMESIS BASIN
SUCTION EQUIPMENT

PROCEDURE
- MEASURE NG TUBE FROM XIPHIOD PROCESS TO EAR TO NOSE AND MARK
- LUBRICATE TUBE
- INSERT THE TUBE ALONG THE FLOOR OF UNOBSTRUCTED NOSTRIL
- GENTLY AND SLOWLY ADVANCE THE TUBE
- WHEN THE TUBE HAS REACHED THE FULLY INSERTED MARK, CHECK BY LISTENING OVER THE STOMACH WITH THE STETHOSCOPE AND INJECTING 20-30 CC OF AIR
- SECURE TUBE

POSSIBLE COMPLICATIONS
NASAL HEMORRHAGE
PASSAGE OF THE TUBE INTO THE TRACHEA
PERFORATION OF THE ESOPHAGUS
GASTROINTESTINAL BLEEDING
COILING OF THE TUBE IN THE POSTERIOR PHARYNX
OBSTRUCTION OF PASSAGE RESULTING FROM SEPTAL DEVIATION
PASSAGE OF THE TUBE INTO THE CRANIAL CAVITY

ALS PROCEDURES

NASOTRACHEAL INTUBATION

PURPOSE:
TO PROVIDE A PATIENT WITH AN ADVANCED AIRWAY WHEN LONG-TERM ENDOTRACHEAL INTUBATION MAY BE INDICATED OR WHEN THE PATIENT IS UNABLE TO MAINTAIN HIS OR HER OWN AIRWAY OR VENTILATORY EFFORT.
INDICATIONS:
INTACT GAG REFLEX AND INADEQUATE RESPIRATORY EFFORT

CONTRAINDICATIONS
HEAD INJURY
APNEIC PATIENTS IN WHOM PLACEMENT IS VERY DIFFICULT.

PROCEDURE:

- ENSURE ADEQUATE BLS AIRWAY
- GATHER THE NECESSARY EQUIPMENT
    - BVM – O2
    - SUCTION
    - ETCO2 DETECTOR, ESOPHAGEAL DETECTOR DEVICE
    - BAAM AIRWAY
    - ET TUBE WITH STYLETTE, 10CC SYRINGE
    - BOUGIE
    - COMMERCIALLY PROCURED TUBE SECURING DEVICE, IF INEFFECTIVE, USE TAPE
        - CAUTION NEAR EYES
    - WATER SOLUBLE LUBRICANT
    - LONG SPINE BOARD AND HEAD BLOCKS (IF NOT TRANSPORTING ALREADYET TUBE WITH STYLETTE
- INSPECT THE NOSE TO DETERMINE PATENCY.
- TEST THE INFLATABLE CUFF AND LUBRICATE THE NT TUBE WITH A WATER-SOLUBLE LUBRICANT.
- PLACE THE BAAM ONTO THE ADAPTER OF NT
- HYPERVENTILATE THE PATIENT WITH 100% OXYGEN
- POSITION THE PATIENT'S HEAD WITH REGARD TO THE C-SPINE
- INSERT THE LUBRICATED NT TUBE INTO THE NOSE
- ADVANCE AND POSITION THE NT TUBE INTO THE OROPHARYNX AT THE GLOTTIC OPENING
- ADVANCE THE NT TUBE QUICKLY, DURING INSPIRATION, LISTENING FOR THE BAAM TO WHISTLE
- MAINTAIN A GRIP ON THE NT TUBE, VENTILATE THE PATIENT, AND VERIFY TUBE PLACEMENT
- INFLATE THE CUFF OF THE NT TUBE WITH 5-10 CC'S OF AIR
- CONFIRM PLACEMENT WITH $ETCO_2$ DETECTOR AND EDD.
- VERIFY BREATH SOUNDS AND VENTILATE THE PATIENT WITH 100% OXYGEN
- SECURE THE NT TUBE WITH TAPE BEFORE RELEASING THE NT TUBE
- REASSESS FREQUENTLY

NOTE: USE EXTRA CAUTION IN PATIENTS TAKING ANTICOAGULANTS AND IN PEDIATRIC PATIENTS

MEDICAL DIRECTOR APPROVAL_____

NEEDLE CRICOTHYROTOMY

BY THE ORDER OF MEDICAL CONTROL

FOR APPROVED PARAMEDIC'S ONLY

INDICATIONS

- DETERMINE NECESSITY FOR CRICOTHYROTOMY:
  - OTHER ATTEMPTS AT VENTILATION ARE UNSUCCESSFUL OR IMPOSSIBLE.
    - I.E. AIRWAY OBSTRUCTION
  - PATIENT IS OVER THE AGE OF 5 YEARS.
  - ENDOTRACHEAL INTUBATION CANNOT BE ACCOMPLISHED WITHOUT RISK TO PATIENT OR ASSOCIATED INJURIES.

PROCEDURE

1. VIGOROUS ATTEMPTS AT VENTILATION/OXYGENATION CONTINUE UNTIL PROCEDURE IS PERFORMED
2. SUCTION
3. IDENTIFY CRICOTHYROID MEMBRANE.
4. LOCATE THE PATIENT'S STERNAL NOTCH.
   A. WITH THE INDEX FINGER, FOLLOW THE TRACHEA TOWARD THE HEAD UNTIL THE FIRST PROMINENCE IS LOCATED (THIS WILL BE THE CRICOID CARTILAGE). JUST ABOVE THAT AREA IS THE CRICOTHYROID MEMBRANE (RECOGNIZABLE BY A SLIGHT DEPRESSION).
   B. ANCHOR THE CRICOTHYROID MEMBRANE BY USING THE THUMB AND MIDDLE FINGER, THE INDEX FINGER REMAINS AT THE CRICOTHYROID DEPRESSION UNTIL READY TO INCISE.
5. CLEANSE SITE WITH BETADINE.
6. ATTACH A 14-GAUGE CATHETER TO A SYRINGE.
7. CAREFULLY INSERT THE NEEDLE THROUGH THE SKIN AND CRICOTHYROID MEMBRANE INTO THE TRACHEA. DIRECT THE NEEDLE AT A 45-DEGREE ANGLE CAUDALLY.
8. ASPIRATE WITH THE SYRINGE. IF AIR IS RETURNED EASILY, YOU ARE IN THE TRACHEA. IF IT IS DIFFICULT TO ASPIRATE WITH THE SYRINGE OR BLOOD IS OBTAINED, REEVALUATE NEEDLE PLACEMENT.
9. REPLACE THE NEEDLE HUB WITH A 3.0 MM PEDIATRIC ENDOTRACHEAL TUBE ADAPTER.
   A. DEPRESS BVM SLOWLY, AND ALLOW EXTRA TIME FOR PASSIVE EXHALATION
10. CHECK FOR ADEQUACY OF VENTILATIONS – CHEST RISE AND FALL AND BREATH SOUNDS
11. SECURE CATHETER.
12. CONTINUE VENTILATORY SUPPORT.
13. CONTINUOUSLY RE-ASSESS PATIENT LUNG SOUNDS TO VERIFY CATHETER PLACEMENT.
14. MONITOR PATIENT FOR POTENTIAL COMPLICATIONS.

MEDICAL DIRECTOR APPROVAL_____

NEEDLE CHEST DECOMPRESSION

NEEDLE THORACOSTOMY MAY BE PERFORMED TO RELIEVE A TENSION PNEUMOTHORAX.

INDICATIONS

- *ACUTE RESPIRATORY DISTRESS/CYANOSIS*
- *ABSENT BREATH SOUNDS ON THE AFFECTED SIDE*
- *INCREASED DYSPNEA OR DIFFICULTY VENTILATING*
- *SUBCUTANEOUS EMPHYSEMA*
- *ALTERED LEVEL OF CONSCIOUSNESS*
- *DECREASED B/P; INCREASED PULSE AND RESPIRATIONS*
- *HYPERRESONANCE TO PERCUSSION ON THE AFFECTED SIDE*
- *JUGULAR VEIN DISTENSION*
- *TRACHEAL SHIFT AWAY FROM THE AFFECTED SIDE(OFTEN DIFFICULT TO ASSESS)*

GATHER EQUIPMENT

- #14-#16 GAUGE 2 1/4 " ANGIOCATH
- ONE-WAY VALVE - RUBBER CONNECTING TUBING
- BETADINE AND ALCOHOL SWABS - STERILE GAUZE PADS
- OCCLUSIVE DRESSING/VASELINE GAUZE – TAPE
- MAST PANTS

PROCEDURE

- SECURE ABC'S
- OXYGEN VIA APPROPRIATE AIRWAY ADJUNCT
- POSITION PATIENT
- LOCATE THE 2^{ND} OR 3^{RD} ICS IN THE MID-CLAVICULAR LINE ON THE SAME SIDE AS THE PNEUMOTHORAX (AN ALTERNATE SITE IS THE 4^{TH} OR 5^{TH} ICS, IN THE MID-AXILLARY LINE).
- PREP SITE
- MAKE INSERTION ON TOP OF LOWER RIB AT A 90E ANGLE.
- ADVANCE SLIGHTLY SUPERIOR TO CLEAR RIB, THEN BACK TO 90E ANGLE, TO MAKE "Z" TRACK PUNCTURE.
- A "GIVE" WILL BE FELT UPON ENTERING THE PLEURAL SPACE.
- AIR AND/OR BLOOD SHOULD RUSH OUT
- ADVANCE CATHETER SUPERIORLY, REMOVE NEEDLE AND ALLOW PRESSURE TO BE RELIEVED.
- ATTACH ONE-WAY VALVE.
- APPLY VASELINE GAUZE/OCCLUSIVE DRESSING TO SITE.
- SECURE CATHETER AND ONE-WAY VALVE.
- CRISS-CROSS TAPING FOR CATHETER.
- TAPE VASELINE GAUZE DOWN TO PREVENT LEAKAGE.
- TAPE ONE-WAY VALVE IN DEPENDENT POSITION.
- REASSESS - EXPECT RAPID IMPROVEMENT IN CLINICAL CONDITION AND BREATH SOUNDS.

