Regions Hospital SM

Emergency Medical Services

TRI-COUNTY EMS EMT GUIDELINES

For Wisconsin Ambulance Services

2009 Edition

REGIONS HOSPITAL EMERGENCY MEDICAL SERVICES

INTRODUCTION:
The Emergency Medical Services (EMS) Program at Regions Hospital has developed these policies and guidelines. All statements contained in this manual are informative only and represent that which is believed to be the highest standard of care relating to any particular set of circumstances.

It is the intention of the Regions Hospital EMS medical director(s) that this manual be used as consultative material in striving for optimal patient care. It is recognized that any specific procedure or service is always subject to modification depending upon the circumstances of a particular case. Further, the medical control physician may deviate from these guidelines based on medical judgment.

This edition replaces all previous editions and becomes effective on April 1, 2009.

REGIONS HOSPITAL EMERGENCY MEDICAL SERVICES:
Regions Hospital Emergency Medical Services is a program of Regions Hospital. Our services encompass the full spectrum of out-of-hospital emergency care oversight including:

- Medical direction and consultation
- Quality management
- Education
- Research
- Legislative advocacy

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These guidelines and policies have been approved by:

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Kory Kaye, MD, FACEP, Co-Medical Director — April 1, 2009 Date

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POLICY/PROCEDURE: **EMS On-Call Clinical Supervisor**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-100
DATE: January 1, 2009	Supersedes: No. 05-100

Purpose:
Tri-County EMS recognizes that providing EMS is a 24-hour/day, 7 day/week operation. An EMS On-Call Clinical Supervisor (OCCS) is available to respond to the medical direction needs of customers at all hours. The OCCS should also be contacted so that Medical Direction is kept informed of unusual circumstances or events that occur in services under their medical oversight.

Policy:
Contact/Notify the OCCS of the Following Events:
1. Mass casualty incident/disaster (natural or manmade)
2. Any question of an emergent nature that requires immediate advice from Medical Direction
3. Any event that has high media profile

Procedure:
1. Contact MRCC at (651) 254-2990 and ask them to contact the OCCS.
2. Provide MRCC with your name, service, and a callback number.
3. The OCCS will contact the service for further details.

POLICY/PROCEDURE: **Required Ambulance Equipment**	Page 1 of 2
ISSUED BY: Medical Director	No. 09-102
DATE: January 1, 2009	Supersedes: No. 05-102

Policy:
The following equipment must be carried on all ALS and BLS ambulances. These meet, or in addition to, the requirements mandated by Wisconsin Trans 309.

1. All ALS and BLS ambulances are required to carry the following:
   A. Adult airway and ventilation equipment:
      1. Portable oxygen with 40 1Lpm flow restrictor on the PPV device
      2. Oral and nasal airways (assorted sized)
      3. BVM resuscitator with assorted masks
      4. Non-rebreather masks
      5. Combitube™ or #4 King LTS-D, lubricant, tube restraint
      6. Pocket mask with one-way valve
   B. Pediatric airway and ventilation equipment:
      1. Pediatric BVM resuscitator with neonate, infant, and pediatric masks/Peep of 5 cm of H_2O
      2. Oral and nasal airways of various sizes
   C. Suction equipment:
      1. Catheters of various sizes
      2. Yankauer tip
      3. Bulb syringe
   D. Splinting equipment:
      1. Adult and Pediatric Traction splints (Hare or Sager)
      2. Cervical collars
   E. Camera
   F. Pulse oximeter

2. Additional equipment for BLS ambulances:
   A. Transport units, must carry semiautomatic defibrillators.
   B. Services with training on IVs and medications must carry appropriate equipment for the starting and maintaining of IVs and for the administration of medications.
   C. Stethoscope (Littman™ Classic II) or similar quality
   D. Optional BLS equipment:
      1. Burn gel packs
      2. Glucometers (required for BLS services with medication training for Glucagon*)
      3. 12-lead ECG monitor

3. Additional equipment for EMT ambulances:
   A. Adult airway and ventilation equipment:
      1. Nebulizer units
      2. Laryngoscope handles
      3. Laryngoscope blades (2 straight, 2 curved)
      4. Magill forceps
      5. EZ-IO needles

B. Pediatric resuscitation equipment:
    1. Laryngoscope handles
    2. Laryngoscope blades (2 straight)
C. Stethoscope (Littman™ Cardiology) or similar quality
D. Monitor/defibrillator (with 12-lead capabilities)
E. Glucometer
F. Pericardiocentesis kit
G. Optional
    1. Burn gel packs
    2. Antishock garment, adult and pediatric (Jobst™ or David Clark™)
    3. Pediatric EZ-IO needles

Special Notes:
1. Contact your service liaison for equipment recommendations for specific requirements.

Required Pediatric Equipment for Basic Services
2 Infant Cervical Collars
2 Pediatric Cervical Collars
Child BP cuff (for children 5 years and older)
Pediatric Laryngoscope Kit
Pediatric size Magill Forceps
Oropharyngeal Airways 1 each sizes 0-6
Nasopharyngeal Airways size 12 Fr - 34 Fr
Infant Bag-Valve-Mask Unit with Oxygen Reservoir
Pediatric Bag-Valve-Mask Unit with Oxygen Reservoir
2 Infant Non-Rebreather Oxygen Masks
2 Pediatric Non-Rebreather Oxygen Masks
2 Epi-Pen Juniors
Bulb Syringe
Child Size Spine Board
Pediatric Traction Splint or documented method for stabilizing a pediatric femur fracture
------ (signed by the ambulance providers' medical director)

Required Pediatric Equipment for Intermediate Services
All the above plus:
Assortment of Pediatric Size IV Catheters (24 to 20 gauge)

Required Pediatric Equipment for Paramedic Services
All the above plus:
Endotracheal Equipment for Infant and Child Pediatric Stethoscope
Endotracheal Tubes and Stylettes for Infant and Child Pediatric Paddles or (2) sets of pads
2 Intraosseous Needles, 15 gauge Length/Weight Resuscitation Charts/Tape

Tri-County EMS	
POLICY/PROCEDURE: **BLS Continuing Medical Education Policy**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-108
DATE: January 1, 2009	Supersedes: No.

Purpose:
To establish guidelines for EMT- Basic Refresher completion for EMT-B under the medical direction of Regions EMS.

Policy:

BLS providers practicing under a Regions EMS medical direction or education agreement are offered a 24-hour refresher delivered in a quarterly format over a two-year recertification period. This unique offering has been approved by the EMSRB, and thus, requires the EMT to attend the entire 24-hours of CME offered by Regions EMS.

Regions EMS offers 3 hours of CME every quarter over the course of two years. This training will fulfill the EMT Basic refresher requirements for the state of Minnesota. Therefore, providers are required to attend a 3 hour CME session offered each quarter. At the end of the two recertification cycle, Regions EMS will complete and sign off on application paperwork necessary for EMT-Basic recertification for the state of Minnesota. Regions EMS will also submit this paperwork to the EMSRB on behalf of the service.

Regions EMS Education Division will provide a report on quarterly CME attendance each quarter as well as a summary at the end of each two year recertification cycle. Regions EMS will not authorize the application for an EMT-Basic that has not attended the required CME each quarter.

For those providers that have not completed the required CME each quarter, he/she may need to attend a standard 24-hour refresher course. Regions EMS will offer a standard 24-hour refresher course at cost. It is the responsibility of the service to institute a policy addressing who is responsible for covering the cost of this refresher (the individual vs. the EMS agency).

Tri-County EMS	
POLICY/PROCEDURE: **Interfacility Transports**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-111
DATE: January 1, 2009	Supersedes: No. 05-110

Purpose:
To assure that services providing interfacility transport are capable of providing a safe transfer of the patient from one facility to another.

Policy:

1. Prehospital providers that participate in interfacility transfers must have written guidelines and appropriate training for the particular type of patient they will encounter. The provider should not take a transfer if he/she does not feel comfortable completing, due to level of training or lack of knowledge regarding equipment. Any medications or treatments used in the transfer agreement must have the approval of the Medical Director.
2. Prehospital providers shall have a written policy for their service regarding where they will transfer a patient to within the hospital (i.e. to the ED only or to the ED and ICU only).
3. Services shall have written policy for which hospitals they will transport patients based on the needs of the patient vs. the needs of the department (i.e. the dual role Public Safety departments).
4. All agency interfacility guidelines need to be approved by the Medical Director prior to implementation.

Tri-County EMS	
POLICY/PROCEDURE: **Non-Transportation**	Page 1 of 4
ISSUED BY: Medical Director	No. 09-112
DATE: January 1, 2009	Supersedes: No. 05-111

Purpose:
To assure that providers fulfill their obligation to provide appropriate care up to the point at which treatment/transportation is refused

Policy:
1. Each patient (any person requesting medical assistance) shall be given a physical assessment consisting of a primary survey, vital signs (B/P, pulse, respirations) and exam of the affected body part. Any refusal by the patient to submit to assessment should be documented on the patient care form.
2. The run report of each patient refusal must include the following:
   A. Results of physical assessment
   B. Visual observations, such as "The patient is up walking around with no apparent injury."
   C. Mental status assessment. Patient should be:
      1. Alert: awake with eyes open
      2. Oriented X 3: the patient knows who they are, where they are, and the day/date
      3. Coherent: speaking in complete sentences with logical thought processes
      4. Articulate: speech is distinct and understandable
      5. Able to understand the EMS provider, which may involve the use of a telephone interpreter.
      6. Absence of any one of the above may indicate insufficient ability to make good decisions (incompetence). Incompetent patients cannot legally refuse medical care.
   D. Reason for the patient's refusal, such as "The patient states he has no pain." or "The patient is refusing treatment on religious grounds."
   E. Attempts to get others involved, such as "Family members were unable to convince the patient to be transported."
   F. Consequences explained, such as "The patient was informed that he may suffer serious physical harm, injury, or death if he is not transported."
   G. Alternatives explained, such as "The patient was instructed to seek alternative transportation or call personal physician for advice." Develop and document a treatment plan for the patient (e.g. "relative will transport", etc.). Inform patient of their right to call 9-1-1 if condition changes.
   H. Concluding statement to each incident of patient refusal shall be the following: "Patient was strongly advised to seek medical attention as soon as possible."
   I. Signature of the patient (or legal guardian if a minor) on the run form. If patient refuses to sign, write "refused" in signature area and have witness to refusal sign as well. A valid witness shall be any family member or bystander of legal age, a police officer, or minimally, a crewmember.
3. ***Every*** non-transport must be cleared through medical control by the highest EMS medical authority at the scene ***before leaving the patient's side***. Document physician name or medical control operator number on the run form. All children < 2 years of age, third trimester OB patients involved with trauma, and those patients whose hypoglycemia is due to oral hypoglycemics must have clearance by a medical control physician for non-transport.