MEDICAL DIRECTOR APPROVAL_____

ALS PROCEDURES

ORAL ENDOTRACHEAL INTUBATION

INDICATIONS

- PATIENT IN CARDIOPULMONARY OR RESPIRATORY ARREST
- PATIENT WITH SEVERE RESPIRATORY DISTRESS (ADULTS)
- PATIENT WITH A RESPIRATORY RATE OF 6 OR LESS, OR WITH INEFFECTIVE RESPIRATORY EFFORT

CONTRAINDICATIONS

- MAXILLO-FACIAL TRAUMA WITH UNRECOGNIZABLE FACIAL LANDMARKS
- PATIENTS WITH AN ACTIVE GAG REFLEX

PROCEDURE

1. ASSURE AN ADEQUATE BLS AIRWAY.
2. ASSEMBLE EQUIPMENT
   - BVM – O2
   - SUCTION
   - ETCO2 DETECTOR, ESOPHAGEAL DETECTOR DEVICE
   - ET TUBE AND STYLETTE, 10CC SYRINGE
   - ASSORTED LARYNGOSCOPE BLADES AND HANDLE
   - BOUGIE
   - COMMERCIALLY PROCURED TUBE SECURING DEVICE
   - WATER SOLUBLE LUBRICANT
   - LONG SPINE BOARD AND HEAD BLOCKS (IF NOT TRANSPORTING ALREADY)

1. ALL INTUBATED PATIENTS SHOULD BE ON LSB WITH HEAD BLOCKS FOR EASE OF MOVEMENT AND TO ASSURE LIMITED TUBE MOVEMENT.
   - EXCEPTION: TRANSPORT ALREADY INITIATED WHEN INTUBATION IS INDICATED
2. HYPERVENTILATE WITH 100% OXYGEN USING A BAG-VALVE-MASK OR DEMAND VALVE.
3. CHECK TUBE CUFF, NOTE THE AMOUNT OF AIR NEEDED TO INFLATE. DEFLATE TUBE CUFF. LEAVE SYRINGE ATTACHED.
4. OPEN THE ET TUBE. LUBRICATE THE TIP OF THE TUBE.
5. ASSURE C-SPINE IMMOBILIZATION WITH SUSPECTED TRAUMA.
6. INSERT LARYNGOSCOPE AND VISUALIZE THE VOCAL CORDS.
7. SUCTION IF NECESSARY AND REMOVE ANY LOOSE OR OBSTRUCTING FOREIGN BODIES.
8. CAREFULLY PASS THE ENDOTRACHEAL TUBE TIP UNTIL THE CUFF IS JUST BEYOND THE VOCAL CORDS; REMOVE THE STYLET; INFLATE THE CUFF WITH AIR.
   - NOTE THE CENTIMETER MARK AT THE TEETH OR GUM LINE IN EDENTULOUS PATIENTS
9. IN UNCUFFED PEDIATRIC TUBES, ADVANCE TUBE NO MORE THAN 2.5 CM BEYOND VOCAL CORDS
10. ATTACH THE COMPRESSED ESOPHAGEAL INTUBATION DETECTOR BULB TO THE END OF THE ET TUBE AND RELEASE THE BULB.
11. IF THE BULB DOES NOT FULLY RE-INFLATE, EXTUBATE THE PATIENT AND REPEAT STEPS 2 THROUGH 7.
12. ATTACH END-TIDAL CO DETECTION DEVICE TO THE ET TUBE.
13. OBSERVE FOR PRESENCE OR ABSENCE OF COLOR CHANGE IN DEVICE AFTER SEVERAL VENTILATIONS. YELLOW = CO2 RETURN – TRACHEAL INTUBATION
14. IF THERE IS NO COLOR CHANGE OR PURPLE APPEARS - EXTUBATE AND REPEAT STEPS 2 - 7.
15. AUSCULTATE THE CHEST FOR AIR ENTRY ON THE RIGHT AND LEFT SIDES EQUALLY. LOOK FOR SYMMETRIC CHEST WALL RISE.

MEDICAL DIRECTOR APPROVAL_____

ORAL ENDOTRACHEAL INTUBATION CONTINUED

16. IF THE CHEST DOES NOT RISE REPEAT STEPS 2 - 15
17. AUSCULTATE THE LEFT UPPER QUADRANT OF THE ABDOMEN. IF AIR ENTRY IS HEARD, EXTUBATE AND REPEAT STEPS 2- 15
18. SECURE THE TUBE ET HOLDER AND VENTILATE.
19. MARK THE TUBE AT THE LEVEL OF THE TEETH OR GUM LINE IN EDENTULOUS PATIENTS
20. RE-AUSCULTATE THE LUNG FIELDS AND THE LEFT UPPER QUADRANT TO ASSURE CORRECT PLACEMENT OF THE TUBE.
21. CONTINUE TO MONITOR THE PATIENT FOR PROPER TUBE PLACEMENT THROUGHOUT PREHOSPITAL TREATMENT AND TRANSPORT.
22. REASSESS EACH TIME PATIENT IS MOVED.
23. ET TUBE PLACEMENT IS TO BE MONITORED CONSTANTLY WITH ETCO2 DEVICE AND WITH THE ESOPHAGEAL INTUBATION DETECTOR BULB AFTER ANY PATIENT MOVEMENT.
24. DOCUMENT:
    A. NEED/REASON FOR INTUBATION
    B. TIME OF INTUBATION
    C. LANDMARKS USED TO VERIFY TUBE PLACEMENT
    D. ETCO2 AND EDD RESULTS
    E. TIMES AND RESULTS OF TUBE PLACEMENT CHECKS PERFORMED THROUGHOUT THE RESUSCITATION AND TRANSPORT.
    F. CONFIRMATION OF PLACEMENT UPON PATIENT TRANSFER

ALS PROCEDURES

PULSE OXIMETRY

EMT-IV AND PARAMEDIC

PULSE OXIMETRY IS NOT WITHOUT LIMITS AND MUST NOT BE USED TO SUPERCEDE OTHER ASSESSMENTS.

TREAT THE PATIENT AND NOT THE PULSE OXIMETER'S DISPLAY.

SIGNS AND SYMPTOMS MUST BE ASSESSED AND EVALUATED SO THAT THE OXIMETER'S READINGS ARE INTERPRETED WITHIN THE CONTEXT OF THE PATIENT'S OVERALL CONDITION.

THE PERCENTAGE OF OXYGEN SATURATION MEASURED BY AN OXIMETER ONLY REFLECTS THE SUPPLIED PULMONARY OXYGENATION AND IS NOT AN INDICATOR OR MEASURE OF CELLULAR OXYGENATION. FURTHERMORE, IT IS USEFUL BOTH IN THE ASSESSMENT OF THE PATIENT AND AS AN ADJUNCT FOR EVALUATING THE EFFECTIVENESS OF THE AIRWAY MANAGEMENT, VENTILATION, AND OXYGEN ENRICHMENT PROVIDED.

PULSE OXIMETRY SHOULD BE DEFERRED UNTIL MORE URGENT ASSESSMENT AND CARE PRIORITIES HAVE FIRST BEEN RESOLVED. IT IS A DIAGNOSTIC TOOL THAT, ALONG WITH THE PATIENT'S VITAL SIGNS, CHIEF COMPLAINT, MENTAL STATUS, AND OTHER CONSIDERATIONS, MAY ASSIST US IN DETERMINING THE PATIENT'S RESPIRATORY STATUS.

THE PULSE RATE DETERMINED BY THE PULSE OXIMETER IS NOT AN ACCURATE INDICATOR OF THE PATIENT'S PULSE RATE.

1) FALSELY LOW READINGS MAY OCCUR IN THE FOLLOWING:
2) PATIENTS WITH COLD EXTREMITIES OR HYPOTHERMIC PATIENT'S
3) PATIENTS WITH HEMOGLOBIN ABNORMALITIES
4) PATIENTS WITHOUT PULSE
5) HYPOVOLEMIC PATIENTS
6) HYPOTENSIVE PATIENTS

FALSELY NORMAL OR HIGH OXYGEN SATURATION READINGS MAY OCCUR IN THE FOLLOWING PATIENTS:

1. ANEMIC PATIENTS, CARBON MONOXIDE POISONING
2. CYANIDE TOXICITY WHICH IS BEING TREATED WITH THE ANTIDOTE
3. VERY BRIGHT LIGHTING (DIRECT SUNLIGHT OR NEARBY STRONG LAMP)

OTHER FACTORS AFFECTING ACCURATE READINGS:

1. PATIENT MOVEMENT
2. PERIPHERAL VASCULAR DISEASE
3. ABNORMAL HEMOGLOBIN VALUES
4. IV DIAGNOSTIC DIE HAS BEEN ADMINISTERED IN THE LAST 24 HOURS
5. ACTION OF VASOPRESSOR DRUGS
6. ELEVATED BILIRUBEN LEVELS

PULSE OXIMETRY – VALUES

NORMAL 96 - 100% **MILD HYPOXIA** 91 – 95 % TREATMENT – SUPPLEMENT OXYGEN
MODERATE HYPOXIA 86 – 90 % TREATMENT - NON-REBREATHER MASK, 15 LPM,
SEVERE HYPOXIA < 85 % TREATMENT - ASSIST VENTILATIONS WITH ADJUNCT AND BAG-VALVE-MASK @15 LPM

MEDICAL DIRECTOR APPROVAL_____

RAPID SEQUENCE INTUBATION

FOR APPROVED PARAMEDIC'S ONLY

PURPOSE

TO ESTABLISH A MEANS FOR INTUBATION BY PARALYSIS USING SUCCINYLCHOLINE (KNOW AS HERE AS SC)

GENERAL CONTRAINDICATIONS

- ALLERGY TO SC
- SC:
  - USE EXTREME CAUTION IN PATIENTS WITH CLOSED HEAD INJURIES
  - CAUSES DRAMATIC INCREASES IN INTRACRANIAL PRESSURE UNLESS CO-ADMINISTERED WITH THIOPENTAL.
  - CAN RESULT IN DRAMATIC INCREASE IN SERUM POTASSIUM.
    - BINDS TO ACETYLCHOLINE RECEPTORS AND TO POSTSYNAPTIC POTASSIUM CHANNELS, SOME DISEASE PROCESSES RESULT IN AN INCREASE OF THESE POTASSIUM CHANNELS;
    - SUCH DISEASES ARE
      - DISEASES INVOLVING LONG MOTOR NEURONS SUCH AS STOKES, SPINAL CORD INJURIES, AML, ETC
      - SEVERE BURNS (USUALLY 12 HOURS AFTER THE BURN)
      - SEVERE INTRA-ABDOMINAL SEPSIS
      - RENAL FAILURE
  - CAUSES MUSCLE FASICULATIONS AND MAY EXACERBATE INJURIES ESPECIALLY PENETRATING EYE INJURIES, FRACTURES AND CLOSED ANGLE GLAUCOMA.
  - CAN TRIGGER MALIGNANT HYPOTHERMIA AND SHOULD NOT BE USED IN ANYONE WITH A MH (MALIGNANT HYPERTHERMIA) HISTORY IN HIS OR HER IMMEDIATE FAMILY.
    - MH IS ESPECIALLY COMMON IN THE PEDIATRIC POPULATION AND SC SHOULD NOT BE UTILIZED IN THIS POPULATION.
    - FIRST SIGN OF MH IS OFTEN MASSITER SPASM AND EPISODE SHOULD BE IMMEDIATELY REPORTED TO MEDICAL CONTROL
  - WEAKLY BINDS TO MUSCARINIC RECEPTORS AND CAN BE PARASYMPATHOMIMETIC.
  - BRADYCARDIA (ESPECIALLY AFTER THE SECOND DOSE) CAN PROGRESS TO ASYSTOLE IF NOT PROMPTLY TREATED WITH ATROPINE.
  - IT IS NOT A SEDATIVE/HYPNOTIC AND PATIENTS CAN BE PARALYZED YET AWARE OF EVERYTHING AROUND THEM. BESIDES BEING TERRIFYING EXPERIENCE, THIS CAN RESULT IN SIGNIFICANT INCREASES IN SYMPATHETIC TONE AND MYOCARDIAL OXYGEN DEMANDS AND SUBSEQUENT ISCHEMIA. MANY TRAUMA PATIENTS HAVE REPORTED THAT THE WORST PART OF THEIR EXPERIENCE WAS NOT THE PAIN/TRAUMA BUT RATHER BEING PARALYZED IN THE ER AND NOT BEING ABLE TO BREATHE OR MOVE.

RAPID SEQUENCE INTUBATION CONTINUED

FOR APPROVED PARAMEDIC'S ONLY

INDICATIONS:

OBTAINING AN AIRWAY IN A PATIENT WHO HAS

CLENCHED JAWS AND REQUIRES AN ADVANCED AIRWAY

CONSCIOUS PATIENT WITH SEVERE AIRWAY COMPROMISE OR RESPIRATORY DISTRESS

A PATIENT WHO CANNOT MAINTAIN AN OPEN AIRWAY AND HAS AN INTACT GAG REFLEX

PATIENTS WHO ARE COMBATIVE DUE TO ILLNESS OR TRAUMA

CONTRAINDICATIONS

- NEVER PARALYZE A PATIENT IF YOU HAVE ANY DOUBTS ABOUT YOUR ABILITY TO ESTABLISH AN AIRWAY.
- KNOWN ALLERGY TO ANY OF THESE AGENTS.
- HISTORY OF MALIGNANT HYPERTHERMIA.
- USE CAUTION IF PATIENT SUFFERS A PENETRATING EYE INJURY, FRACTURE, NEUROMUSCULAR DISEASE, BURNS, LONG MOTOR NEURON DISEASE, HEART DISEASE, OR RENAL FAILURE (DIALYSIS)

PROCEDURE

1. INITIATE TREATMENT AS INDICATED BY PATIENT CONDITION
2. PATIENT SHOULD BE ON LSB OR HAVE LSB PREPARED FOR AFTER PATIENT RELAXED
3. ATTEMPT STANDARD INTUBATION X 3 BEFORE RSI OR DOCUMENT VARIANCES
4. HYPERVENTILATE AND HYPER-OXYGENATE THE PATIENT FOR 2 TO 5 MINUTES IF POSSIBLE. HYPERVENTILATE WITH 100% OXYGEN OR 100% OXYGEN VIA NRB FOR 2 – 5 MINUTES WILL REPLACE NITROGEN IN THE LUNGS WITH OXYGEN. THIS PERMITS A SAFETY MARGIN WHEN MAKING THE INTUBATION ATTEMPTS
5. OBTAIN IV ACCESS IF NOT ALREADY ESTABLISHED (IF POSSIBLE HAVE 2 LARGE BORE IV'S ESTABLISHED)
6. ASSEMBLE ALL MEDICATIONS AND PLACE THEM IN ORDER OF ADMINISTRATION.
7. PREPARE EQUIPMENT BEFORE BEGINNING THE PROCEDURE
   - SC IS A RAPID ACTING AGENT. PREPARING ALL EQUIPMENT BEFORE ADMINISTRATION IS NECESSARY. THIS WILL ALLOW A SHORT TIME FOR THE LIDOCAINE OR NORCURON TO CIRCULATE
8. ADMINISTER LIDOCAINE 1MG/KG IVP (FOR HEAD INJURIES ONLY)
9. ADMINISTER ETOMADATE 0.3MG/KG
   - SC AND NORCURON ARE BOTH NEUROMUSCULAR BLOCKING AGENTS, HOWEVER, NEITHER AGENTS AFFECTS THE LEVEL OF CONSCIOUS. REMEMBER – THESE PATIENTS CAN STILL HEAR AND REMEMBER!
10. ADMINISTER VECRUONIUM (NORCURON) 0.01 MG/KG OF IVP
    - LOADING DOSE - 1/10TH OF THE SUSTAINING DOSE

MEDICAL DIRECTOR APPROVAL_____

FOR APPROVED PARAMEDIC'S ONLY

- SC CAUSES MUSCLE FASICULATION (MUSCLE TREMORS). A TEST DOSE OF NORCURON ADMINISTERED 2-5 MINUTES BEFORE SUCCINYCHOLINE MAY REDUCE THIS EFFECT

11. ADMINISTER SUCCINOLCHOLINE(SC) 1 MG/KG RAPID IVP AND PERFORM SELLICK'S MANEUVER, HAVE SUCTION READY.
12. INTUBATION SHOULD BE ACHIEVED WITHIN 30 TO 120 SECONDS AFTER ADMINISTRATION OF SC.
    - AS SOON AS THE PATIENT IS AREFLEXIC, INTUBATE THE PATIENT.
13. CONFIRM TUBE PLACEMENT BY 3 OF THE FOLLOWING:
    - VISUALIZATION OF THE VOCAL CORDS WITH THE ET TUBE IN THE CORRECT PLACE
    - CONDENSATION IN THE TUBE
    - CHEST RISE AND FALL WITH VENTILATION
    - GOOD OXYGEN SATURATION READING AFTER VENTILATION'S ARE INITIATED
    - BREATH SOUNDS BILATERALLY
    - ABSENT GASTRIC SOUNDS WITH VENTILATION
    - CO2 DETECTOR COLOR CHANGE (YELLOW = CO2 RETURN) AND EDD
14. HYPERVENTILATE PATIENT WITH 100% OXYGEN
15. SECURE TUBE WITH COMMERCIALLY PROCURED SECURING DEVICE
16. AFTER SUCCESSFUL INTUBATION AND CONFIRMATION:
    - ADMINISTER NORCURON 0.1 MG/KG IVP
    - SC HAS A 6-10 MINUTE DURATION OF ACTION,
    - NORCURON DURATION IS 25-60 MINUTES
17. SECURE PATIENT TO LSB WITH HEAD BLOCKS
18. CHECK TUBE PLACEMENT AFTER MOVING PATIENT
19. TRANSPORT THE PATIENT ASAP
20. DOCUMENT
    C. NEED/REASON FOR INTUBATION
    D. ATTEMPTS AT CONVENTIONAL INTUBATION
    E. TIME OF MEDICATIONS
    F. BLS AIRWAY TECHNIQUES
    G. LANDMARKS (VISUALIZATION OF VOCAL CORDS)
    H. METHODS USED TO VERIFY TUBE PLACEMENT
    I. ETCO2 AND EDD RESULTS
    J. TIMES AND RESULTS OF TUBE PLACEMENT CHECKS PERFORMED THROUGHOUT THE RESUSCITATION AND TRANSPORT.
    K. CONFIRMATION OF PLACEMENT UPON PATIENT TRANSFER

ALS PROCEDURES

RECTAL MEDICATION PROCEDURE

RECTAL (PR) ADMINISTRATION OF CERTAIN MEDICATIONS ARE ALTERNATIVES WHEN TRADITIONAL VASCULAR ACCESS (IV, IO) IS NOT AVAILABLE OR NOT DESIRED. PR ADMINISTRATION MAY ALSO BE UTILIZED WHEN OTHER ROUTES (IM, SQ) WOULD TAKE TOO LONG TO REACH PEAK EFFECTS.

EQUIPMENT:

- 3 CC SLIP SYRINGE, INJECTION NEEDLE, OR VIAL SPIKE.
- LUBRICANT (LUBIFAX OR EQUIVALENT) [FOR RECTAL USE ONLY]
- MEDICATION OF CHOICE:
- VALIUM (RECTAL)

INDICATIONS:

- STATUS EPILEPTICUS WITHOUT VASCULAR ACCESS.

PROCEDURE FOR RECTAL ADMINISTRATION:

- DRAW VALIUM INTO A SYRINGE (DRAW ONLY THE AMOUNT TO BE ADMINISTERED).
- IF SUBSEQUENT DOSES ARE REQUIRED, USE THE SAME VALIUM AMPULE WITH A NEW SYRINGE/NEEDLE. THIS METHOD IS SUITABLE FOR SHORT-TERM USE.
- REMOVE THE NEEDLE.
- LUBRICATE THE SYRINGE.
- CAREFULLY INSERT THE SYRINGE (THROUGH THE ANUS PAST THE RECTAL SPHINCTER) --APPROXIMATELY 3 TO 5 CM

- [NOTE: BE CAREFUL NOT TO INJECT DIRECTLY INTO STOOL MASS AS RECTAL ABSORPTION WILL BE POOR].

- ADMINISTER THE APPROPRIATE AMOUNT OF VALIUM:

    - UP TO 8 YEARS OF AGE: 0.5 MG/KG/DOSE (PRN) EVERY 5 - 10 MINUTE MAXIMUM DOSAGE: 10 MG

    - 8 YEARS OF AGE AND OVER: 5-10 MG EVERY 5-10 MINUTES PRN MAXIMUM DOSAGE: 20 MG

- MONITOR FOR DESIRED EFFECTS.

MEDICAL DIRECTOR APPROVAL_____

EMT-IV AND PARAMEDIC

A SALINE LOCK IS USED TO PROVIDE IV ACCESS IN PATIENTS WHO DO NOT REQUIRE CONTINUOUS INFUSION OF SOLUTIONS AND ADMINISTRATION OF MULTIPLE MEDICATIONS IS NOT ANTICIPATED. IF A SALINE LOCK IS IN PLACE, IT MAY BE USED TO ADMINISTER ONE TO TWO MEDICATIONS IN AN EMERGENT SITUATION, PRIOR TO CONNECTING A PRIMED IV LINE.

INDICATIONS

ANY PATIENT WHERE PLACEMENT OF A PROPHYLACTIC IV LINE IS APPROPRIATE.

CONTRAINDICATIONS

PATIENT PRESENTATIONS WHICH REQUIRE IV FLUID REPLACEMENT OR IV MEDICATION ADMINISTRATIONS.

EQUIPMENT

- IV START PACK OR EQUIVALENT
- INTRAVENOUS CATHETER OF APPROPRIATE GAUGE (NOT TO BE USED WITH 24 GAUGE CATHETERS).
- SALINE LOCK CATHETER PLUG WITH SHORT EXTENSION
- 3CC SYRINGE
- STERILE NORMAL SALINE (3-5CC)

PROCEDURE

- EXPLAIN THE PROCEDURE TO THE PATIENT.
- REMOVE CATHETER PLUG AND ATTACHED EXTENSION SET FROM PACKAGE AND PRIME WITH NORMAL SALINE.
- PREPARE THE SITE FOR VENIPUNCTURE.
- AFTER VENIPUNCTURE, SECURE EXTENSION SET TO HUB OF CATHETER AND AFFIX TO PATIENT'S SKIN.
- PREP RUBBER STOPPER ON SALINE LOCK, INSERT SYRINGE, AND SLOWLY FLUSH WITH AT LEAST 3CC OF NORMAL SALINE WHILE OBSERVING FOR SIGNS OF INFILTRATION.
- WHILE INJECTING THE LAST .2CC OF NORMAL SALINE, CONTINUE EXERTING PRESSURE ON THE SYRINGE PLUNGER WHILE WITHDRAWING THE SYRINGE FROM THE SALINE LOCK.
- IF A MEDICATION IS ADMINISTERED VIA THE SALINE LOCK, FLUSH WITH AT LEAST 3CC OF NORMAL SALINE
- FOLLOWING ADMINISTRATION OF THE MEDICATION.
- NOTE: IF PATIENT REQUIRES FLUID BOLUS OR ADMINISTRATION OF MULTIPLE MEDICATIONS, REMOVE SALINE LOCK AND SECURE PRIMED IV TUBING TO CATHETER.