4. Patients not transported for the following conditions have additional requirements: possible head injury, seizure, wounds or lacerations, hypoglycemia, motor vehicle accidents, syncope, choking or foreign object ingestion, and sprains or contusions.
   A. If, after consultation with medical control, the decision is made to not transport a patient with any of the above conditions, the appropriate non-transportation information sheet must be left with and explained to the patient (or parent or caregiver).
   B. The decision to not transport a patient with these conditions should be made independent of the fact that these information sheets are available. In other words, the existence of these instructions should not encourage more non-transports.
   C. Use great caution in leaving these instructions with non-English speaking patients, those who cannot read English, or minors.
   D. Document on the run report which non-transport instruction sheet was left with patient.
5. Medical control may clear a patient for non-transport following a hypoglycemic episode if the patient:
   A. Is now conscious, alert, and oriented, and
   B. Is able to manage their diabetes, and
   C. Has a blood sugar of at least 80 mg/dL, and
   D. Is left with written non-transport instructions for hypoglycemia, and
   E. Is not currently taking oral hypoglycemic agents, and
   F. Is at least 2 years of age (minors must be in the care of an adult)

SPECIAL NOTES:

1. Documentation of non-transports should be as complete as transported runs because of the increased liability that is assumed when patients are left at the scene.
2. Documentation shall include all applicable portions of the run form. From a legal standpoint, the run report will be the evidence that appropriate actions were taken. Patient care and assessment that is not documented can be easily challenged as to whether it actually occurred.
3. Alcohol or chemical intoxication does not justify inaction and may render a patient incompetent. If, after appropriate assessment and consultation with medical control, treatment and transport are deemed unnecessary, transportation to a detoxification facility may be arranged.
4. In the event that the parent or legal guardian of an uninjured or non-ill minor cannot be reached, the child may be left in the care of a responsible adult (> 18y.o.), after consulting with a medical control physician. Consult with medical control regarding non-transport of emancipated minors.
   A. An emancipated minor is anyone under the age of 18 years who: (1) has been married; (2) is on active duty in the uniformed services of the United States; (3) has been emancipated by a court of competent jurisdiction; or (4) is otherwise considered emancipated under Minnesota State law.
5. An EMS run sheet should be written and medical control clearance obtained for each person requesting medical assistance at the scene. Signature sheets are acceptable forms of documentation for individuals at the scene who do not wish to have medical assistance.

POLICY FOR OBVIOUSLY DEAD PATIENTS:

Utilizing the following criteria, ambulance personnel may forego resuscitation on patients who are obviously dead at the scene.

1. Obtain and document history including:
   A. How long down or when last seen alive?
   B. Expected or unexpected death?
   C. Any resuscitative efforts prior to EMS arrival?
   D. Medical history

2. Perform physical exam and document assessment of:
   A. Absent pulses; the carotid and one other (radial, brachial, or femoral) pulse must be checked.
   B. Absent respirations

C. Fixed and dilated pupils
D. Rigor mortis
E. Body temperature
F. Lower extremity discoloration (pooling)
G. Asystole ECG (ALS only)
H. Injuries incompatible with life

3. Medical control clearance
   A. Medical control clearance is not required for patients who meet the criteria above.
   B. Contact medical control with any questions/concerns; especially if possibility of hypothermia exists.
   C. Once resuscitation* (CPR) has begun, it may be terminated only AFTER physician declaration (in person or via radio communication) unless there is a valid DNR order present.

To the extent possible, try to avoid disturbance of possible crime scenes and leave bodies at the scene in position found whenever possible and practical.

SPECIAL NOTES:

1. If there is any doubt about patient viability, initiate resuscitation measures immediately.
2. Patients found in cold environments may still be viable despite cold body temperature.
3. *"Resuscitation" for the purposes of this guideline is defined as cardiopulmonary resuscitation (CPR) or any component of CPR, including cardiac compression, artificial ventilation (including mouth to mouth), defibrillation, administration of cardiac resuscitation medications and related procedures. "Resuscitation" does not include the Heimlich maneuver or similar procedure used to expel an obstruction from the throat, or the use of a cardiac monitor to perform a "quick look". It applies to any provider of "resuscitation", regardless of level of training, including, but not limited to, the lay public, first responders, EMS or other medical personnel. It does not obligate EMS personnel to attempt aggressive resuscitation in cases where the attempts will likely be futile, but rather to continue with basic life support (BLS) resuscitation until physician contact can be made.
4. The medical examiner or funeral home transports persons pronounced dead at the scene.
5. Patients not pronounced at the scene due to continued resuscitative efforts, family situations, or rescuer safety issues are transported to the designated hospital.
6. Patients who die enroute to a hospital in Ramsey or Washington County - Medical Examiner must be called and bodies transported to the Ramsey County Morgue.

Tri-County EMS	
POLICY/PROCEDURE: **Emergency Transport Hold**	Page 1 of 2
ISSUED BY: Medical Director	No. 09-113
DATE: January 1, 2009	Supersedes: No. 05-112

PURPOSE:
Wisconsin Statute 51.15 (Rights of Detention), 55.05 (Voluntary Protective Services), and 55.06 (Protective Services and Protective Placement; eligibility) allow for the involuntary detention of a patient by a law enforcement officer, for the transport of that patient to a medical facility, to protect that patient or others from imminent harm. A competent person of legal age has the right to both refuse and consent to medical assessment, treatment, and transportation. However, if there is reason to believe that the patient is mentally ill*, developmentally disabled (suffering from the infirmities of aging or other like incapacities, and is so, totally incapable of providing for his or her own care or custody, as to create a substantial risk of serious harm to oneself or others), chemically dependent or intoxicated, then a law enforcement officer may take the patient into custody and transport him/her (or order him/her to be transported) to a medical facility for treatment.

POLICY:
1. Every time a patient is transported against his/her will for the above-mentioned reasons, a Statement of Emergency Detention (example in Forms section) must be completed.
2. If, after assessment, the patient is refusing treatment and transport and, in the judgment of the EMS provider, the patient requires further medical attention, but is incompetent and therefore incapable of giving informed consent or making an informed refusal, a Statement of Emergency Detention should be obtained from and completed by law enforcement personnel. The patient may then be transported against his/her will to an appropriate medical facility for further evaluation and treatment.
3. Whenever possible, attempts should be made to get an on-scene peace officer to sign the transport hold. If an officer refuses, or is not present to sign it, verbal authorization from an on-line physician may be obtained through medical control. The MRCC operator will then have the authorizing physician sign the transport hold form in MRCC.
   A. If the patient is transported to Regions Hospital, the crew can pick up the form from MRCC when they arrive.
   B. If the patient is transported to a facility other than Regions Hospital, the MRCC operator is responsible for obtaining the physician signature and then faxing a copy of the form to the receiving facility, where the crew may pick up the form upon arrival.
4. One copy of the form must be left with the patient run report form at the receiving hospital, one copy must remain attached to the original run report form, and one copy must be provided to the patient.
5. The law enforcement officer must accompany the patient in the ambulance or follow the ambulance in a police vehicle.
6. Restraints are recommended for all patients on transport holds.

SPECIAL NOTES:
1. **Mentally ill* includes those patients under the influence of their disease (e.g. stroke, diabetes, Alzheimer's), and those under the influence of their injury (e.g. head injury).
2. **For the purposes of this statute, a *health officer* is a licensed physician, psychologist, psychiatric social worker, or psychiatric or public health nurse. EMTs and paramedics are not considered health officers. A

peace officer is a sheriff, municipal or other local police officer, or a state patrol officer when engaged in the authorized duties of office.

3. An emergency transport hold authorizes the transport of an incompetent patient to a medical facility for further evaluation only. It *does not* automatically commit the patient to a 72-hour hold.
4. A transport hold is not necessary if the patient is under arrest and a peace officer is either accompanying the patient in the ambulance or following in a squad car.
5. Patients who are transported on a hold should be transported to a hospital where they have received care or within their own medical group/insurance company when ever possible.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Regions Hospital Trauma Team Alert Criteria**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-115
DATE: January 1, 2009	Supersedes: No. 05-114

PURPOSE:
The earlier a receiving Level I Trauma Center is notified of an incoming critical patient, the better they are able to mobilize and prepare appropriate resources for the patient. Time to definitive care is a critical factor in the morbidity and mortality of trauma patients, and early notification results in improved patient care.

POLICY:
1. ALS units can call a Trauma Team Activation (TTA) from the field when one or more of the signs and symptoms listed below are present or when the paramedic feels the patient is unstable due to a traumatic injury. BLS units should CONTACT MEDICAL CONTROL PHYSICIAN IMMEDIATELY for a TTA evaluation if one or more of the following signs and symptoms are present:
   A. Glasgow coma score < 14
   B. Hemodynamically unstable (Systolic blood pressure < 90 mmHg)
   C. Airway compromise
   D. Penetrating trauma to the head, neck, torso, or proximal extremities (above elbow or knee)
   E. Two or more proximal (above elbow or knee) long bone fractures
   F. Pelvic instability
   G. Limb paralysis
   H. Amputation above the wrist or ankle
   I. Trauma with major burns
   J. Flail chest
   K. Profound hypothermia
   L. Traumatic cardiac arrest

SPECIAL NOTES:
1. Paramedics can initiate "Trauma Team Activations (TTAs)". Because there are many variables in the prehospital setting, paramedics should contact Medical Control Physician if they have any questions about activating a TTA. MRCC Operators should defer all questions concerning the activation of a TTA to the Medical Control Physician. MRCC Operators are not allowed to activate or deactivate a TTA.
2. There may be times when patients have significant mechanisms of injury but appear to be stable. The judgment of the paramedic is critical in determining the appropriate transport destination. If the provider feels that a patient is a candidate for evaluation at the trauma center, the EMS provider should bring the patient to the trauma center. MRCC Operators are able to enforce the transportation of trauma patients who have significant mechanism of injury to a Level One Trauma Center.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Run Report Documentation Standards**	Page 1 of 3
ISSUED BY: Medical Director	No. 09-116
DATE: January 1, 2009	Supersedes: No. 05-115

PURPOSE:
To establish minimum documentation requirements so that each run report accurately reflects a patient's assessment, history, and the emergency medical care given to that patient.

POLICY:
Every run report will contain the following information:

1. **General Information**: Name of the provider, responding unit, call number, crew members' last names, call date, reason for call, location, destination, first responding units, monitoring MD/medical control operator, receiving RN/MD signature, patient (or parent/guardian) signature if treatment or transportation is refused.
2. **Patient Information**: Patient name, address, age, birth date, sex, and personal physician
3. **Times**: Initial call, enroute, at scene, leave scene, and at destination.
4. **Chief Complaint**: Ideally in the patient's own words, what is their primary complaint? If the patient has none, write "none". If patient cannot give one, describe what the major problem appears to be, such as "unresponsive" or "cardiac arrest."
5. **History of Present Illness**: What events led up to the request for assistance? When did symptoms begin? What was the patient doing when they began? Has anything the patient taken or done changed the complaint? If pain, describe severity, location, type, and radiation. Have there been any previous episodes? Has there been any loss of consciousness? If pregnant, include pregnancy number and due date. Use direct quotes when documenting drug or alcohol use.