ALS PROCEDURES

STOMAL INTUBATION

INDICATIONS

FOR PATIENTS WITH EXISTING TRACHEOSTOMY WITHOUT TUBE (MATURE STOMA):

PROCEDURE

1. ASSURE AN ADEQUATE BLS AIRWAY.
2. ASSEMBLE EQUIPMENT
    A. BVM – O2
    B. SUCTION
    C. ETCO2 DETECTOR, ESOPHAGEAL DETECTOR DEVICE
    D. ET TUBE NO STYLETTE, 10CC SYRINGE
    E. COMMERCIALLY PROCURED TUBE SECURING DEVICE, IF INEFFECTIVE, USE TAPE
        I. CAUTION AS TO NOT RESTRICT CAROTID AND JUGULAR BLOOD FLOW
    F. WATER SOLUBLE LUBRICANT
    G. LONG SPINE BOARD AND HEAD BLOCKS (IF NOT TRANSPORTING ALREADY)
3. ALL INTUBATED PATIENTS SHOULD BE ON LSB WITH HEAD BLOCKS FOR EASE OF MOVEMENT AND TO ASSURE LIMITED TUBE MOVEMENT.
4. HYPERVENTILATE WITH 100% OXYGEN USING A BAG-VALVE-MASK. DO NOT USE DEMAND VALVE.
5. SELECT THE LARGEST ENDOTRACHEAL TUBE THAT WILL FIT THROUGH THE STOMA WITHOUT FORCE (IT SHOULD NOT BE NECESSARY TO LUBRICATE THE TUBE).
6. CHECK CUFF, IF APPLICABLE.
7. DO NOT USE A STYLET.
8. PASS ENDOTRACHEAL TUBE UNTIL THE CUFF IS JUST PAST THE STOMA.
9. RIGHT MAINSTEM BRONCHUS INTUBATION MAY OCCUR IF THE TUBE IS PLACED FURTHER SINCE THE DISTANCE FROM TRACHEOSTOMY TO CARINA IS LESS THAN 10 CM.
10. THE TUBE WILL PROTRUDE FROM THE NECK BY SEVERAL INCHES.
11. INFLATE THE CUFF
12. ATTACH END-TIDAL CO2 DETECTION DEVICE TO THE ET TUBE.
13. OBSERVE FOR PRESENCE OR ABSENCE OF COLOR CHANGE IN DEVICE AFTER SEVERAL VENTILATIONS. YELLOW = CO2 RETURN – TRACHEAL INTUBATION
14. IF THERE IS NO COLOR CHANGE - EXTUBATE AND REPEAT STEPS 4-13
15. AUSCULTATE THE CHEST FOR AIR ENTRY ON THE RIGHT AND LEFT SIDES EQUALLY. LOOK FOR SYMMETRIC CHEST WALL RISE.
16. CHECK NECK FOR SUBCUTANEOUS EMPHYSEMA, WHICH INDICATES FALSE PASSAGE OF TUBE. IF THE CHEST DOES NOT RISE, EXTUBATE AND REPEAT STEPS 4-13
17. SECURE THE TUBE WITH TUBE HOLDER OR TAPE AND VENTILATE.
18. DOCUMENT:
    A. NEED/REASON FOR INTUBATION
    B. TIME OF INTUBATION
    C. LANDMARKS USED TO VERIFY TUBE PLACEMENT
    D. ETCO2 AND EDD RESULTS
    E. TIMES AND RESULTS OF TUBE PLACEMENT CHECKS PERFORMED THROUGHOUT THE RESUSCITATION AND TRANSPORT.
    F. CONFIRMATION OF PLACEMENT UPON PATIENT TRANSFER

NOTE: *DO NOT ATTEMPT TO REINSERT A DISLODGED PRE-EXISTING TRACHEOSTOMY TUBE*

ALS PROCEDURES

SURGICAL CRICOTHYROTOMY

BY THE ORDER OF MEDICAL CONTROL ONLY
FOR APPROVED PARAMEDIC'S ONLY

INDICATIONS

- *OTHER ATTEMPTS AT VENTILATION ARE UNSUCCESSFUL OR IMPOSSIBLE* ***AND***
- *PATIENT IS OVER THE AGE OF 12 YEARS* ***AND***
- *ANATOMY OBVIOUS (NO HEMATOMAS)*
- ***OR***
- *ENDOTRACHEAL INTUBATION CANNOT BE ACCOMPLISHED WITHOUT RISK TO PATIENT OR ASSOCIATED INJURIES* ***AND***
- *PATIENT IS OVER THE AGE OF 12 YEARS*

PROCEDURE

- CONTINUE VIGOROUS ATTEMPTS AT AIRWAY/VENTILATION UNTIL PROCEDURE PERFORMED
- ASSEMBLE ALL NECESSARY SUPPLIES AND EQUIPMENT.
- SUCTION
- IDENTIFY CRICOTHYROID MEMBRANE.
    - LOCATE THE PATIENT'S STERNAL NOTCH.
    - WITH THE INDEX FINGER, FOLLOW THE TRACHEA TOWARD THE HEAD UNTIL THE FIRST PROMINENCE IS LOCATED (THIS WILL BE THE CRICOID CARTILAGE). JUST ABOVE THAT AREA IS THE CRICOTHYROID MEMBRANE (RECOGNIZABLE BY A SLIGHT DEPRESSION).
    - ANCHOR THE CRICOTHYROID MEMBRANE BY USING THE THUMB AND MIDDLE FINGER, THE INDEX FINGER REMAINS AT THE CRICOTHYROID DEPRESSION UNTIL READY TO INCISE.
- PREPARE THE SITE FOR INCISION.
    - QUICKLY CLEANSE THE SITE WITH ANTISEPTIC SOLUTION.
    - START FROM THE MEMBRANE AND WIPE IN WIDENING CIRCLES UNTIL A BROAD MARGIN AROUND THE SITE IS CLEANSED.
- MAKE A VERTICAL 3.0 CM INCISION OVER THE MEMBRANE.
    - SPREAD THE TISSUES.
- HORIZONTAL 1.5 – 2.0 CM INCISION, INFERIOR MARGIN OF CRICOTHYROID MEMBRANE.
    - INSERT THE HANDLE END OF THE SCALPEL THROUGH THE CRICOTHYROTOMY AND ROTATE 90O.
- IF BLOOD ACCUMULATES IN THE INCISION, QUICKLY SUCTION PRIOR TO INSERTION OF THE ET TUBE.
- INSERT THE ENDOTRACHEAL TUBE.
- VENTILATE THE PATIENT WHILE AUSCULTATION FIRST THE RIGHT SIDE OF THE CHEST AND THEN THE LEFT SIDE OF THE CHEST.
- IF THE LUNG SOUNDS ARE EQUAL TO AUSCULTATE, THE TUBE IS IN THE TRACHEA, AND YOU MAY SECURE THE TUBE.

MEDICAL DIRECTOR APPROVAL_____

SURGICAL CRICOTHYROTOMY CONTINUED

BY THE ORDER OF MEDICAL CONTROL ONLY
FOR APPROVED PARAMEDIC'S ONLY

- IF LUNG SOUNDS ARE MORE PROMINENT ON THE RIGHT SIDE, DEFLATE THE CUFF AND PULL BACK ON THE TUBE SLOWLY WHILE AUSCULTATION UNTIL BREATH SOUNDS EQUALIZE. (NOTE: BE AWARE OF THE POSSIBILITY OF HEMOTHORAX OR PNEUMOTHORAX WHEN ASSESSING LUNG SOUNDS.)
- SECURE THE TUBE AROUND THE PATIENT'S NECK WITH GAUZE AND TAPE.
- VENTILATE THE PATIENT AS INDICATED.
- CONTINUOUSLY RE-ASSESS PATIENT LUNG SOUNDS TO VERIFY TUBE PLACEMENT.
- MONITOR PATIENT FOR POTENTIAL COMPLICATIONS.

ALS PROCEDURES

SYNCHRONIZED CARDIOVERSION

SYNCHRONIZED CARDIOVERSION INVOLVES THE DELIVERY OF AN ELECTRIC CURRENT TO THE MYOCARDIUM OF A PATIENT WHO IS EXHIBITING SUPRAVENTRICULAR OR VENTRICULAR TACHYDYSRHYTHMIAS THAT RESULTS IN HEMODYNAMIC COMPROMISE. CARDIOVERSION IS APPROPRIATE IN THE FIELD ONLY IN THOSE PATIENTS WHERE THERE IS HEMODYNAMIC COMPROMISE OR WHERE IT IS EVIDENT THAT THE PATIENT'S CONDITION MAY FURTHER DETERIORATE.

INDICATIONS:

- VENTRICULAR TACHYCARDIA WITH INADEQUATE PERFUSION
- SUPRAVENTRICULAR TACHYCARDIA WITH INADEQUATE PERFUSION
- VENTRICULAR TACHYCARDIA WITH ADEQUATE PERFUSION, BUT REFRACTORY TO DRUG
- THERAPY.

PROCUDURE

1. THE PATIENT SHALL BE ON A CARDIAC MONITOR AND SHOULD HAVE VASCULAR ACCESS.
2. CONSIDER SEDATION PRIOR TO CARDIOVERSION, ADMINISTER VERSED 2-5MG
3. PLACE DEFIBRILLATOR PADS ON PATIENT ANTERIOR/ANTERIOLATERAL CHEST
4. OXYGENATE PATIENT WITH APPROPRIATE AIRWAY ADJUNCT
5. HAVE ADVANCED AIRWAY/VENTILATORY EQUIPMENT READY
6. VENTRICULAR DYSRHYTHMIAS:
    A. WHEN USING A MONOPHASIC DEVICE, THE INITIAL ATTEMPT AT CARDIOVERSION SHALL BE AT 100 JOULES, AND SUBSEQUENT ATTEMPTS SHOULD ESCALATE TO 200, 300 AND 360 JOULES.
    B. WHEN USING A BIPHASIC DEVICE, THE INITIAL AND SUBSEQUENT ATTEMPTS SHALL BE AT THE ENERGY LEVEL(S) PROVIDED BY THE DEVICE.
7. SUPRAVENTRICULAR DYSRHYTHMIAS:
    A. WHEN USING A MONOPHASIC DEVICE, THE INITIAL ATTEMPT AT CARDIOVERSION SHALL BE AT 50 JOULES, AND SUBSEQUENT ATTEMPTS SHALL BE AT 100 JOULES.
    B. WHEN USING A BIPHASIC DEVICE, THE INITIAL AND SUBSEQUENT ATTEMPTS SHALL BE AT THE ENERGY LEVEL(S) PROVIDED BY THE DEVICE.
8. PRESS SYNC BUTTON ON MONITOR AND WAIT UNTIL CAPTURE OCCURS
9. PRESS SHOCK BUTTON
10. ANALYZE AND DOCUMENT RHYTHM
11. TREAT PER APPROPRIATE CARDIAC CARE PROTOCOL

MEDICAL DIRECTOR APPROVAL_____

ASSESSMENT:

A. ACUTE RESPIRATORY DISTRESS/CYANOSIS
B. DECREASED/ABSENT BREATH SOUNDS UNILATERALLY
C. TRACHEAL DEVIATION AWAY FROM SIDE OF INJURY
D. HYPER-RESONANCE OF CHEST UNILATERALLY
E. NECK VEIN DISTENTION
F. SUBCUTANEOUS EMPHYSEMA
G. OTHER METHODS OF AIRWAY MANAGEMENT UNSUCCESSFUL
H. HYPOTENSION/CARDIAC ARRHYTHMIAS. (GENERALLY IMPLIES END STAGE STATUS AND REQUIRES RAPID INTERVENTION.)

TREATMENT

- SECURE AIRWAY WITH REGARD TO C-SPINE
- ASSESS AND TREAT ABC'S
- OXYGEN 100% (HYPERVENTILATE IF NECESSARY)
- APPLY MAST TO SPINE BOARD IF PATIENT UNCONSCIOUS
    - PATIENT MAY NOT TOLERATE SUPINE POSITION IF CONSCIOUS
- POSITION PATIENT ON STRETCHER
- **CHEST DECOMPRESSION - INSERT #16 GAUGE 2 1/4" ANGIOCATH WITH SYRINGE OR FLUTTER VALVE BETWEEN 2ND/3RD INTERCOSTAL SPACES IN THE MID-CLAVICULAR LINE OR BETWEEN 4TH/5TH INTERCOSTAL SPACES IN THE MID-AXILLARY LINE OF THE AFFECTED SIDE OF THE CHEST.**
- EVALUATE BREATH SOUNDS THROUGHOUT THE REMAINDER OF TRANSPORTATION.
- INTUBATE IF NECESSARY.
- PRIMARY IV ACCESS WITH LARGE BORE CATHETER, BOLUS 10 CC/KG OF NORMAL SALINE OR LACTATED RINGERS.
- SECONDARY IV ACCESS WITH LARGE BORE CATHETER TKO OF NORMAL SALINE OR LACTATED RINGERS.
- INFLATE MAST IF PERFUSION IS NOT RESTORED
- RAPID TRANSPORT

CHEST DECOMPRESSION MAY BE PERFORMED ONLY BY PARAMEDICS TRAINED SPECIFICALLY IN THESE PROCEDURES AND APPROVED BY THE MEDICAL DIRECTOR/DESIGNEE.