   (or)

   History of Present Injury: What events led up to the request for assistance? What is the mechanism of injury? When did it occur? Include information on speed, accident type, vehicle damage, ejection, entrapment or loss of consciousness. Was safety equipment such as seatbelts, helmets, air bags, or car seats used? Attach instamatic photo if available.
6. **Past Medical History**: List pertinent history, especially heart and lung disease, diabetes, stroke, seizures, recent surgeries, psychological problems, communicable diseases, and DNR/DNI status.
7. **Allergies**: List allergies; especially drug, and food or insect if pertinent to call.
8. **Medications**: Document all current medications and when last taken, if pertinent. Bring medications to hospital if possible. Specifically ensure all medications pertinent to the chief complaint are listed on the run report.
9. **Physical Exam**: How was the patient found (positioning/obvious distress)? What was initial level of consciousness (AVPU)? Was patient oriented to person, place, and time? Document assessment of airway, breathing (dyspnea, lung sounds, JVD, 0_2 sats), and circulation (pulses, skin color/temp, bleeding, capillary refill). Document findings of head-to-toe exam, including wounds, deformity, tenderness, edema, pupils, incontinence, and CMS findings before and after treatment. Include pertinent negatives. Include Glasgow Coma Scale (GCS). If chart is not on form, then document: GCS=12 (E-3, V-4, M-5). If newborn, include one and five-minute APGARs.
10. **Treatment**: Document all treatment administered, including treatment delivered by first responders. The following treatments/assessments have specific documentation requirements:

A. Oxygen: liter flow and route. Example: "NRB mask at 15 lpm".
B. I.V.: time, fluid type and size, needle gauge, location, drip rate, amount infused. Example: "16:04 - IV 500 cc NS, 18 g. to ® antecubital, 250 cc fluid challenge, then TKO".
C. ECG -3 and 12 lead (ALS): rhythm interpretation, rate, ectopy, and injury patterns. Example: "ECG - sinus tach at 120/min w/ 1-2 unifocal PVCs/min. with inferior injury". Attach ECG sample to run report and leave with patient in ED.
ECG -3 and 12 lead (BLS): attach strip only, do not interpret rhythms.
D. Medications: time, name, dosage, route, initials of person who administered, and SO (standing order) or VO (verbal order). Example: "15:48 – Amiodarone 150 mg IV (SO)". Controlled substances must have a physician name documented.
E. Advanced airway: type, size, and evaluation. Example: "Intubated with Combitube, ventilated through #1 port, good bilateral chest rise/lung sounds, absent stomach sounds, passed NG tube through port #2 with release of stomach air". Confirm and document airway placement before entering ED.
F. Defibrillation: time and joules. Example: "18:10 - Defib at 200 J."
G. For signs/symptoms suggestive of stroke, document the Cincinnati Prehospital Stroke Scale and document the findings and time of onset on the run sheet.

11. **Response/Transport**: How did the patient respond to any treatment given? Were there any changes in the patient's condition enroute? How was the patient transported to the hospital (routinely or RLS, and whether stretcher was used)?
12. **Vital signs**: One complete set of vital signs every 15 minutes on each patient, including time, BP, pulse, respirations, and O_2 sats. More are required if patient is unstable (q. 5 min.), or receives medication or treatment that indicates the need to reassess more frequently. Most patients should have two complete sets of vital signs obtained before arrival to the hospital unless patient contact is < 10 min. If unable to obtain, document why.
13. **Rationale for allowing the patient to be transported BLS, if first evaluated by ALS.**
14. **Impression**: What is the provider's impression of what is wrong with the patient?
15. **Signatures**: Each run report must be signed by the person who wrote it. An EMT or paramedic may write BLS run reports. A paramedic must write ALS run reports. If the patient is transported, the receiving RN or MD must sign the form. If the patient refuses treatment or transport, they must sign a refusal statement. Document any instructions given to the patient. If patient is a minor, a parent or guardian must sign the form. If the patient refuses treatment/transport and also refuses to sign, then write "refused" in the box and have someone who witnessed the refusal co-sign the form.

SPECIAL NOTES:

1. All information obtained during the course of patient care delivery is confidential.
2. Services may use any run report that meets their needs as long as it is approved by DHFS Emergency Medical Services in Madison, and allows for the recording of the above information.
3. A run report must be filled out each time an EMS provider has any contact with an individual requesting medical assistance. The only exception to this is a mass casualty incident.
4. Complete one run report for each patient; e.g. mothers and newborns must each have separate run reports.
5. In severe trauma, where scene times are delayed longer than 10 minutes, document reasons for extended scene times, i.e. extrication or unsecured scene.
6. All reports should be written in black or blue ink.
7. Correct errors by drawing one line through the incorrect item and initialing by it. Example: "Administered 4 mg ~~morphine~~[TG] Narcan IV push."
8. Certain runs require additional documentation: code summaries are required on all ALS arrests. Copies of the code summary must be left at the hospital, and also filed with the service (either paper or electronic).
9. A medical control operator number or physician name is required on all runs where the patient is referred for private transport or is not transported. Physician consultation must be documented on all pediatric (< age 2) non-transports.

10. If possible, all documentation should be completed prior to leaving the facility. If you need to leave, and have additional information important to patient care, this must be communicated to the ER staff before leaving. The crew should quickly write on the form something like, "Form not completed due to another call. Verbal report given to _____." When the form is later completed, a copy should be signed, dated, and mailed, faxed, or delivered to the receiving hospital's medical records department as soon as possible.
11. Addendums or corrections to the run report already left at the hospital are accomplished in similar fashion. Complete a second report with identifying information, additions or corrections, and date and time amended. Send a copy of the second report to medical records and attach the second run report to the original.
12. Any suspicious situation regarding child neglect/abuse must be reported, according to Wisconsin State Law, to a licensed peace officer or child protection officer.
13. Utilize Wisconsin DHFS EMS approved Advanced Procedures form for advanced procedures and additional narrative information.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Physician at Scene**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-117
DATE: January 1, 2009	Supersedes: No. 05-116

PURPOSE:
To assure adequate prehospital patient care, and maintenance of professional courtesy among physicians and prehospital personnel when a physician is present at the scene of an emergency.

POLICY:
Medical control should be notified as early as possible in the communication that there is a physician at the scene.

1. Ambulance Personnel Responsibilities:
   A. Identify self to the physician.
   B. Inquire if physician is licensed to practice medicine in Wisconsin and area of specialty.
      1. Obtain physician's state identification number and document it on run sheet.
   C. Inquire if physician wishes to be responsible for patient. If so, explain that physician at scene must:
      1. Instruct/supervise prehospital personnel at scene.
      2. Accompany patient in ambulance to hospital.
   D. Document the identification of any on-scene physician that participates in patient care.
2. Physician at Scene Responsibilities:
   A. If physician declines responsibility, prehospital personnel should follow established guidelines.
   B. If physician accepts responsibility:
      1. Medical control is notified of physician at scene.
      2. No monitoring medical control physician is necessary.
      3. Telemetry or radio communications are maintained.
      4. Physician at scene accompanies patient to hospital.
   C. If physician wishes to assist only:
      1. Communicates with medical control physician, however, physician at scene has no medical control.
      2. Physician at scene is not required to accompany patient to hospital.

SPECIAL NOTES:
1. If a physician makes requests of EMS personnel in a clinical (e.g. hospital, clinic or nursing home) setting that are contrary to these guidelines or appear, in the EMS personnel's judgment, to be contrary to the patient's best interests, EMS personnel should request that the physician carry out those orders or consult with a medical control physician. Once the on-scene physician is no longer physically present, EMS personnel should follow established care guidelines.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Exposure Control and Reporting**	Page 1 of 2
ISSUED BY: Medical Director	No. 09-118
DATE: January 1, 2005	Supersedes: No. 05-117

PURPOSE:
All prehospital care providers are at risk for exposure to communicable/infectious blood borne and airborne diseases such as HIV, hepatitis, meningitis, tuberculosis, etc. The following policy is an attempt to define those risks.

DEFINITIONS:
1. The following types of exposure can increase the risk of contracting a communicable/infectious disease:
   A. Blood borne exposure: human blood or any body fluid visibly contaminated with blood
   B. Other body fluid exposure:
      1. Human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva, emesis, stool, urine, draining wounds or lesions
      2. Other suspicious circumstances and/or generally unclean surroundings
   C. Airborne exposure: Direct indoor contact with a patient with known or suspected active tuberculosis or any other pathogen transmitted by airborne routes. Inside a vehicle is considered indoors.
2. A significant exposure is defined as:
   A. Blood borne:
      1. Contact of broken skin or mucous membrane of EMS personnel with a patient's blood, amniotic fluid, pericardial fluid, peritoneal fluid, pleural fluid, synovial fluid, cerebrospinal fluid, semen, vaginal secretions, or other body fluids grossly contaminated with blood.
      2. A needle stick, scalpel or instrument wound, or other wound infected by an object that is contaminated with blood, and that is capable of cutting or puncturing the skin of EMS personnel.
   B. Airborne: Direct indoor contact with a patient with known or suspected active TB.
   C. Other: An exposure that occurs by any other method of transmission recognized by contemporary epidemiological standards as a significant exposure.

POLICY:
1. Each service is responsible for compiling an exposure control plan and updating it annually.
2. Each service is responsible for providing annual continuing education of exposure control plan for all employees at risk.
3. Immunizations and screenings should be updated as recommended.
4. If a bystander at the scene reports a possible exposure, they should be given the written Good Samaritan Information on Blood or Body Fluid Exposures.

SPECIAL NOTES:

1. It is extremely important for EMS personnel to report potential or known exposures immediately following the exposure so that prophylactic treatment (if indicated) may begin immediately. Personnel who choose to have their exposure evaluated at Regions Hospital Emergency Department should report immediately to the charge nurse on duty.
2. This policy is intended to supplement and not substitute for the standards set for General Industry in the Code of Federal Regulations.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Do Not Resuscitate**	Page 1 of 3
ISSUED BY: Medical Director	No. 09-119
DATE: January 1, 2009	Supersedes: No. 05-118

PURPOSE:
Regions Hospital EMS recommends that the decision to withhold cardiopulmonary resuscitation (CPR) rest with the patient and his/her physician. These recommendations are intended to improve communication of the existence of a Do–Not-Resuscitate (DNR) order between the physician and the emergency medical personnel who may be summoned in the event of an emergency. Do-Not-Resuscitate (DNR) orders are orders issued by a patient's physician to refrain from initiating cardiopulmonary resuscitative measures in the event of an acute cardiopulmonary arrest.

Regions Hospital EMS recommends that prehospital personnel honor directives limiting CPR in individuals who have refused this treatment. Regions Hospital EMS recognizes a patient's right to refuse treatment as stated in the Patient's Bill of Rights (WI Stat. 154) and the responsibility of medical personnel to withhold treatments that have no medical benefit. It is customary medical practice that CPR is performed on all persons found to be in cardiac arrest, in the absence of directives from a primary physician to withhold such action. There are individuals who would decline these therapies or for whom the treatments are without benefit. Such persons may legally and ethically decline these treatments. Since in many cases there is prior knowledge that these services are not wanted or not indicated, the Do-Not-Resuscitate (DNR) or "No CPR" order has been used to implement the decision that CPR is not to be performed. This guideline is intended for patients receiving fully supervised medical care who might be expected to suffer cardiac or respiratory failure in the near future.

Physicians and ambulance services will make every effort to permit patients accessing emergency medical care and transportation to decline unwanted CPR in a manner consistent with the standard of medical care. Ambulance services will continue under the presumption that patients are eligible for and desire emergency medical services. This system is established to permit patients the right to refuse unwanted CPR with the realization that this presumption and the urgency of resuscitation may mean that questionable orders may not be honored.

AUTHORIZED DEFINITIONS:
1. Do-Not-Resuscitate (DNR, No code, No CPR): This category does involve active and aggressive medical treatment intended to sustain life up to the point of beginning CPR. DNR does not mean that the medical care of any other medical condition will be changed or limited. In the event of an acute cardiopulmonary arrest, no CPR will be initiated. This order means that prehospital personnel will not initiate or continue CPR on a patient in cardiac arrest once a valid DNR order is identified. If the first person finding the patient has a question about whether or not a pulse or spontaneous breathing exists, 9-1-1 should be called and the paramedics summoned to determine the patient's status.
2. CPR (Cardiopulmonary Resuscitation) - This is the process of chest compression and artificial breathing as defined by the American Heart Association. Advanced levels of CPR mandate airway management, ventilatory assistance, chest compressions, defibrillation and giving appropriate drugs. The category of CPR implies full resuscitation, using any or all of the above techniques as appropriate.