MEDICAL DIRECTOR APPROVAL_____

ALS PROCEDURES

TRANSCUTANEOUS PACING

ADULT ONLY

INDICATIONS

- SYMPTOMATIC BRADYCARDIA (HEART RATE <60 AND ONE OR MORE SIGNS OR SYMPTOMS BELOW)
- SIGNS AND SYMPTOMS:
- BLOOD PRESSURE <90 SYSTOLIC;
- SHOCK—SIGNS OF POOR PERFUSION, EVIDENCED BY:
    - DECREASED LEVEL OF CONSCIOUSNESS OR DECREASED SENSORIUM;
    - PROLONGED CAPILLARY REFILL;
    - COOL EXTREMITIES OR CYANOSIS;
    - CHEST PAIN, DIAPHORESIS;
    - CHF OR ACUTE SHORTNESS OF BREATH.
- INABILITY TO ESTABLISH IV FOR ATROPINE ADMINISTRATION
- 2ND DEGREE TYPE II OR 3RD DEGREE HEART BLOCK

CONTRAINDICATIONS:

- ASYSTOLE
- HYPOTHERMIA (RELATIVE CONTRAINDICATION) – PATIENT WARMING MEASURES HAVE PRECEDENCE
- CHILDREN <14 YEARS OLD (HYPOXIA/RESPIRATORY PROBLEMS ARE MOST LIKELY CAUSES OF BRADYCARDIA IN CHILDREN AND SHOULD BE ADDRESSED.

ASSEMBLE NECESSARY EQUIPMENT:

- CARDIAC MONITOR WITH TRANSCUTANEOUS PACER, PACING PADS
- HIGH FLOW OXYGEN & PULSE OXIMETERY
- NORMAL SALINE IV @ TKO (WITHOUT DELAYING TREATMENT)

- ASSURE ADEQUATE OXYGENATION/VENTILATION AS NEEDED
- APPLY ADHESIVE PACING PADS TO PATIENT ON ANTERIOR & ANTERIOLATERAL SURFACES
- AFTER ATTACHING THE ELECTRODES, BEGIN PACING AT 60 BEATS PER MINUTE AT 20MA
- SLOWLY INCREASE MILLIAMPS WHILE ASSESSING FOR CAPTURE AND/OR INCREASE IN SYSTOLIC B/P
- IN THE EVENT OF ELECTRICAL CAPTURE AND NO PULSES, LEAVE PACING PADS ON, PACER TURNED ON, AND CONTINUE CPR.
- ELECTRICAL CAPTURE OCCURS WHEN A WIDE QRS FOLLOWS PACER SPIKE
- MECHANICAL CAPTURE WILL PRODUCE A PULSE
- AFTER CAPTURE INCREASE MA BY 2MA
- FEEL FOR A CAROTID AND RADIAL PULSE
- IS THE RATE THE SAME AS THE MONITOR DISPLAY?
- IF NO, CONSIDER INCREASING MILLIAMPS, CHECK B/P
- IN THE CONSCIOUS PATIENT WITH, CONSIDER :
- SEDATION/ANALGESIA
    - MIDAZOLAM (VERSED) 2.5 - 5 MG SLOW IVP
    - MORPHINE 2 MG SLOW IVP. MAY REPEAT AT 10 MINUTE INTERVALS UNTIL PAIN RELIEVED, SYSTOLIC B/P FALLS BELOW 110MMHG, A TOTAL OF 10 MG IS ADMINISTERED, OR RESPIRATORY/MENTAL STATUS DEPRESSION OCCURS.

PEDIATRIC PACING IS BY ONLINE MEDICAL CONTROL ORDER ONLY

MEDICAL DIRECTOR APPROVAL_____

THE PATIENT MUST BE ATTACHED TO A CARDIAC MONITOR AND MUST HAVE VASCULAR ACCESS.

INDICATIONS:
TREATMENT OF SYMPTOMATIC SUPRAVENTRICULAR TACHYCARDIA
DECREASED LEVEL OF CONSCIOUSNESS, ANGINA, HYPOTENSION, CONGESTIVE HEART FAILURE
TREATMENT OF TACHYCARDIA OF UNKNOWN ETIOLOGY (SUPRAVENTRICULAR VS. VENTRICULAR) WITH HYPOPERFUSION.
USE OF VAGAL MANEUVERS SHALL NOT DELAY SYNCHRONIZED CARDIOVERSION
THE VALSALVA MANEUVER AND CSP SHALL ONLY BE ATTEMPTED WHEN THE PATIENT'S EKG IS
BEING MONITORED AND VENOUS ACCESS HAS BEEN ESTABLISHED.
CSP SHALL ONLY BE ATTEMPTED AFTER THE PATIENT HAS FAILED TO RESPOND TO PHARMACOLOGICAL INTERVENTION.

APPROVED METHODS INCLUDE:
VALSALVA MANEUVER: HEAD-DOWN TILT WITH DEEP INSPIRATION, BEAR DOWN AS IN HAVING A BOWEL MOVEMENT

CAROTID SINUS PRESSURE (ONLY ON PATIENTS UNDER 40 YEARS OF AGE).
-AFTER FAILURE TO RESPOND TO PHARMACOLOGIC INTERVENTIONS
APPLY PRESSURE TO THE CAROTID ARTERIES FOR NO LONGER THAN 5 SECONDS.

POTENTIAL COMPLICATIONS:
VENTRICULAR ASYSTOLE AND BRADYDYSRHYTHMIAS.

NOT APROVED FOR CHILDREN, WITHOUT ONLINE - MEDICAL CONTROL

COMPLICATIONS & SPECIAL NOTES:
DYSRHYTHMIAS ARE COMMON AFTER CONVERSION BY VAGAL MANEUVERS.
NOTE: TREATMENT IS INDICATED IN INCREASED RATE LASTING GREATER THAN 3-5 MINUTES
ASYSTOLE.
STROKE FROM DISLODGED CAROTID ARTERY THROMBUS IN PERSONS WITH ATHEROSCLEROTIC DISEASE.
BRAIN ISCHEMIA FROM OCCLUSION OF CAROTID ARTERY OR COMPROMISE OF MARGINALLY PERFUSED AREAS OF BRAIN.
NOTE * *IT IS DIFFICULT TO DIFFERENTIATE CONGESTIVE HEART FAILURE CAUSED BY TACHYCARDIA FROM A TACHYCARDIA CAUSED BY CHF. THE SYMPTOMS OF A PATIENT WITH A PULSE UNDER 160 ARE USUALLY NOT THE RESULT OF A RATE RELATED PROBLEM.

MEDICAL DIRECTOR APPROVAL_____

12 LEAD EKG

CRITERIA:

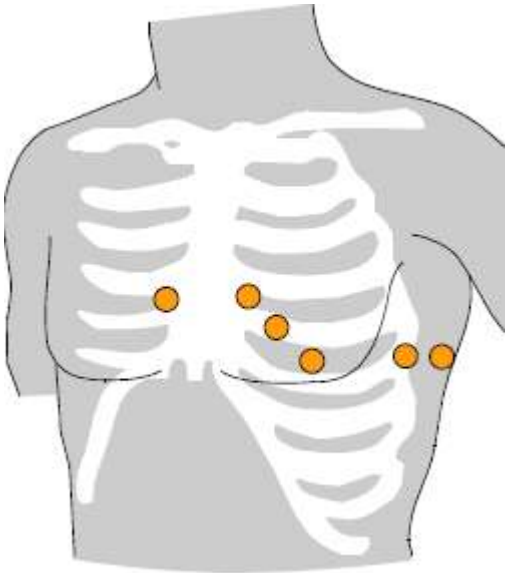
- CLASSIC ANGINAL CHEST PAIN
- ATYPICAL CHEST PAIN
- ANGINAL EQUIVALENTS: DYSPNEA, PALPITATIONS, SYNCOPE, GENERAL WEAKNESS/DIZZINESS, DKA/HYPERGLYCEMIA

FREQUENCY:

- INITIALLY WITH VITAL SIGNS, WHERE PATIENT IS FOUND
- IN AMBULANCE, BEFORE LEAVING SCENE-IF NOT DONE INITIALLY WHERE PATIENT WAS FOUND OR IF ABNORMALITIES FOUND ON INITIAL 12 LEAD
- IF ABNORMALITIES NOTED, CONSIDER WITH REPEAT VITAL SIGNS (EVERY 5-10 MINUTES) OR SET AUTOMATIC ST SEGMENT TRENDING
- UPON ARRIVAL AT EMERGENCY DEPARTMENT PARKING LOT

REMINDERS:
RADIO REPORT (AND FAX, IF CAPABLE) ON ALL SUSPECTED AMI'S
DOCUMENT NOTE ON PCR IF PATIENT WAS NOT LAYING FLAT
COPIES OF 12 LEADS TO HOSPITAL AND AGENCY

V1	**4TH INTERCOSTAL SPACE @ R STERNUM EDGE**
V2	**4TH INTERCOSTAL SPACE @ L STERNUM EDGE**
V3	**BETWEEN V2 & V4**
V4	**5TH INTERCOSTAL SPACE, MIDCLAVICULAR LINE**
V5	**LEVEL WITH V4, L ANTERIOR AXILLARY LINE**
V6	**LEVEL WITH V5, L MID AXILLARY LINE**



I LATERAL	**AVR**	**V1 SEPTAL**	**V4 ANTERIOR**
II INFERIOR	**AVL LATERAL**	**V2 SEPTAL**	**V5 LATERAL**
III INFERIOR	**AVF INFERIOR**	**V3 ANTERIOR**	**V6 LATERAL**

MEDICAL DIRECTOR APPROVAL_____

FURTHER SEDATION FOR INTUBATED PATIENTS

FOR EXTENDED TRANSPORTS (I.E.: NASHVILLE TRANSPORTS, ETC.) AND FURTHER SEDATION IS DETERMINED TO BE REQUIRED FOLLOW THIS PROTOCOL:

1. CONFIRM THE PLACEMENT OF THE ENDOTRACHEAL TUBE BY 3 OF THE FOLLOWING:
   A. CONDENSATION IN THE TUBE.
   B. CHEST RISE AND FALL WITH VENTILATION.
   C. GOOD OXYGEN SATURATION READING WITH VENTILATION.
   D. BREATH SOUNDS BILATERALLY.
   E. ABSENT GASTRIC SOUNDS WITH VENTILATION.
   F. EASY CAP.

2. ADMINISTER VERSED 0.05MG/KG IVP. **NOT TO BE REPEATED.**
3. ADMINISTER FENTANYL 1MCG/KG IVP. **NOT TO BE REPEATED.**
4. CONTINUE TO REASSESS PATIENT AND MONITOR VITAL SIGNS.

EMT-IV AND PARAMEDIC

INDICATIONS
- PULSELESS

CONTRAINDICATIONS
- LESS THAN 18 YEARS OF AGE
- TRAUMATIC PATIENT

PROCUDURE
- PLACE AUTOPULSE® BOARD UNDER PATIENT WITH PATIENTS ARM PITS AT OR JUST ABOVE THE YELLOW GUIDELINE.
- PLACE LIFEBAND® AROUND PATIENT CONNECTING BAND 1 WITH BAND 2
- FULLY EXTEND THE LIFEBAND®
- PLACE THE YELLOW "LOCKING TAB" IN THE CENTER OF STERNUM (POSITION OF HAND PLACEMENT FOR CHEST COMPRESSIONS)
- PRESS START
- SECURE THE PATIENT WITH THE APPROPRIATE HEAD AND CHEST STRAPS AND PADDING ACCORDING TO MANUFACTURES GUIDELINES.

NON-INTUBATED PATIENT:
- THE DEVICE WILL DEFAULT ON 30 COMPRESSIONS, PAUSING FOR YOU TO VENTILATE (TIMES 2).
- DEVICE WILL ALERT THE PERSON VENTILATING WITH AN AUDIBLE TONE ON THE 28^{TH}, 29^{TH} AND 30^{TH} COMPRESSION THAT THE PAUSE IS UPCOMING.

INTUBATED PATIENT:
- ONCE PATIENT IS INTUBATED YOU WILL CHANGE TO CONTINUOUS COMPRESSIONS BY SELECTING THIS IN THE MENU.

REMEMBER:
YOU SHOULD ALWAYS FOLLOW THE MANUFACTURES GUIDELINES

AUTOPULSE® MAY BE UTILIZED ONLY BY PARAMEDICS OR EMT'S TRAINED SPECIFICALLY IN THIS PROCEDURE AND APPROVED BY THE MEDICAL DIRECTOR/DESIGNEE.

MEDICAL DIRECTOR APPROVAL_____

ABREVIATION AND/OR DEFINITION

A.C.L.S. ADVANCED CARDIAC LIFE SUPPORT.

A.L.S.: ADVANCED LIFE SUPPORT.

AML: ACUTE MYELOGENOUS LEUKEMIA IS A FAST-GROWING CANCER OF THE BLOOD AND BONE MARROW.

ABDUCTION: MOTION OF A LIMB AWAY FROM MIDLINE OF THE BODY.

ABRASION SCRAPE; WHEN THE OUTER LAYER OF SKIN HAS BEEN SCRAPED AWAY.

ACETONE ODOR A SWEET FRUITY SMELL.

ACID: A CHEMICAL WITH A PH OF < 7.0 THAT CAN POISON OR BURN SEVERELY. THE DEGREE OF INJURY DEPENDS ON THE PH. IF IT IS <2, IT IS VERY HARMFUL; IF IT IS >*6,* IT IS NOT LIKELY TO BE HARMFUL. THE NORMAL PH OF THE BODY IS 7.35-7.45.

ADDUCTION: MOVEMENT TOWARD THE MIDLINE OF THE BODY.

AFFECT: FEELINGS; THE NON-PHYSICAL COMPONENT OF EMOTIONAL BEHAVIOR.

AIR EMBOLISM: AIR BUBBLES WHICH OCCLUDE THE BLOOD VESSELS.

AIRWAY: THE ROUTE THROUGH THE BODY THAT AIR MUST TAKE TO ATTAIN ADEQUATE BREATHING.

ALGORITHM: A LOGICAL PROGRAM THAT DIAGRAMMATICALLY DEPICTS A DECISION TREE WITH DISCRETE COGNITIVE STEPS.

ALKALI: A CHEMICAL WITH A PH OF > 7.0 THAT CAN POISON OR BURN SEVERELY. THE DEGREE OF INJURY DEPENDS ON THE PH. IF IT IS >10, IT IS VERY HARMFUL; IF IT IS <8, IT IS NOT LIKELY TO BE HARMFUL.

ALVEOLI: THE TINY AIR SACS OF THE LUNGS WHERE OXYGEN IS DELIVERED TO THE BLOOD AND CARBON DIOXIDE IS EXTRACTED FROM THE BLOOD TO BE EXHALED BY THE LUNGS.

AMPHETAMINE: A CENTRAL NERVOUS SYSTEM STIMULANT ("UPPER").

AMPUTATION: SURGICAL OR TRAUMATIC REMOVAL OF AN ORGAN OR PART OF THE BODY

ANALGESIC: MEDICATION ADMINISTERED TO RELIEVE PAIN.

ANAPHYLACTIC SHOCK OCCURS WHEN AN INDIVIDUAL WHO HAS BECOME SENSITIZED TO A SUBSTANCE BY PREVIOUS CONTACT REACTS VIOLENTLY; ALLERGIC REACTION.

ANEURYSM A SAC OR DILATION IN A BLOOD VESSEL; WEAKENED PLACE.

ANTERIOR SURFACE SURFACE WHICH IS TOWARD THE FRONT PART OF THE BODY

APNEA: ABSENCE OF BREATHING.

AREFLEXIA ABSENCE OF ALL REFLEX ACTIVITY

BAROTRAUMA: TISSUE DAMAGE DIRECTLY RELATED TO THE MECHANISM EFFECTS OF PRESSURE, INCLUDING DYSBARIC AIR EMBOLISM (DAE) AND DIRECT TRAUMA TO GAS FILLED SPACES (E.G. EAR, SINUS "SQUEEZE").

CEREBROVASCULAR ACCIDENT (CVA) THIS IS OFTEN CALLED A STROKE OR APOPLEXY. IT REFERS TO THE CONDITION IN WHICH A PORTION OF THE BRAIN SUDDENLY LOSES ITS FUNCTION BECAUSE OF INADEQUATE BLOOD SUPPLY.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): A TERM DENOTING CHRONIC BRONCHITIS, EMPHYSEMA, AND ASTHMA-LIKE ILLNESS THAT CAUSES OBSTRUCTIVE PROBLEMS IN THE LOWER AIRWAYS; GENERALLY FOLLOWS A LONG SMOKING HISTORY.

CO CHEMICAL ABBREVIATION FOR CARBON MONOXIDE GAS. THIS GAS IS A POISONOUS PRODUCT OF INCOMPLETE COMBUSTION THAT IS COLORLESS, TASTELESS, AND ODORLESS.

C02: CHEMICAL ABBREVIATION FOR CARBON DIOXIDE; ATMOSPHERIC GAS GIVEN OFF NATURALLY AS A WASTE PRODUCT DURING EXHALATION.

COMA STATE OF UNCONSCIOUSNESS FROM WHICH A PATIENT CANNOT BE AROUSED, EVEN BY POWERFUL STIMULI.

COMPOUND FRACTURE WHERE THE BONE END PROTRUDES THROUGH THE SKIN SURFACE OR THERE IS AN OPEN WOUND EXTENDING TO THE FRACTURE SITE.

CONCUSSION: INJURY RESULTING FROM IMPACT WITH AN OBJECT; LOSS OF FUNCTION, EITHER PARTIAL OR COMPLETE, THAT RESULTS FROM A FALL OR BLOW.

CONSIDER GLUCOSE THIS PHRASE SHALL MEAN:

- DETERMINE SERUM GLUCOSE ESTIMATE.

- IF GLUCOSE ESTIMATE IS BELOW 60MG/DL AND IF THE PATIENT HAS AN ALTERED MENTAL STATUS OR SYMPTOMS THAT ARE POTENTIALLY DUE TO HYPOGLYCEMIA OR QUESTIONABLY DUE TO LOW BLOOD GLUCOSE LEVELS, ADMINISTER **$D_{50}W$ 25 GM**(50ML)
- REASSESS SERUM GLUCOSE IN 5 MINUTES IN THE EXTREMITY OPPOSITE THE DRUG ADMINISTRATION SITE AND IF THE ESTIMATED GLUCOSE REMAINS LESS THAN 60MG/DL ADMINISTER **$D_{50}W$ 12.5 GM**
- **PEDIATRICS : SEE PEDIATRIC PROTOCOL**

CONSIDER NARCAN THIS PHRASE SHALL MEAN:
ADMINISTER NARCAN IVP IN 0.5MG DOSES TITRATED TO EFFECT, IF THE PATIENT HAS DECREASED RESPIRATORY STATUS. IF THERE IS A HIGH LIKELIHOOD OF NARCOTIC OVERDOSE, SLOWLY PUSH MEDICATION. AND REASSESS, TITRATE TO EFFECT. AVOID TOO RAPID REVERSAL IN NARCOTIC OVERDOSES. ADMINISTER THE DOSE TO IMPROVE RESPIRATORY RATE AND GAG REFLEX ONLY.
CONTRAINDICATION ANY CONDITION WHICH RENDERS A PARTICULAR TREATMENT IMPROPER OR UNDESIRABLE.
CONTUSION: BRUISE.
CONVULSION: VIOLENT, JERKY, AND PURPOSELESS MOVEMENTS CAUSED BY THE SUDDEN STIMULATION OF LARGE NUMBERS OF BRAIN CELLS.
CREPITUS: A GRATING OR GRINDING SENSATION THAT CAN BE FELT WHEN THE BROKEN BONE ENDS RUB TOGETHER.
CROWNING: STATE OF LABOR WHEN THE FETAL HEAD PRESENTS AT THE VULVA (WHEN THE TOP OF THE BABY'S HEAD FIRST APPEARS).
CYANOSIS: BLUISH TINGE IN THE COLOR OF THE MUCOUS MEMBRANES AND SKIN DUE TO EXCESSIVE AMOUNTS OF REDUCED HEMOGLOBIN IN THE CAPILLARIES.
D50: DEXTROSE 50 % CONCENTRATION
D5W: DEXTROSE 5 % CONCENTRATION IN WATER
DECEREBRATE POSTURE ASSUMED BY PATIENTS WITH SEVERE BRAIN DYSFUNCTION, CHARACTERIZED BY EXTENSION AND ROTATION OF THE ARMS AND EXTENSION OF THE LEGS.

MEDICAL DIRECTOR APPROVAL_____

DECOMPRESSION SICKNESS: MULTI-SYSTEM DISORDER RESULTING FROM THE LIBERATION OF GAS BUBBLES FROM SOLUTION WHEN AMBIENT PRESSURE DECREASES, EITHER TYPE I (SKIN, MUSCULOSKELETAL "BENDS") OR TYPE II (NEUROLOGICAL, SERIOUS SYMPTOMS).

DECORTICATE: POSTURE ASSUMED BY PATIENTS WITH SEVERE BRAIN DYSFUNCTION, CHARACTERIZED BY EXTENSION OF THE LEGS AND FLEXION OF THE ARMS.

DEFIBRILLATION: STOPPAGE OF FIBRILLATION OF THE HEART DONE WITH AN ELECTRIC CURRENT BRIEFLY PASSING THROUGH THE HEART, ALLOWING THE NORMAL SINUS IMPULSE TO RESUME RHYTHMIC CONTROL OF CONTRACTION.

DEFORMITY: A CHANGE FROM NORMAL APPEARANCE.

DETERIORATION: THE PROCESS OF WORSENING; NEGATIVE CHANGE IN THE PATIENT'S CONDITION

DIASTOLIC PRESSURE: PRESSURE DURING RELAXATION OF THE HEART. THIS IS WRITTEN AS THE BOTTOM PART OF THE BLOOD PRESSURE.

DIABETES MELLITUS A SYSTEMIC DISEASE AFFECTING MANY ORGANS, INCLUDING THE PANCREAS, WHOSE FAILURE TO SECRETE INSULIN CAUSES AN INABILITY TO METABOLIZE CARBOHYDRATE AND CONSEQUENT ELEVATIONS IN BLOOD SUGAR.