3. Hospice or Comfort Care - This category is appropriate for patients who request death-allowing care, knowing that death is expected and prolongation of life is not a goal. Care is intended to provide comfort and attention to basic human needs, allowing life to continue "as is" without medical intervention to sustain or prolong life beyond the natural course of events. In general, calling 9-1-1 is not appropriate for patients in this category. In situations where there are immediate needs for choking, pain relief, or comfort, 9-1-1 may be called.

RIGHTS AND RESPONSIBILITIES:

1. Physician responsibilities:
   A. The physician is responsible for obtaining DNR forms, discussing them with the family and ensuring that the form is properly completed with the necessary signatures
   B. The physician should keep one copy in the permanent medical record and give the original to the patient.
   C. The order should be written in the order section of the medical chart (if one is available), and signed by the physician.
2. Ambulance service responsibilities:
   A. Each ambulance service in the Tri-County EMS system will operate in accordance with this guideline to allow prehospital personnel to honor the DNR orders.
   B. Each ambulance service has the obligation to inform appropriate personnel of the procedural guidelines when presented with a DNR form or order written in the medical record.
   C. Prehospital personnel will not assume any responsibility for evaluating the decision-making process or administrative procedures used to develop the DNR order. This responsibility rests with the attending physician and the licensed health care provider supervising care.
3. Patient Responsibilities and Rights:
   A. A patient has the right to refuse cardiopulmonary resuscitation and should be involved to the greatest degree possible in the decision-making process. Patients are encouraged to discuss these decisions with family members, if appropriate.
   B. The form should be in a readily accessible location and caregivers should make its presence known during the provision of emergency medical services in the home.
   C. The patient may revoke the order at any time by destroying the form or informing prehospital providers or family members of their wish for CPR in the event of cardiac arrest.

POLICY:

1. DNR orders are compatible with maximum therapeutic care and the patient should receive vigorous support (e.g. IV and drugs) up until the point of cardiac or respiratory arrest. Patients with DNR orders remain appropriate candidates for emergency evaluation, assistance, treatment and transport. 9-1-1 may still be used to summon emergency assistance for such patients who are suffering medical emergencies.
2. DNR orders become valid on the day when the DNR form is properly completed, dated and signed by the patient or acceptable proxy, the physician and the witness. Prehospital personnel will not honor DNR orders if they are not legible or properly signed and dated. The DNR order remains in effect indefinitely, but should be reviewed periodically.
3. A DNR form is encouraged, but not required in the long-term care facility. In the nursing home, DNR orders written in the order section of the medical record are valid if signed by the physician.
4. When prehospital personnel arrive, the family, patient or staff should immediately present the resuscitation guidelines form. Until properly completed orders are presented, prehospital personnel will assume that no valid DNR orders exist and proceed with standing orders for resuscitation as medically indicated under medical control.
5. The DNR order may be rejected and overridden if prehospital personnel have substantive reason to believe the order is invalid or in cases of unusual, suspicious or unnatural causes of cardiac arrest.
6. In the event a patient changes his/her mind regarding the DNR order prior to cardiac arrest, or family members request resuscitation, or disagreement occurs at the time of cardiac arrest, resuscitative

measures should be initiated by prehospital personnel and treatment decisions should be made by the physician responsible for care. In the event of uncertainty, resuscitative measures should be initiated and the Medical Control Physician contacted.

7. Telephone DNR orders will not be accepted by EMS personnel.
8. Documents with alternative wording used to limit medical care, e.g., Living Wills and Supportive Care Plans, will not be interpreted by EMS personnel or honored during the provision of emergency medical care.
9. Physicians present at the scene, who are willing to take responsibility for the emergency medical care, may verbally give orders to prehospital personnel to withhold or discontinue resuscitation. This should be documented on the ambulance report form with the physician's signature, name, State Physician #, address, and office telephone number.
10. DNR orders may be revoked at any time by the patient who, by destroying the request form, will prevent implementation of the DNR order. The patient is responsible for informing his/her physician and the agency supervising care, if any, of this decision.
11. It is recommended that the DNR form be reviewed periodically; however, it remains valid indefinitely unless revoked by the individual.
12. A DNI order is generally initiated if it is felt that long-term care ventilatory support is not in the patient's interest or desire. It is often not applicable to the short-term situations in which EMS will use an advanced airway. Prehospital personnel will not be expected to determine whether the apnea is due to a reversible condition so they may place an advanced airway if they believe the patient's condition warrants.
13. The Minnesota Medical Association DNR form, if used, requires three signatures with dates for the document to be valid and its intent carried out. This form does not expire with time, but must be revoked.

A. Patient/Client or authorized signature:
    1. The patient, when of sound mind, may knowingly limit his/her own care.
    2. A court-appointed guardian or conservator (with specific powers to make health care decisions) may sign on behalf of a legally incompetent person.
    3. Next-of-kin or knowledgeable loved one(s) may sign in consultation with physician using the concept of "substituted judgment" whereby the above individuals decide what the patient would want, were he/she able to express himself/herself.

B. Witness signature: This signature is to be obtained at the time a third party witnesses the signature of the patient, court-appointed guardian, or loved one. If a physician designate is involved in the actual discussion and form completion, that person should sign as witness.

C. Physician signature: This signature is required, but may be completed at a later date if a physician designate is involved in the actual discussion and form completion.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Red Lights and Siren Transportation Policy**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-120
DATE: January 1, 2009	Supersedes: No. 05-119

PURPOSE:
To delineate when it is most appropriate to transport a patient with the use of red lights and sirens.

POLICY:
After assessing the risk versus benefit to the patient, and finding them to be in one of the categories below, it is appropriate for these patients to be transported to a medical facility using lights and siren:

- **Airway** – inability to maintain an adequate patent airway, upper airway stridor
- **Breathing** – severe respiratory distress that is unresponsive to treatment
- **Circulation** – Cardiac arrest, hypotension despite fluids or medical management, symptomatic tachycardia, or bradycardia, potential candidates for thrombolytics, or angioplasty
- **Trauma** – Any patient meeting the TTA criteria, penetrating trauma to head, neck or torso, major long bone fractures, major amputations, injuries that produce neurovascular compromise
- **Neurologic –** GCS < 13, seizures unresponsive to treatment, symptoms of stroke that appear to be < 5 hours old
- **Obstetrical** – prolapsed cord, premature labor, breech presentation, ectopic pregnancy, post birth complications for mother or baby
- **Pediatrics (<8 years)** – upper airway stridor, distress secondary to illness or injury, (note) because pediatric patients are difficult to assess consult with on-line medical control for guidance on transport decisions
- **Any patient felt to be in imminent danger upon discretion of the crew**

RESPONSE:
Each agency must maintain policies for emergency vehicle response that minimally adhere to state statutes. Medical Director expects these policies will be adhered to.

TRI-COUNTY EMS	
POLICY/PROCEDURE: **Bariatric Patient Treatment and Transport**	Page 1 of 1
ISSUED BY: Medical Director	No. 09-123
DATE: January 1, 2009	Supersedes: No.

Purpose:
Tri-County EMS recognizes the special needs of bariatric patients and the challenge they present to caregivers. This policy intends to provide a framework for providers to give effective, safe and dignified care to the bariatric patient while maintaining the safety of the EMS crew and minimizing the exposure to potential injury.

Policy:
1. All patients who require immediate 911 emergency transports will not be denied transportation. If the bariatric patient is too large to be transported by a service, the patient will receive medical care at the scene to attempt to stabilize the medical emergency until such time the appropriate equipment and transport vehicle can be secured for transportation.
2. All EMS agencies should have equipment designed to monitor and treat the bariatric patient.
3. All EMS agencies should have a written policy to address the following concerns:
    a. Written guidelines on weight limits of stretchers, backboards, lifting tarps, ambulance load limits.
    b. Guidelines regarding number of providers to be utilized for lifting for patients weighing over 400 LBS.
    c. Procedures and policies for extricating large patients from places of residence.
    d. Mutual aid agreements with agencies with specialized transport capabilities.

Medical Direction Guidelines

MINIMUM EQUIPMENT BROUGHT TO THE SCENE

PURPOSE:
To establish the minimum equipment requirements for service personnel to bring to the patient side.

POLICY:
1. The following equipment should be brought to the patient side on all calls:
   A. Airway management equipment (basic and advanced), oxygen, ventilation equipment, and suction
   B. A monitor/defibrillator (manual or automatic)
   C. Equipment for the evaluation of vital signs
   D. RSI capable services: battery operated suction, RSI medications
2. On all known obstetrical calls:
   A. All equipment listed in #1, OB Kit, and airway equipment appropriate for the newborn
3. On all known pediatric calls:
   A. All equipment listed in #1 and appropriate sized equipment for managing the airway and obtaining vital signs of the pediatric patient

Patient Care Guidelines

BLS AND ALS PATIENT ASSESSMENT

1. Initial Assessment
   A. Scene size up: How many patients are there? What additional resources are necessary? Is the scene safe? Should spinal precautions be taken?
   B. Rescuer safety: What personal protective equipment should be worn?
   C. Level of conscious: alert, responds to voice, responds to pain, unresponsive (AVPU)
   D. Airway: assess for patency, and partial or complete obstruction
   E. Breathing: assess rate, depth, chest rise, equality
   F. Circulation: assess pulses (rate, regularity, quality), skin color, capillary refill, obvious bleeding
   G. Disability: pupils, posturing, seizures, Glasgow Coma Scale
   H. Expose: as indicated to look for life threatening injuries/conditions
   I. Vitals: blood pressure, pulse, respirations, skin/body temp, oximetry
2. Focused Assessment: assess areas for pain, tenderness, swelling, bruising, deformity, wounds, and
   A. Head: blood/fluid from ears, nose, mouth or eyes, pupils
   B. Neck: jugular vein distention, step-offs, tracheal position, subcutaneous air
   C. Chest: crepitus, lung sounds, subcutaneous air, paradoxical movement
   D. Abdomen: rigidity, guarding, rebound tenderness, distention
   E. Pelvis/Genitals: stability, crepitus, priapism, bleeding
   F. Extremities: CMS, grip and foot strength, range of motion, pulse equality, edema
   G. Back: edema, pain, and bruising
3. Mechanism of injury:
   A. For MVAs: speed, vehicle damage/intrusion, type of accident, use of seatbelts, airbag deployment
   B. GSWs/stabbings/assaults: type and/or caliber of weapon, length of knife
   C. Falls: height, surface landed on
   D. Sports: helmet or safety equipment worn
   E. All: potential for head or spinal trauma, determine whether there was loss of consciousness, use of mind altering substances
4. Mechanism of illness:
   A. When did symptoms begin? Has it changed?
   B. Does anything make the symptoms better or worse?
   C. Any previous similar episodes?
   D. Has there been any loss of consciousness?
   E. What do the symptoms feel like? (quality, radiation, severity)
   F. Potential for associated trauma and need to take spinal precautions
   G. Use of mind altering substances
   H. Last meal
5. Past Medical History
   A. Medical conditions/surgeries:
   B. Medications: dosages, when last taken (if possible, bring medications to hospital)
   C. Allergies: medications (foods, animals, other as appropriate)
6. Reassessment
   A. Repeat vital assessment
      1. Minimally every 10 – 15 minutes
      2. Every five minutes if unstable or abnormal
      3. After each procedure or medication administration
   B. Repeat initial assessment any time patient condition deteriorates
7. ALS Assessment (Electronic Medical Records)
   A. An ALS assessment must consist of the following components:
      1. Evaluation of ABCs
      2. Assessing for the need of an advanced airway
      3. Auscultation of lung sounds
      4. Assessing for the need of an IV/IO

5. Assessing for the need of a cardiac monitor
6. Assessing the need for a blood glucose check
7. Assessing the need for pain medication
8. Assuring that BLS skills have been completed

AIRWAY OBSTRUCTION

SIGNS & SYMPTOMS:
1. Choking
2. Cough
3. Voice changes/inability to speak
4. Skin: cyanosis
5. Neuro: ↓ LOC , seizures, or unconscious
6. Respirations: labored, paradoxical, tachypneic, inspiratory stridor, ≠ breath sounds, ↓ O_2 sats

OBTAIN HISTORY OF:
1. Foreign body aspiration
2. Food ingestion
3. Inadequate dentition
4. Drug or alcohol use
5. Trauma
6. PMH/Meds/Allergies

PRECAUTIONS:
1. Suction applied for > 10 seconds may cause hypoxia and dysrhythmias.
2. Be prepared for vomiting following removal of obstruction.