DIAPHORESIS: PROFUSE INAPPROPRIATE PERSPIRATION

DILATED PUPIL THE APPEARANCE OF A PUPIL (DARK PART OF THE EYE) BEING LARGER THAN NORMAL

DISTAL: FARTHER FROM THE CENTER OF THE BODY OR POINT OF ATTACHMENT

DISTENTION: CONDITION OF ABNORMAL ENLARGEMENT, OFTEN DUE TO INTERNAL PRESSURE.

DORSAL: IN REFERENCE TO THE BACK OF THE BODY.

DRIP: A MEASURED DOSAGE OF A DRUG IN SOLUTION. (GTT=DROPS)

DURA MATER: THICK OUTER MEMBRANE COVERING THE SPINAL CORD AND BRAIN.

DYSBARISM: A SYNDROME OF ILLNESS/INJURY RESULTING FROM DIFFERENCES IN PRESSURE BETWEEN THE ENVIRONMENT AND TISSUES/ORGANS EITHER DIRECTLY (BAROTRAUMA) OR INDIRECTLY (DECOMPRESSION SICKNESS).

DYSPNEA: DIFFICULTY OR LABORED BREATHING.

DYSRHYTHMIA ABNORMAL ELECTRICAL RHYTHM OF THE HEART.

ET TUBE: ENDOTRACHEAL TUBE

EDEMA: CONDITION IN WHICH THE BODY TISSUES CONTAIN AN EXCESSIVE AMOUNT OF FLUID.

ELECTROCARDIOGRAM (EKG/ECG): A GRAPHIC RECORD OF THE ELECTRICAL IMPULSES OF THE HEART.

EMBEDDED: STUCK OR FIRMLY PLACED IN THE SURROUNDING MATTER.

EMBOLUS: A MASS OF SOLID, LIQUID OR GASEOUS MATERIAL THAT IS CARRIED IN THE CIRCULATION AND MAY LEAD TO OCCLUSION OF BLOOD VESSELS, WITH RESULTANT INFARCTION AND NECROSIS OF TISSUE SUPPLIED BY THOSE VESSELS.

EMPHYSEMA INFILTRATION OF ANY TISSUE BY AIR OR GAS; A CHRONIC PULMONARY DISEASE CAUSED BY DISTENTION OF ALVEOLI AND DESTRUCTIVE CHANGES IN THE LUNG.

EPIGLOTTITIS CAUSED BY HIB (HAEMOPHILUS INFLUENZA TYPE B) INFECTION USUALLY BEGINS WITH A FEVER AND SEVERE SORE THROAT

ENVIRONMENTAL HAZARDS: NATURAL OR MAN-MADE DANGERS (E.G., FUMES, FALLEN ELECTRICAL WIRES, BUILDING COLLAPSE, TRAFFIC, FLOODING, FIRE, RADIATION, CROWDS).

EPIGLOTTIS: A LEAF SHAPED TISSUE "VALVE" GUARDING THE OPENING OF THE TRACHEA

EPISTAXIS: NOSEBLEED.

ESOPHAGUS: THE GULLET TUBE EXTENDING FROM THE PHARYNX TO THE STOMACH.

ETIOLOGY: CAUSE OR ORIGIN.

EVISCERATION: WHERE AN INTERNAL ORGAN OF THE ABDOMEN IS PROTRUDING FROM THE BODY (EITHER REMAINING ATTACHED OR CUT OFF FROM THE BODY COMPLETELY) AS A RESULT OF A DEEP WOUND.

EXANGUINATE: TO BLEED TO DEATH

EXTENSION: THE UNBENDING OF A JOINT IN WHICH THE ANGLE BETWEEN THE BONES IS INCREASED.

FEMORAL ARTERY: LARGE BLOOD VESSEL WHICH ORIGINATES FROM THE EXTERNAL ILIAC ARTERY AND TERMINATES BEHIND THE KNEE AS THE POPLITEAL ARTERY.

FETUS: UNBORN OFFSPRING (USUALLY 3 MONTHS AFTER CONCEPTION TO BIRTH) CARRIED IN THE UTERUS

FIBULA SMALL NON WEIGHT BEARING BONE ALONG THE LATERAL SURFACE OF THE CALF.

FIBRILLATION GROSSLY IRREGULAR QUIVERING OF THE HEART.

FIRST DEGREE BURN BURN AFFECTING ONLY THE OUTER SKIN LAYERS; THE SKIN IS REDDENED AND NO BLISTERS ARE PRESENT.

FLAIL CHEST CONDITION WHICH OCCURS WHEN SEVERAL RIBS ARE BROKEN IN TWO OR MORE PLACES, SO THAT THE DISCONNECTED SECTION DOES NOT RISE AND FALL WITH THE REST OF THE CHEST AS A PERSON BREATHES

FLEXION THE ACT OF BENDING OR CONDITION OF BEING BENT, IN CONTRAST TO EXTENSION.

FOREIGN OBJECT: A PIECE OF MATTER NOT NATURALLY FOUND IN THE AREA (E.G., A KNIFE IN THE SKIN, BROKEN TEETH, OR HARD CANDY IN THE MOUTH)

GTT: DROP (MEASUREMENT IN REGULATING I.V. FLUIDS)

GLASGOW COMA SCALE A MEASUREMENT TOOL USED TO ACCURATELY RECORD THE PATIENT'S LEVEL OF CONSCIOUSNESS (NEUROLOGIC STATUS) AT REGULAR INTERVALS.

GUARDING: REACTION TO PAINFUL PROBING, ESPECIALLY IN A TENDER ABDOMINAL AREA; MAY BE THE REACTION OF FLINCHING OR PROTECTIVE STIFFENING OF THE APPROPRIATE MUSCLES.

HALLUCINOGENS DRUGS WHICH INDUCE OR CAUSE PERCEPTION WITHOUT EXTERNAL STIMULATION, WHICH MAY OCCUR IN EVERY FIELD OF SENSATION; MIND-ALTERING SUBSTANCES, SUCH AS LSD

HEAT CRAMPS: PAINFUL MUSCLE CRAMPS RESULTING FROM EXCESSIVE LOSS OF SALT AND WATER THROUGH SWEATING

HEAT EXHAUSTION PROSTRATION CAUSED BY EXCESSIVE LOSS OF WATER AND SALT THOUGH SWEATING, CHARACTERIZED BY COLD, CLAMMY SKIN AND A WEAK, RAPID PULSE.

HEAT STROKE LIFE-THREATENING CONDITION CAUSED BY A DISTURBANCE IN THE TEMPERATURE-REGULATING MECHANISM, CHARACTERIZED BY EXTREMELY ELEVATED BODY TEMPERATURE, HOT AND DRY SKIN, BOUNDING PULSE, AND DELIRIUM OR COMA.

HEMATOMA: AN ABNORMAL QUANTITY OF BLOOD WHICH COLLECTS TO FORM A MASS.

HEMIPLEGIA: PARALYSIS OF ONE-HALF (RIGHT OR LEFT) OF THE BODY

HEMOPTYSIS COUGHING BLOOD.

HEMOPHILIA HEREDITARY BLOOD DISEASE CHARACTERIZED BY GREATLY PROLONGED COAGULATION TIME, IN WHICH THE BLOOD FALLS TO CLOT AND ABNORMAL BLEEDING OCCURS.

HEMORRHAGE: BLEEDING (EITHER INTERNAL OR EXTERNAL).

HEMOTHORAX: BLOOD IN THE CHEST CAVITY.

HIGH-FOWLERS: SITTING POSITION WITH BACK SUPPORTED AT A 90 DEGREE ANGLE.

HYPEREXTENSION: EXTREME OR ABNORMAL EXTENSION

HYPERGLYCEMIA: ABNORMALLY INCREASED CONCENTRATION OF SUGAR IN THE BLOOD

HYPERTENSION: ABNORMALLY HIGH TENSION, ESPECIALLY HIGH BLOOD PRESSURE.

HYPERTHERMIA ABNORMALLY INCREASED BODY TEMPERATURE.

HYPERVENTILATION AN INCREASED RATE AND/OR DEPTH OF RESPIRATION

HYPOGLYCEMIA: ABNORMALLY DIMINISHED CONCENTRATION OF SUGAR IN THE BLOOD

HYPOVOLEMIA ABNORMALLY DECREASED AMOUNT OF BLOOD AND/OR TISSUE FLUIDS IN THE BODY

HYPOXEMIA: LOW OXYGEN IN BLOOD.

HYPOXIA: REDUCTION OF OXYGEN IN BODY TISSUES BELOW NORMAL LEVELS.

MEDICAL DIRECTOR APPROVAL_____

IM.: INTRAMUSCULAR.

I0 INTRAOSSEOUS.

IV INTRAVENOUS.

INDICATIONS REASONS FOR USING.

INFERIOR: AWAY FROM HEAD OR UPPER PART OF BODY

INITIAL PATIENT SURVEY THE ROUTINE OF TASKS AND DECISIONS THE EMT USES TO ANSWER THE QUESTIONS: WHAT IS WRONG WITH THE PATIENT? WHAT TREATMENT IS NECESSARY? WHAT SHOULD BE DONE FIRST?

INSPIRATION: THE ACT OF DRAWING AIR INTO THE LUNGS.

INSULIN SHOCK SEVERE HYPOGLYCEMIA CAUSED BY EXCESSIVE INSULIN DOSAGE WITH RESPECT TO SUGAR INTAKE, CHARACTERIZED BY BIZARRE BEHAVIOR, SWEATING, TACHYCARDIA, OR COMA.

JAUNDICE: A CONDITION CHARACTERIZED BY YELLOWING OF THE SKIN, SCLERA OF THE EYES, MUCOUS MEMBRANE, AND BODY FLUIDS, CAUSED BY AN EXCESS OF BILIRUBIN PIGMENT IN THE BODY.

JOULES: WATT-SECONDS (A MEASURE OF ENERGY FROM DEFIBRILLATION).

KG KILOGRAMS (L,000 GRAMS)

L.O.C LEVEL/LOSS OF CONSCIOUSNESS

L.P.M.: LITER(S) PER MINUTE

LACERATION: A SMOOTH OR JAGGED CUT THROUGH THE SKIN AND BLOOD VESSELS.

LARYNX ORGAN OF VOICE ("VOICE BOX" OR "ADAM'S APPLE").

LATERAL: FARTHER FROM THE MIDLINE OF BODY OR STRUCTURE

LEVEL OF CONSCIOUSNESS: PERSONS AWARENESS OF PERSON/PLACE AND TIME

LITER: METRIC UNIT OF VOLUME, EQUAL TO 1.056 U.S. QUARTS.

M.A.S.T. MILITARY ANTI SHOCK TROUSERS

MCG.(µ) MICROGRAM (ONE MILLIONTH OF A GRAM)

MG -MILLIGRAM. (ONE THOUSANDTH OF A GRAM)

M.I MYOCARDIAL INFARCTION

ML.: MILLILITER (ONE THOUSANDTH OF A LITER)(ALSO A CC)

M.S.D.S MATERIAL SAFETY DATA SHEET

MEDICAL DIRECTOR APPROVAL_____

MEDIAL NEARER THE MIDLINE OF THE BODY OR STRUCTURE

MEDICAL CONTROL AN ACCOUNTABILITY SYSTEM FOR PHYSICIAN SUPERVISION OF THOSE DELEGATED TO PERFORM PHYSICIAN TASKS

MICRODROP A MEASURE OF FLUID (SIXTY MICRODROPS PER CC)

MONOPLEGIA PARALYSIS OF A SINGLE LIMB OR GROUP OF MUSCLES

NECROSIS: DEATH OF TISSUE, USUALLY CAUSED BY A CESSATION OF BLOOD SUPPLY

NEONATE: AN INFANT LESS THAN TWENTY EIGHT DAYS OLD.

OCCLUDE COVER OR CLOSE WITHOUT LEAKAGE.

OCULAR PERTAINING TO THE EYE.

ORIENTATION AWARENESS OF TIME, PLACE, AND IDENTITY

OROPHARYNX RESPIRATORY TRACT FROM NEAR THE LIPS TO THE EPIGLOTTIS.

OXYGEN (02): AN ODORLESS, COLORLESS, AND TASTELESS GAS; COMPRISES ABOUT 21% OF THE ATMOSPHERE AND IS ESSENTIAL FOR LIFE.

P.R.N.: WHENEVER NEEDED

P.V.C.: PREMATURE VENTRICULAR CONTRACTIONS

PALPATE TO FEEL

PARALYSIS: LOSS OF FUNCTION, RESULTING FROM DAMAGE TO NERVOUS TISSUE OR MUSCLE.

PARAPLEGIC A VICTIM OF PARALYSIS OF THE LOWER PORTION OF THE BODY AND OF BOTH LEGS.

PEDIATRIC: A PATIENT OVER TWENTY EIGHT DAYS OLD AND LESS THAN FIFTEEN YEARS OLD.

PENETRATING INJURY AN INJURY PRODUCED BY AN OBJECT PASSING INTO A BODY CAVITY OR STRUCTURE.

PERIPHERAL NERVOUS SYSTEM NERVOUS SYSTEM COMPONENTS WHICH ARE NOT BRAIN OR SPINAL CORD

PLACENTA: VASCULAR ORGAN ATTACHED TO THE UTERINE WALL, SUPPLYING OXYGEN AND NUTRIENTS THROUGH THE UMBILICAL CORD TO THE FETUS; AFTERBIRTH.

PNEUMOTHORAX COLLECTION OF AIR IN THE PLEURAL CAVITY OUTSIDE THE LUNG

POSTERIOR BACK SIDE

PRE-ECLAMPSIA - HYPERTENSION, EDEMA AND PROTEINURIA DEVELOPING DURING PREGNANCY. OCCURS IN ABOUT 5% OF THE GENERAL (PREGNANT) POPULATION. USUALLY DEVELOPS AFTER 20TH WEEK OF PREGNANCY

PROLAPSED CORD AN UMBILICAL CORD WHICH COMES OUT OF THE VAGINA BEFORE THE BABY IS BORN.

PRONE: LYING FACE DOWN.

PROPHYLACTIC PREVENTING THE DEVELOPMENT OR SPREAD OF DISEASE; PREVENTS OR REDUCES HARMFUL EFFECTS.

PROTOCOL: WRITTEN DESCRIPTION OF STEPS TO BE TAKEN IN A TREATMENT SEQUENCE.

PROXIMAL NEARER TO THE CENTER OF THE BODY

PULMONARY EDEMA BODY FLUIDS COLLECTING IN THE AIR SACS OF THE LUNGS.

PULSE PRESSURE THE DIFFERENCE BETWEEN THE SYSTOLIC AND DIASTOLIC BLOOD PRESSURE.

QUADRIPLEGIC A VICTIM OF PARALYSIS AFFECTING ALL FOUR LIMBS.

RATE: THE NUMBER OF TIMES SOMETHING HAPPENS IN A GIVEN PERIOD OF TIME. FOR INSTANCE, NORMAL HEART RATE IS 60-80 BEATS PER MINUTE.

RATIO THE NUMERICAL RELATION OF ONE THING TO ANOTHER. FOR INSTANCE, THE RATIO OF MALES TO FEMALES IN A GIVEN POPULATION, WRITTEN AS 103:100.

RESPIRATORY DISTRESS BREATHING DIFFICULTIES.

RESUSCITATE: REVIVE FROM A DEATH-LIKE CONDITION.

RIGIDITY A HARD BOARD-LIKE FEELING.

S.L SUBLINGUAL (UNDER THE TONGUE)

S.Q.: SUBCUTANEOUS BENEATH THE SKIN).

SECOND DEGREE BURN: PARTIAL THICKNESS BURN PENETRATING BENEATH THE SUPERFICIAL SKIN LAYERS, PRODUCING EDEMA AND BLISTERING.

SEMI-FOWLERS SITTING POSITION WITH BACK SUPPORTED AT ABOUT 45 DEGREES IN ANGLE.

SHOCK: A STATE OF COLLAPSE OF THE CARDIOVASCULAR SYSTEM IN WHICH TISSUE PERFUSION IS LOST.

SOFT TISSUE INJURY INJURY TO OUTER TISSUE LAYER, NOT DEEP ENOUGH TO INCLUDE UNDERLYING ORGANS

SPHYGMOMANOMETER AN INSTRUMENT FOR MEASURING HUMAN BLOOD PRESSURE.

STATUS EPILEPTICUS TWO OR MORE SEIZURES WITHOUT AN INTERVAL OF COMPLETE CONSCIOUSNESS.

STIMULUS: EVENT WHICH PRODUCES A REACTION OR RESPONSE

STOMA A SURGICALLY-PREPARED OPENING, USUALLY IN THE TRACHEA OR BOWEL.

SUBCUTANEOUS EMPHYSEMA: A CONDITION TO THE LUNG OR AIRWAY RESULTS IN THE ESCAPE OF AIR INTO THE TISSUES OF THE BODY, ESPECIALLY THE CHEST WALL, NECK, AND FACE, CAUSING A CRACKLING SENSATION ON PALPATION OF THE SKIN.

SUBTLE LESS OBVIOUS; DIFFICULT TO FIND.

SUPERFICIAL: PERTAINING TO THE SURFACE (USUALLY USED IN REFERENCE TO SKIN).

SUPINE: LYING FACE UP.

SUPRAVENTRICULAR ABOVE THE VENTRICLE; USUALLY REFERS TO THE ATRIUM.

SYSTOLE THE CONTRACTION PHASE OF THE CARDIAC CYCLE. SYSTOLIC BLOOD PRESSURE IS WRITTEN AS THE TOP PART OF THE BLOOD PRESSURE.

T.K.O.: TO KEEP OPEN. (PERTAINING TO I.V. FLOW RATE)

TACHYCARDIA: A RAPID HEART RATE, OVER 100 BEATS/MINUTE IN AN ADULT

TENDON A FIBROUS CORD BY WHICH A MUSCLE IS ATTACHED TO A BONE

TENSION PNEUMOTHORAX SITUATION IN WHICH AIR ENTERS THE PLEURAL SPACE THROUGH A ONE-WAY VALVE DEFECT IN THE LUNG, CAUSING PROGRESSIVE INCREASE IN INTRAPLEURAL PRESSURE WITH LUNG COLLAPSE AND IMPAIRMENT OF CIRCULATION

THIRD DEGREE BURN FULL THICKNESS BURN, INVOLVING ALL LAYERS OF THE SKIN AND UNDERLYING TISSUES, HAVING A CHARRED OR WHITE, LEATHERY APPEARANCE.

TRANSCUTANEOUS PACING: THE APPLICATION OF EXTERNALLY APPLIED ELECTRODES TO DELIVER AN ADJUSTABLE ELECTRICAL IMPULSE DIRECTLY ACROSS AN INTACT CHEST WALL FOR THE PURPOSE OF RHYTHMICALLY STIMULATING THE MYOCARDIUM TO INCREASE THE MECHANICAL HEART RATE.

THROMBOSIS OCCLUSION OR CLOTTING IN A BLOOD VESSEL OR IN ONE OF THE CAVITIES OF THE HEART, FORMED BY DEPOSITION OF DEBRIS AND/OR COAGULATION OF THE BLOOD.

TIBIA: INNER AND LARGER BONE OF THE LEG BETWEEN THE KNEE AND ANKLE

TITRATE: ADMINISTRATION OF A MEDICATION TO PRODUCE A DESIRED EFFECT.

TRENDELENBURG SUPINE POSITION WITH HEAD LOWER THAN FEET.

TRIAGE SORTING OF CASUALTIES TO DETERMINE THE PRIORITY OF NEED AND PROPER PLACE OF TREATMENT.

UMBILICAL CORD: CORD CONNECTING THE PLACENTA TO THE FETUS WITHIN THE MOTHER'S UTERUS.

UNIVERSAL PRECAUTIONS - BODY SUBSTANCE ISOLATION (BSI)
EACH AND EVERY PROTOCOL HAS, AS ITS FIRST DIRECTIVE THE UNWRITTEN FOLLOWING WORDS:

MAINTAIN UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS. UNIVERSAL PRECAUTIONS ARE WITHIN THE REALM OF THE HOSPITAL ENVIRONMENT. WITHIN THE PRE-HOSPITAL ENVIRONMENT, MOST OF PRE-HOSPITAL EDUCATIONAL DOCTRINE SUGGESTS THAT INDIVIDUALS SHOULD USE "BODY SUBSTANCE ISOLATION" PRECAUTIONS AS A SET OF MUCH MORE STRINGENT PROTECTIVE MEASURES THAN THOSE FOUND IN UNIVERSAL PRECAUTIONS.

THESE INCLUDE: GLOVES, GOWNS, PROTECTIVE EYEWEAR, PROTECTIVE TURNOUT OR EXTRICATION GEAR INCLUDING HELMET, HAZARDOUS MATERIAL SUIT AND MASK WHERE NECESSARY. PERSONNEL SHOULD USE GOOD JUDGMENT IN SELECTING THE APPROPRIATE EQUIPMENT

VASCULAR: PERTAINING TO OR COMPOSED OF BLOOD VESSELS

VAGAL MANEUVERS ARE NON-PHARMACOLOGIC INTERVENTIONS INVOLVING THE APPLICATION OF A STIMULUS TO THE VAGUS NERVE TO INCREASE

PARASYMPATHETIC TONE AND SLOW CONDUCTION THROUGH THE AV NODE. THEY ARE MOST COMMONLY USED AS A FIRST LINE TREATMENT FOR SUPRAVENTRICULAR TACHYCARDIA IN A SYMPTOMATIC PATIENT WITH ADEQUATE PERFUSION.

VISCERAL: PERTAINING TO THE COVERING OF AN ORGAN; PERTAINING TO THE INTRABDOMINAL ORGANS.

W.O.: WIDE OPEN (PERTAINING TO I.V. FLOW RATE)

WATT-SECONDS A MEASURE OF ENERGY USED IN DEFIBRILLATION

Handbook Acknowledgment

Attachment I

This Medical Protocol Handbook describes important information about Montgomery County Emergency Medical Service, and I understand that I should consult with Montgomery County Emergency Medical Service management regarding any questions not answered in the Handbook. However, it is not all-inclusive of the policies or procedures of Montgomery County Emergency Medical Service.

The information, Policies and procedures described in this Handbook are subject to change. Whenever possible, all such changes will be communicated through official notices, and I understand that revised information may supersede, modify or eliminate existing policies or procedures at any time and without any prior notice.

I have received the Medical Protocol Handbook and I understand that it is my responsibility to read and comply with the policies and/or procedures contained in this Handbook and any revisions made to it.

_____ _____

EMPLOYEE SIGNATURE DATE

_____

EMPLOYEE NAME PRINTED

_____ _____

WITNESS/SUPERVISOR SIGNATURE DATE

MEDICAL DIRECTOR APPROVAL_____