BASIC LIFE SUPPORT CARE:
1. Use suction if necessary to clear airway.
2. Do not intervene in patients with a partial airway obstruction with good air exchange.
3. If airway remains obstructed, follow AHA guidelines for the removal of obstruction:
   A. Adult: administer abdominal thrusts until dislodged or patient becomes unconscious. Once unconscious, continue sequence of visualizing airway for object (no blind finger sweep), attempt to ventilate, reposition and attempt to ventilate, 30 chest compressions, until obstruction is dislodged.
   B. Child: administer abdominal thrusts until dislodged or patient becomes unconscious. Once unconscious, continue sequence of look in mouth, attempt to ventilate, reposition and attempt to ventilate, 30 chest compressions, until obstruction is dislodged.
   C. Infant: administer five back blows and five chest thrusts until dislodged or patient becomes unconscious. Once unconscious, continue sequence of: look in mouth, attempt to ventilate, reposition and attempt to ventilate, 30 chest compressions, until obstruction is dislodged.
4. If airway remains obstructed, continue obstructed airway procedures during rapid transport to closest medical facility.
5. Consider ALS response.
6. Administer oxygen and assist ABCs as necessary once airway is cleared.
7. If patient is not transported following a choking episode, give written Non-Transport Information sheet for Foreign Object Ingestion/Choking to patient.

SPECIAL NOTES:
1. Paramedics should perform surgical cricothyrotomy using the Sklar hook technique if unable to clear the ADULT airway
2. Paramedics should perform needle jet insufflation on children < 8 years old

ALTERED LEVEL OF CONSCIOUSNESS

SIGNS & SYMPTOMS:

1. GCS < 15; abnormal behavior
2. Traumatic injuries
3. Pupils: dilated, constricted, ≠, sluggish
4. Seizures; incontinence
5. Hypothermia, hyperthermia
6. Snoring respirations
7. Irregular/unstable vital signs; arrhythmias

OBTAIN HISTORY OF:

1. Scene factors: needles, pills, suicide notes, etc.
2. Recent injury or illness
3. Substance abuse
4. Toxic exposure
5. Onset and duration
6. Medic alert tags
7. PMH (esp. seizures, diabetes, CVA) /Meds/Allergies

PRECAUTIONS:

1. An altered or decreased LOC masks the signs of injury and illness. Any patient that is unconscious or has an altered mental status has the potential for occult trauma and/or spinal injury.
2. Call medical control before giving oral/IV sugar or glucagon if BS is known to be > 80 mg/dL or if patient is not known to be diabetic.

BASIC LIFE SUPPORT CARE:

1. Take spinal precautions while assessing and supporting ABCs.
2. Consider oral or nasal airway initially if GCS < 9.
3. Assist ventilations on any patient with decreased LOC and respirations < 10 or > 30.
4. Consider ALS response.
5. Administer 100% oxygen.
6. Perform blood glucose testing. If BS is < 80 follow hypoglycemia guideline.
7. Backboard patient with C-collar if patient complains of head, neck, or back pain, or if suggested by mechanism of injury, or if history is unreliable due to unconsciousness or altered mental status.
8. EMT with IV training-establish IV of NS TKO. Consider fluid challenges in any adult patient with systolic BP < 90. Give a 250 cc fluid challenge for presumed medical causes.
9. Check patient temperature.
10. If CO is suspected, obtain blood sample in green tube.
11. Initiate cardiac monitoring. Perform 12-lead if cardiac etiology is suspected.
12. Immediately transport any patient with significant airway, breathing, circulatory, or neurological compromise.
13. If trauma can be ruled out, position patient in recovery position during transport.

ANAPHYLAXIS

SIGNS & SYMPTOMS:

1. Dyspnea, tachypnea, or hyperventilation
2. Cyanosis, ↓ O_2 sats, agitation or anxiety
3. Hoarseness, stridor, or bronchospasm
4. Pulmonary, laryngeal, tongue or facial edema
5. Rapid, weak pulse, ↓ BP, syncope
6. Hives, rash, itching, flushing
7. Difficulty speaking & use of accessory muscles

OBTAIN HISTORY OF:

1. PMH/Meds (esp. Epi autoinjector)/Allergies
2. Cardiorespiratory disease
3. Onset, severity, & duration
4. Relieving factors (Epi autoinjector)
5. Environmental or allergen exposure

PRECAUTIONS:

1. Never administer epinephrine 1:1000 via IV/IO route.

BASIC LIFE SUPPORT CARE:

1. Administer oxygen.
2. Assist patient with administration of prescribed Epi autoinjector as directed by private physician.
3. Consider ALS response.
4. If possible, immediately remove insect stinger.
5. Apply cold packs to site of sting.
6. EMT with IV training - establish IV of NS TKO.
7. Initiate cardiac monitoring.
8. If systolic BP falls < 90 in adults, give a 250 cc NS fluid bolus, consider trendelenburg position and repeat vitals.
9. Assist respirations in any patient with decreased LOC and respiratory rates of < 10 or > 30/min.
10. BLS with medication training:
    A. Consider albuterol neb for wheezing in all ages.
    B. Administer Epi-Pen

PEDIATRIC CONSIDERATIONS:

1. Consider albuterol/Atrovent neb for wheezing.
2. For non-severe reactions: Obtain MD order for epinephrine and Benadryl.
3. For severe reactions: Administer 1:1000 epinephrine 0.01mg/kg (max. 0.3ml) SQ
4. If no improvement by the time an IV is established, contact medical control regarding administration of IV epinephrine. Anticipate an order for 0.01 mg/kg (up to 0.5 mg) epinephrine 1:10,000 IV push
5. After SQ epi, Racemic epi can be given for severe laryngeal edema per standing order.

BURNS

SIGNS & SYMPTOMS:

1. Reddened skin that blanches with pressure
2. Blistering; edema
3. Broken epidermis; weeping surface
4. Dry, pale, white or charred skin
5. Wheezing, dyspnea, hoarseness, stridor
6. Singed facial hair, sooty sputum or phlegm
7. Burning sensation in upper airway or chest
8. Pain, tingling, hyperesthesia, soothed by cooling; 3rd degree may be painless

OBTAIN HISTORY OF:

1. PMH/Meds/Allergies
2. Recent illness or trauma
3. Duration and concentration of exposure
4. Type of chemical or toxic exposure
5. Enclosed or open space exposure
6. Electrical contact (AC/DC, amps, volts)
7. Presence of fire, smoke, or distinctive odors

PRECAUTIONS:

1. Assess scene for safety. Do not allow yourself to become a victim and do not attempt any rescue that you have not been trained in and do not have the proper safety equipment for.
2. Consider the potential for trauma and take spinal precautions in all burn cases, unless it can be ruled-out by signs and symptoms, mechanism or history. All high voltage electrical burn cases should have spinal precautions taken regardless of signs and symptoms. In most cases, traumatic injuries take priority over burn care. The exception would be burn injuries that compromise ABCs.
3. Consider the potential for inhalation injury in all victims of closed-space injury, or those who have inhaled fumes or steam. Cyanide and carbon monoxide are commonly present in closed-space fires.
4. The presence of carbon monoxide can cause pulse oximetry readings to be artificially high. Interpret with extreme caution.
5. Internal injuries caused by electricity are usually more severe than the external wounds. Hidden injury to muscle, nerves and the CNS may exist. Vertebral fractures are frequent.
6. Do not break blisters or apply ointments (exception Hydrofluoric acid exposure).

BASIC LIFE SUPPORT CARE:

1. Ensure scene is safe.
2. Extinguish and/or smother fire. Remove patient from heat source, using non-conductive material for electrical burns. Notify the Power Company for electrical injuries.
3. Administer oxygen.
4. Consider ALS response.
5. Remove clothing and jewelry.
6. Assess burns for type, depth, total body surface area (TBSA) using either the Rule of Nines or the Rule of Palm (patient's palm is approximately 1% of their TBSA).
7. Complete secondary survey for other trauma.
8. EMT with IV training- for major burns (≥ 9% TBSA) establish IV/IO of NS:
   A. < 5 years: initial bolus 20 cc/kg but do not delay transport
   B. 5 - 15 years: run @ 250 cc/hr
   C. > 15 years: run @ 500 cc/hr
9. Initiate cardiac monitoring in electrical, inhalation, hydrofluoric acid, fluorine gas, and major burns, and in patients ≥ 40 years, or those with chest pain or difficulty breathing.
10. Minor burns (< 9% TBSA) may be treated with wet dressings.
11. Cover major burns with a dry sheet. Do not use wet dressings.
12. Elevate burned extremities.
13. Do not allow patient to become chilled.
14. Draw blood sample in green top tube if CO is suspected.
15. Transport to Burn Center as appropriate.

SPECIAL BURN CONSIDERATIONS: In addition to above and as appropriate:

1. Chemical burns:
   A. Wash with copious amounts of water or NS for at least 20 min.

B. If eyes are involved, irrigate with copious amounts of NS until the patient reaches the receiving hospital.
C. Dry lime should be brushed away as much as possible before flushing with water.
D. Carbolic acid (phenol) does not mix with water. When available, use alcohol for the initial wash of unbroken skin followed by a steady water flush.

2. Inhalation burns:
   A. Reassess frequently and consider the need for early intubation.
   B. BLS with medication training: Consider albuterol neb for bronchospasm.
   C. ALS: Consider albuterol/Atrovent neb for bronchospasm.
3. Tar burns:
   A. Cool with water until burning is stopped.
   B. DO NOT attempt to remove tar from skin.
4. Hydrofluoric Acid/Fluorine gas: See separate guideline

INDICATIONS FOR REFERRAL TO BURN CENTER:

1. Second and third degree burns:
   A. > 10% TBSA in all patients
   B. Third degree burns > 5% TBSA in any age group
   C. Burns of face, hands, feet, genitalia, perineum, or major joints
2. Electrical burns (including lightning)
3. Chemical burns, especially hydrofluoric acid burns or fluorine gas exposure
4. Inhalation injury
5. Burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality
6. Any patients with burns and concomitant trauma (such as fractures, etc.) in which the burn injury poses the greatest risk of morbidity or mortality. In such cases, if the trauma poses the greater immediate risk, the patient may be treated initially in the Trauma Center until stable before being transferred to the Burn Center. Medical Control Physician consult may be necessary in such situations.
7. Burn injury in patients who will require special social/emotional and/or long-term rehabilitative support, including cases involving suspected child abuse, vulnerable adults, substance abuse, etc.
8. **Hyperbaric Centers:** Patients who are transported with symptoms of severe CO poisoning and not exposed to smoke or fire should be transported to the nearest hyperbaric facility. Signs and symptoms of severe CO exposure include: history of loss of consciousness, lethargy, confusion, disorientation, seizures, focal neurological deficits, ischemic chest pain, new dysrhythmias, 12 lead ECG changes, and hypotension. Pregnant patients who are transported with symptoms of CO poisoning but not exposed to smoke or fire should be transported to the closest hyperbaric facility for possible hyperbaric therapy. **Patients who are transported and have been exposed to smoke or fire should be transported to the closest burn center. Patients in Respiratory or cardiac arrest should be transported to the closest facility.**

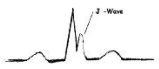
PEDIATRIC CONSIDERATIONS:

Hospitals without qualified personnel or equipment for the care of children should transfer children with burns to a Burn Center with these capabilities.

CARDIAC ARREST: ADULT

SIGNS & SYMPTOMS:

1. Absent pulse (carotid and one other location)
2. Absent or agonal breathing
3. Skin: pale, cool, cyanotic, mottled
4. Neuro: unconscious, seizure activity (initially)
5. J (Osborn) ECG wave in hypothermia



EKG IN HYPOTHERMIA

OBTAIN HISTORY OF:

1. Witnessed or unwitnessed collapse
2. PMH/Meds/Allergies
3. DNR status
4. Bystander CPR
5. Down time
6. Potential causes: MI, CVA, OD, electrocution, diabetes, airway obstruction, trauma

PRECAUTIONS:

1. Pulse oximetry and end-tidal CO_2 monitoring in low perfusion states may be unreliable.
2. Remove medication patches prior to defibrillation.

NONTRAUMATIC BLS CARDIAC ARREST CARE:

1. Suction as necessary to clear the airway.
2. Ventilate initially with 100% 0_2 using oral airway, bag-valve system or demand valve. Provide 2 rescue breaths, each over 1 second and just enough to get chest rise.
3. Check for pulse for no longer than 10 seconds.
4. If no pulse, perform CPR (compression rate 100/min) until AED is available or perfusion is restored. Ensure full recoil of the chest wall.
5. Ventilate with 2 ventilations for every thirty compressions. **Apply the ResQPOD to facemask, maintaining a tight facemask seal during compressions and ventilations.**
6. Turn on AED and follow voice and text prompts
7. Apply defibrillation patches per manufacturer recommendation with CPR in progress:
   A. One patch and cable to upper right chest, below collarbone.
   B. One patch and cable to midaxillary area below left breast.
8. Allow the AED to analyze the cardiac rhythm with CPR stopped and all personnel clear of the patient.
9. If a shockable rhythm is detected, the AED will begin charging. Assure that all personnel are still clear. Deliver shock. If no shock indicated, check pulse and resume CPR if no pulse is detected.
10. After shock is delivered, immediately begin 2 minutes (5 cycles) of CPR. Ventilate and insert Combitube or King LTS-D (if ≥ 5 feet) during this time if ready.
11. After two minutes, the AED will interrupt to analyze and repeat a shock if indicated. Immediately begin a second set of 5 cycles of CPR (approximately 2 minutes) after shock. If no shock indicated, immediately begin a second set of 5 cycles of CPR (approximately 2 minutes)
12. Establish a secure airway with the Combitube or King LTS-D. Ventilation once every 5-6 seconds with continuous CPR.
13. After 2 more minutes of CPR, non-transport services should continue to provide high quality CPR and the use of the AED, while waiting for ALS to arrive. Transport services should prepare patient for transport and deliver the last shock, if indicated, just prior to leaving the scene.
14. If there is no shock indicated after ANY analysis, it means the AED is detecting a non-shockable rhythm and a pulse should be checked.
    A. If no pulse is present, continue CPR for 5 cycles (approximately 2 minutes) before reanalyzing. If a shock is not indicated after 2 analyses, then prepare patient for transport and reanalyze every three to five minutes (ambulance must be stopped to analyze). If patient is not in a shockable rhythm, repeated analysis only delays needed CPR.
    B. If pulse is present, manage and support ABCs as necessary. Prepare for transport.
15. Contact medical control for further orders.
16. Patients who are transported should be secured on a backboard.
17. Transport to closest appropriate medical facility.
18. EMT with IV training- intravenous lines should be started enroute.

TRAUMATIC BLS CARDIAC ARREST CARE:

1. While manually stabilizing the neck, open the airway using the modified jaw thrust or chin lift technique. Provide manual stabilization during all advanced airway procedures and until the patient is secured on a board.
2. If unable to ventilate due to traumatic airway obstruction, transport immediately and consider ALS response. Perform CPR during transportation.
3. May use AED as monitor, shock if indicated, but **DO NOT** delay transport!
4. Control major external bleeding.
5. Assess chest for life-threatening injuries, i.e. sucking chest wound or flail chest, and treat as appropriate.
6. Apply C-collar while log-rolling onto backboard. Check back for injuries.
7. Prepare for immediate transport. Attempt to keep scene times to five minutes.
8. Consider ALS response.
9. Begin transport to closest appropriate facility.
10. EMT with IV training- establish two large bore IVs enroute and run fluids wide open.

HYPOTHERMIC BLS CARDIAC ARREST CARE:

1. Take 30 - 45 seconds to confirm pulselessness or profound bradycardia. Perform CPR if no pulse is felt after 30 - 45 seconds.
2. Maintain horizontal position and perform all treatments and transportation as gently as possible to avoid precipitating V-fib.
3. Remove wet garments and protect against further heat loss and wind chill through the use of blankets and heated patient compartment.
4. If the patient fails to respond after the initial shock, subsequent shocks should be avoided.
5. Severe hypothermia is frequently preceded by other disorders (e.g. drug overdose or trauma). Assess for and treat these underlying conditions while simultaneously managing the hypothermia.
6. Transport to a Level I Trauma Center if profound hypothermia is suspected.

SPECIAL NOTES:

1. Replace all used supplies. Check, maintain, and service AED per manufacturer recommendations.
2. If, despite above treatment, the patient still does not have a pulse or is not perfusing, and in conjunction with the monitoring physician, it may be appropriate to terminate the resuscitation effort. Once resuscitative efforts have begun, they may be discontinued only after consulting a physician. Due to the relative ineffectiveness of CPR in a moving ambulance and the risk to providers, ALS resuscitation of a medical cardiac arrest should usually occur in the field in its entirety and the patient only receiving transportation in unique situations or after return of spontaneous circulation (ROSC). If the pulse is lost enroute after ROSC, stop the ambulance and continue treating the arrest. If ROSC is lost again when enroute, continue to work the arrest enroute to the hospital.
3. Time spent at the scene, assessing and managing the patient‘s ABCs is time well spent. Secondary surveys, if performed, however, should be done enroute.
4. High quality CPR takes priority over immediate defibrillation in most cases. Bring the AED to the patient; do not bring the patient to the AED. Advanced airway management should not be considered until after the second defibrillation.
5. BLS - If patient converts with a return of pulse then rearrests, begin the guideline over again. Three shocks may be delivered before contacting medical control.
6. The monitoring physician may supersede these orders at any time.
7. BLS - Do not attempt rhythm interpretation unless specifically trained. Document and report AED action instead.
8. Patients who are in cardiac arrest due to or associated with carbon monoxide poisoning should be transported to the closest hospital. If the patient has a return of spontaneous circulation, they should be transported to the nearest hyperbaric facility for treatment.
9. Follow manufacturer recommendations for daily and monthly equipment checks.
10. It may be necessary to shave or dry the chest to ensure good patch contact.

CARDIAC ARREST: PEDIATRIC

SIGNS & SYMPTOMS:
1. Absent pulse (brachial in infant)
2. Absent or agonal breathing
3. Pupils: dilated, sluggish or unreactive
4. Skin: pale, cool, cyanotic, mottled
5. Neuro: unconscious, seizure activity (initially)
6. J (Osborn) ECG wave in hypothermia

OBTAIN HISTORY OF:
1. PMH/Meds/Allergies
2. Witnessed or unwitnessed collapse
3. DNR status
4. Bystander CPR
5. Down time
6. Potential causes: accident, abuse, drowning, electrocution, FBAO, respiratory distress

CONTRAINDICATIONS:
1. The automatic transport ventilator (Autovent 2000) is contraindicated in patients < 90 pounds.
2. Combitubes and King LTS-D #4 are contraindicated in patients < 5 feet.
3. Demand valve resuscitators are contraindicated in patients < 12 years.
4. AEDs should use specific AED pediatric patches in patients < 8 years or < 90 pounds. If ALS is delayed and an adult AED is available, the adult AED may be used on a child over 1 year of age (place adult patches anterior/posterior if needed).

PRECAUTIONS:
1. Pulse oximetry and end-tidal CO_2 monitoring in low perfusion states may be unreliable.
2. Any medication given on standing order is at the dose recommended by a weight based resuscitation tape
3. Remember that most arrests in children are respiratory related and adequate ventilation is the key for successful resuscitation and correction of acidosis.
4. Placement of an OG tube in intubated pediatric arrest is important to counter the effects of gastric distention.
5. Because the head of a child is proportionally larger, padding under the shoulders or torso will assist in airway management and may be required to keep the head in neutral alignment.

NONTRAUMATIC BLS CARDIAC ARREST CARE:
1. Ventilate:
   A. Initially, high flow 100% 0_2 using an oral airway, bag-valve system, and proper size mask.
   B. Ventilate the patient with two ventilation for each 30 compressions for single person CPR in the infant and child.
   C. Ventilate the patient with two ventilations for each 15 compressions for two-person CPR in the infant and child.
   D. Ventilate the patient with one ventilation every 3-5 seconds once an advanced airway is established.
2. Perform CPR (compression rates 100/minute)
   A. In children <8 years old, if a pulse is not palpable or heart rate is < 60/min and signs of poor systemic perfusion are present;
   B. Until adequate perfusion is restored;
   C. If instructed by a physician.
3. Apply AED patches, turn on AED, and follow prompts from the machine.
4. Position on backboard and prepare for immediate transport.
5. Consider ALS response.
6. Transport to closest appropriate medical facility.

TRAUMATIC BASIC LIFE SUPPORT CARDIAC ARREST CARE: Care for traumatic cardiac arrest differs in the following ways:
1. While manually stabilizing the neck, open the airway using the modified jaw thrust or chin lift technique. Provide manual stabilization during all airway procedures until the patient is secured on a board with C-collar.
2. Control major external bleeding.
3. Assess chest for life-threatening injuries, e.g. sucking chest wound, flail chest and treat as appropriate.
4. Prepare for immediate transport. Attempt to keep scene times to five minutes.
5. Apply C-collar, then logroll patient onto backboard. Check back for injuries.
6. May apply AED/monitor to monitor heart rate. Do not delay transportation.

7. Begin transport to Level I Trauma Center.
8. EMT with IV training- establish large bore IV(s) enroute.

HYPOTHERMIC CARDIAC ARREST CARE: Hypothermic cardiac arrest differs in the following ways:

1. Take 30 - 45 seconds to confirm pulselessness or profound bradycardia. Perform CPR if no pulse is felt after 30 - 45 seconds.
2. Perform all treatments and transportation as gently as possible to avoid precipitating V-fib.
3. Remove wet garments and protect against further heat loss and wind chill through the use of blankets and heated patient compartment.
4. Maintain horizontal position, avoiding rough and excessive movement.
5. Severe hypothermia is frequently preceded by other disorders (e.g. drowning, overdose or trauma). Assess for and treat these underlying conditions while simultaneously managing the hypothermia.
6. Transport to a Level I Trauma Center if profound hypothermia is suspected.
7. ALS: Administered medications can accumulate to toxic levels if used repeatedly in the severely hypothermic patient. If the patient fails to respond after one shock or initial drug therapy, subsequent defibrillations or additional medication should be avoided but CPR should be continued.

SPECIAL NOTES:

BASIC LIFE SUPPORT:

1. Children who are pronounced dead secondary to SIDS or suspicious circumstances should be left at the scene whenever possible. This avoids the disturbance of a possible crime scene. Observe and note: location, position, ambient temperature, objects around child including mattress and bedding, behavior of all people present, explanations provided and presence of vomit in the mouth or foreign body.
2. ECG monitoring is an important diagnostic tool in sick and injured children.
3. Consider contacting department Chaplin or other support person.

CARDIAC-RELATED SIGNS & SYMPTOMS

SIGNS & SYMPTOMS:

1. Typical or atypical chest pain w/ or w/o radiation
2. Feeling of impending doom & denial
3. Shortness of breath
4. Nausea & vomiting
5. Jugular vein distention, pedal edema and rales
6. Neuro: syncope, dizziness or weakness
7. Skin: pale, cyanotic, clammy or diaphoretic
8. Abnormal vital signs (fast, slow, high, low, irregular) or arrhythmias

OBTAIN HISTORY OF:

1. Cardiorespiratory disease
2. Onset & duration
3. Quality & severity (on a scale of 1 - 10)
4. Relieving factors (nitro, rest, antacids)
5. Meds (esp. cardiac & impotence meds -see notes)
6. Recent illness or trauma
7. PMH/Meds/Allergies
8. Substance abuse
9. DNR status
10. Cardiologist (St. Joe's CLA)

PRECAUTIONS:

1. This guideline refers to spontaneously breathing and perfusing patients.
2. Syncopal episodes in patients may be cardiac-related.

BASIC LIFE SUPPORT CARE:

1. Administer oxygen with the goal to obtain a SaO2 >95%.
2. Place patient in position of comfort and reassure.
3. Consider ALS response.
4. EMT with IV training- establish IV of NS TKO.
5. Initiate ECG monitoring. Obtain 12-lead ECG. (see Special Notes)
6. If indicated, assist patient with prescribed NTG as directed by private physician unless BP < 90/p.
7. BLS with IV training:
   A. If systolic BP falls < 90, administer a 250 cc NS fluid bolus and repeat vitals.
   B. For suspected myocardial ischemia: have patient chew 324 mg aspirin.
   C. If IV is established and systolic BP is at least 110, contact medical control operator for orders to administer 0.4 mg NTG SL, may repeat once after 3-5 min. Further NTG orders must come from medical control physician.
8. Consider CPAP for pulmonary edema

1. **For hypotension**:
   A. If no response to initial 250 cc NS fluid bolus, consider Dopamine infusion 1 - 20 mcg/kg/min. titrated to patient response. May repeat fluid challenge if hypotension continues.
2. **For pulmonary edema**:
   A. BP $\geq$ 140/p give 0.8 NTG SL q. 3-5 min to patient response, if BP 90/p-139/p, administer 0.4 mg of NTG SL every 3 - 5 minutes titrated to patient response.
   B. Administer Morphine 1 - 8 mg IV/IO slowly titrated to patient response.
   C. Start CPAP therapy if appropriate and available.
   D. Consider Albuterol/Atrovent neb if lung sounds are hard to assess or if rales are questionably wheezes.
   E. Further orders must come from monitoring physician.

PEDIATRIC CONSIDERATIONS:

1. Do not administer any meds or perform cardioversion on any conscious patient < 12 years without physician order.

SPECIAL NOTES:

1. In the setting of an acute myocardial infarction, rapid assessment, treatment, and undelayed transport are essential to avoid further delays to in-hospital treatment, such as thrombolytics and angioplasty.

2. Patients complaining of cardiac signs and symptoms will have a 12-Lead ECG done as soon as possible. Because treatment can affect how ST-elevation looks on a 12-Lead, the 12-Lead should be performed with the initial set of vital signs.
3. ALL BLS providers who acquire a 12-Lead ECG and have the ability to transmit that 12-Lead to the receiving hospital are required to do so before arrival at that facility. ALS providers have the option to transmit the 12-Lead if they feel it is appropriate. All copies of 12-Leads should be also transmitted to the MRCC.
4. Patients with ST-Elevation should be transported to a facility that can have the patient in their cath lab within 60 minutes and have balloon inflation under 90 minutes. Tri-County EMS has received confirmation from Regions, United and St. Joe's Hospital that they can meet the above criteria.
5. Inclusion criteria for a Cath Lab Activation (CLA) patient will include (consider activation of cath lab from scene):
    - ✓ Patient has cardiac symptoms
    - ✓ ST-elevation greater then 2 mm in two or more contiguous chest leads, or 1mm in two contiguous limb leads
    - ✓ QRS complex that is less than 0.12 sec. (120 ms or 3 small boxes)
6. Nitrates (NTG) are absolute contraindications when the person has taken VIAGRA or LEVITRA within 24 hours and CIALIS within 48 hours. Nitrates will cause a severe drop in BP.
7. Use caution when giving nitroglycerin to patients who have an Inferior MI.
8. Receiving hospital staff MUST be notified that nitro paste has been applied to avoid possible excessive dosing.

COMBATIVE PATIENT/RESTRAINTS

SIGNS & SYMPTOMS:

1. Aggressive behavior/agitated
2. Confusion
3. Hallucinations

OBTAIN HISTORY OF:

1. Past medical history
2. Medications
3. Allergies
4. Present illness/circumstances
5. Precipitating factors
6. Behavior exhibited

PRECAUTIONS:

1. Aggressive/combative behavior can be caused by several medical conditions. Some examples are: hypoglycemia, brain injuries, hypoxia, psychiatric disorders such as schizophrenia or paranoia and patients under the influence of alcohol and drugs.
2. Improperly applied restraints could possibly lead to permanent nerve damage, aspiration and death from respiratory compromise.
3. Do not restrain a patient who is actively seizing. Restraints may need to be removed if the patient starts to have a seizure.
4. Be aware of items at the scene or medical equipment that may become a weapon.

BASIC LIFE SUPPORT CARE:

1. Ensure scene is safe for providers and others present. If the scene is not safe, evacuate everyone and seek additional resources. Involve law enforcement early to search the patient for weapons and to help secure them in restraints if needed.
2. Identify yourself to the patient and explain why you are on the scene.
3. Maintain a calm, reassuring and professional attitude and manner.
4. Remove disturbing persons and/or objects from the scene
5. Maintain a safe position and distance from the patient. Do not allow the patient to come between you and the exit
6. Provide emotional support to the patient. Do not argue or shout at the patient. Attempt to verbally de-escalate the situation by being calm and reassuring to the patient. Offer help to the patient. Be honest and concise.
7. Treat life-threatening injuries
8. An emergency transport hold must be obtained and completed whenever a patient is transported against their will. This should be completed by the police officer or the ordering physician. A copy should be included in the EMS run report.
9. If the scene is not safe to treat the patient unrestrained, the patient must be restrained using the following guidelines:
    A. EMS personnel must always act as the restrained patient's advocate
    B. Restraints should be individualized and afford as much dignity as possible
    C. Restraints should be humanely and professionally administered. Explain to the patient why you are using restraints, but DO NOT negotiate. Emphasize the therapeutic reasons for the restraints. Allow the patient the opportunity to cooperate.
    D. Restraints should employ the least restrictive method necessary to safely care for the patient.
    E. For the patients safety and the safety of EMS personnel, at least 4-5 people should be involved in applying restraints-do not try it alone! Law enforcement involvement is suggested when possible.
    F. Start with 4-point restraints with one arm above and one arm below. Never leave only one limb in restraints.
    G. Make sure the patient is searched completely and remove all personal objects.
    H. Documentation must include the reasons for restraint and the methods used. Frequent assessment of the patient and the restraints used must be documented including circulatory, motor and sensory status of the restrained extremity.
    I. Restraining a patient's hands and feet together behind the patient (hog-tying) is not allowed. The only exception is a prisoner or suspect in the custody of law enforcement or prison authorities.

J. EMS does not apply handcuffs or hard plastic ties (flex cuffs), but if already in place and circulation is adequate, may be left on. Handcuffs must be double locked to prevent inadvertent tightening, and should allow one little finger to fit between the handcuff and the wrist. Assure that a key is available during transport.

K. Make sure patient is properly secured during transport so they can not escape out of a moving ambulance.

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PEDIATRIC CONSIDERATIONS:

1. Always attempt to involve parents when restraining children.

PREGNANCY CONSIDERATIONS:

1. Pregnant women should be restrained in a semi-reclining or left lateral recumbent position.

SPECIAL NOTES:

1. If an EMS provider feels uncomfortable with any patient, even when they have not been actively combative, the provider has the right and duty to provide the patient and others with the security of patient restraint. Verbal threats are a legitimate reason for restraint.
2. Patients must have the ability to understand what's happening, what medical treatment options are available to them and be able to make appropriate decisions according to their particular beliefs to make decisions concerning their care. Minors, the mentally ill, patients under the influence of drugs or alcohol, patients who are suicidal, patients who are hypoxic or have a medical condition that impairs their decision making ability may not be able to make appropriate decisions due to their condition. The EMS provider MUST be the patient's advocate.
3. Restraining a patient is still a point of legal and ethical debate because it deprives the patient of their constitutional right to liberty. Physical restraint misused could result in charges of assault and battery, false imprisonment, and an infringement of the patient's constitutional rights. There are far more cases holding providers responsible for not treating/restraining a patient than false imprisonment or assault and battery. Clear and complete documentation is important when restraints are used.
4. Complications from chemical sedation are more numerous than from physical restraints. Remember once chemical restraints are used, they will limit the assessment of the patient's mental status and neurologic responses.
5. A 1998 study from Vanderbilt University showed that violent situations occur in 5% of all calls and an additional 14% of calls precipitated by violence.
6. Each EMS service should have a policy on how EMS providers will restrain patients. This policy should include when restraints are to be applied and what techniques and equipment will be used.
7. This guideline is not intended to limit or restrain Police/Paramedics from following their law enforcement policies.
8. Patients who are restrained should be transported to their usual hospital or one in their insurance group whenever possible.

CROUP

SIGNS & SYMPTOMS:

1. Barking cough or hoarseness
2. Retractions
3. Inspiratory stridor
4. Respiratory distress
5. May be febrile
6. Typically occurs in children 6 Mo.-3 Yrs.
7. Mild expiratory wheezing may be present
8. Complete airway obstruction (Rare)

OBTAIN HISTORY OF:

1. Present illness including onset
2. History, allergies and medications
3. Home treatments and response
4. Immunizations
5. History of previous episodes.

PRECAUTIONS:

1. A foreign body obstruction can cause stridor and should be considered.
2. Cardiopulmonary arrest can occur in patients who are not adequately monitored and managed.
3. An oxygen mask or cannula should not be forced on a child if it results in severe agitation. Provide oxygen by blow-by method.
4. Sudden onset of symptoms with high fever, no barky cough, dysphagia, drooling, anxious appearance and sitting in the tripod position suggest epiglottitis.

BASIC LIFE SUPPORT CARE:

1. Maintain an open airway and ensure proper ventilations. Apply oxygen. If needed, ventilate the child with a bag-valve-mask and supplemental oxygen.
2. Monitor vital signs including respiratory rate, oxygen saturation, pulse rate, blood pressure and temperature.
3. Avoid agitating the child.
4. Transport patient to appropriate facility

SPECIAL NOTES:

1. Impending respiratory failure is indicated by a change in mental statues, pallor, dusky appearance, decreased retractions and decreased breath sounds with decreasing stridor.
2. Children with the following require transport by ambulance: persistent stridor, significant respiratory distress, the administration of racemic epinephrine, and signs and symptoms of dehydration.

CRUSH INJURIES

SIGNS & SYMPTOMS:

1. Pain
2. Loss of pulse, motor, or sensation in entrapped extremity
3. Bleeding at injury site.

OBTAIN HISTORY OF:

1. Past medical history
2. Medications
1. Allergies
2. Present illness/circumstances
3. Precipitating factors
4. Behavior exhibited

PRECAUTIONS:

1. Ensure scene safety before attempting patient care.

BASIC LIFE SUPPORT CARE:

1. Confirm prolonged entrapment (> 1 hour) of one or more full extremities by a crushing object (vehicle, building rubble, hanging in harness, self, etc.).
2. Complete trauma assessment to evaluate patient for other injuries and treatments.
3. If extremity is accessible, check for decreased sensation, motor function, skin color and distal pulses.
4. Pre-Extrication:
   a. Apply oxygen via mask
   b. If extremity trapped – prior to extrication apply tourniquet (see tourniquet guideline).
   c. If varianced, start large bore IV with Normal Saline x 2. Give 2 liter NS bolus followed by 500 cc/hr.
   d. Extricate.
5. Transport to trauma center.

EPIGLOTTITIS

SIGNS & SYMPTOMS:

1. Occurs as any age, but usually between 2-7 y.o.
2. Sudden onset of symptoms may occur
3. High fever
4. Shock may occur early
5. Restlessness, irritability, and extreme anxiety are common
6. Child often drools because swallowing is difficult or painful
7. Stridor with marked suprasternal, subcostal, and intercostal retractions.
8. Cyanosis
9. Tripoding or other position of comfort.

OBTAIN HISTORY OF:

1. Onset of symptoms
2. History, allergies and medications
3. Recent history of bacterial or viral infection
4. Vaccinations, -specifically *influenzae* type b (Hib)

PRECAUTIONS:

1. Do not attempt to intubate or visualize the cords, or place anything in the patient's mouth.
2. Complications can include: airway obstruction, aspiration, septic shock and death from asphyxia.

BASIC LIFE SUPPORT CARE:

1. Avoid agitating the child because this can cause airway obstruction.
2. Maintain and open airway and ensure proper ventilations. Apply oxygen. If needed, ventilate the child with a bag-valve-mask and supplemental oxygen.
3. Monitor vital signs including respiratory rate, oxygen saturation, pulse rate, blood pressure and temperature.
4. Maintain position of comfort
5. Transport to appropriate facility

SPECIAL NOTES:

1. Due to vaccinations, epiglottitis can be seen more commonly in adults

HYDROFLUORIC ACID/FLUORINE GAS EXPOSURE

SIGNS & SYMPTOMS:

1. Skin corrosion, ulceration, blisters, or burns
2. Excruciating pain
3. Eye discomfort w/ tearing or visual disturbance
4. Eye, nose, or throat irritation
5. Coughing, painful breathing, pulmonary edema
6. Cardiac arrhythmias, esp. prolonged Q-T segment (occurs just prior to arrest)
7. Severely reddened, swollen areas with blanched, whitish regions

OBTAIN HISTORY OF:

1. PMH/Meds/Allergies
2. Concentration & temperature of HF
3. Duration of exposure
4. Elapsed time since exposure
5. First aid measures instituted prior to arrival
6. Enclosed or open space exposure
7. How exposure occurred

INTRODUCTION:

Hydrofluoric acid (HF) is primarily an industrial raw material. It is present in the household product Whink™ and used in stainless steel, aluminum, organic and inorganic chemicals, and electrical component manufacturing, in iron and steel foundries, metal finishing, petroleum refining, mineral processing, and glassmaking. Employees that work with the chemical will be a valuable resource to EMS personnel and are usually familiar with and trained in first aid measures. Many companies have HF exposure kits available as well that contain the antidotes (medications) mentioned in this guideline.

HF differs from other acids because of its unique ability to penetrate tissue, bind body calcium and persist in its action for some time after initial exposure. Anhydrous HF causes immediate and serious burns on contact. Concentrations above 50% cause immediate burns and rapid tissue destruction. Initial therapy is important because it may bring tissue destruction to a halt. Fluorine gas is a powerful oxidizer. It rapidly forms HF on contact with moisture. HF gas causes skin and eye irritation, delayed burns, lung damage and pulmonary edema. It is fortunate that the odor threshold is very low compared to the levels that can cause harm to health. These warning properties give people working with the material an opportunity to escape.

PRECAUTIONS:

1. Extremely hazardous liquid and gas.
2. Concentrations < 50% may not produce symptoms for ≥ 8 hours.
3. Relief of pain is an excellent indication of the success of treatment and therefore anesthetics should be avoided.
4. Take appropriate precautions and wear impervious gloves when treating victims.
5. Do not induce vomiting for ingestions.

BASIC LIFE SUPPORT CARE:

1. Administer oxygen.
2. If present, allow trained workers or first responders to administer HF antidote kit.
3. Remove contaminated clothing and flush exposed areas (including eyes) with copious amounts of water for at least 20 minutes. If antidote kit is available, flush for 5 minutes and proceed as directed.
4. EMT with IV training - establish IV of NS TKO.
5. Initiate cardiac monitoring.
6. Immediate and follow-up care is extremely important. Even minor exposures should be transported to a Burn Center.

HYPOGLYCEMIA

SIGNS & SYMPTOMS:

1. Rapid onset
2. Dizziness or fainting
3. Slurred speech and drooling
4. Full, rapid pulse
5. Skin: pale, cool, clammy or very diaphoretic
6. Neuro: ↓ LOC , seizures, unconscious, abnormal behavior, confusion

OBTAIN HISTORY OF:

1. Last meal
2. PMH/Meds (insulin use or oral meds)/Allergies
3. Recent activity level
4. Last blood sugar reading
5. Recent vomiting
6. Consider other potential causes of symptoms: CVA, alcohol, seizures, overdose, head injury

PRECAUTIONS:

1. An altered or decreased LOC masks the signs of injury and illness. Any patient that is unconscious or has an altered mental status has the potential for a spinal injury.
2. Call medical control before giving oral/IV/IO sugar and glucagon if BS is known to be > 80 mg/dL.

BASIC LIFE SUPPORT CARE:

1. Consider oral or nasal airway initially if GCS < 9.
2. Administer oxygen.
3. Perform blood glucose testing. Normal blood sugar (BS) range is 80 - 120 mg/dL for adults, 60 - 100 mg/dL for children, and 30 - 80 mg/dL for newborns.
   A. If BS is < 80 mg/dL and patient is conscious and cooperative, administer one of the following:
      1. One tube oral glucose (Glutose = 25 gm/tube, Insta-Glucose = 31 gm/tube). This is preferred over simple carbohydrate foods.
      2. Fast-acting, simple carbohydrates such as orange juice, given orally
   B. If BS is < 80 mg/dL and patient has an altered level of consciousness:
      1. Administer 1 tube oral glucose (Glutose = 25 gm/tube, Insta-Glucose = 31 gm/tube) in downside cheek of log-rolled patient. Administer slowly, monitoring absorption and airway.
      2. EMT with IV training - establish IV of NS TKO with large bore needle.
4. Repeat BS testing as necessary (i.e. patient does not improve).
5. BLS with medication training:
   A. If patient is uncooperative or has decreased LOC, administer 1 unit dose glucagon SQ or IM, prior to medical control contact, instead of administering oral glucose.

SPECIAL NOTES:

1. After clearance with Medical Control Physician (BGL above 80 mg/dL), written Non-Transportation Information sheets on Low Blood Sugar must be given to all patients not transported after a hypoglycemic episode.
2. All patients on oral hypoglycemic agents should be transported (M.D. consult required before non-transport).
3. Patients who require treatment with medications (D50 or glucagon) should have someone to stay with them if they are not transported to the hospital.

NEUROLOGIC-RELATED SIGNS & SYMPTOMS

SIGNS & SYMPTOMS:

1. Unilateral paralysis, numbness or weakness
2. New onset seizure activity
3. Sudden, unexplainable headache
4. Inability to walk or "found down"
5. Altered mental status
6. Dizziness, loss of balance or coordination
7. Blurred or decreased vision
8. Slurred speech; inability to speak or understand simple statements

OBTAIN HISTORY OF:

1. Cardiorespiratory & cerebrovascular disease
2. Symptom onset & duration
3. Quality & severity (on a scale of 1 - 10)
4. Normal level of function
5. Substance abuse
6. Recent illness or trauma
7. PMH/Meds/Allergies
8. DNR/DNI status

PRECAUTIONS:

1. Syncopal episodes and seizures may be cardiac-related.

BASIC LIFE SUPPORT CARE:

1. Administer oxygen.
2. Place patient in semi-reclining position with head elevated 30 - 45° if tolerated, unless evidence of trauma, mange airway and ensure adequate ventilations, then take spinal precautions as indicated.
3. EMT with IV training - establish IV of NS TKO.
4. Assess blood sugar. If BS is < 80 follow hypoglycemia guideline.
5. Initiate ECG monitoring. Obtain 12-lead ECG if cardiac etiology is suspected or dysrhythmia is present.
6. Complete Cincinnati Stroke Scale and document results on run form.

SPECIAL NOTES:

1. In the setting of an acute stroke, rapid assessment, treatment, and undelayed transport are essential to avoid further delays to inhospital treatment, such as thrombolytics.
2. Early notification to MRCC is important for the hospitals to prepare for the patient if the patient has positive findings during the Cincinnati Stroke Scale on the onset is < 7 hours.
3. Patients presenting with signs and symptoms of stroke, a positive Cincinnati stroke scale, and **onset of greater than 6 hours** must be transported to a recognized Primary Stroke Center. Currently, the Primary Stroke Centers in Minnesota are United, Regions, and any hospital within the HealthEast system. MRCC will provide notification of Code Grey status to these institutions upon request by the EMS provider. Patients presenting with signs and symptoms for stroke, a positive Cincinnati stroke scale, and **onset of less than 6 hours** must be transported to a hospital with cath lab capabilities. These facilities include Regions, United, St. Joseph's, and the University of Minnesota in the east metro.

OBSTETRICAL DELIVERY

SIGNS & SYMPTOMS:

1. Regular abdominal pain, cramping, or contractions
2. Bloody show, passage of clots or tissue
3. Perineal bulging, crowning
4. Amniotic sac rupture
5. ↑ contraction intensity and length
6. Urge to push or have bowel movement
7. Involuntary screaming

OBTAIN HISTORY OF:

1. Prenatal care, known complications
2. Symptom onset & time between contractions
3. Presence of meconium when "water broke"
4. PMH/Meds/Allergies
5. Amount of bleeding
6. Last menstrual period
7. Anticipated due date
8. Gravida ((History of number of pregnancies)
9. PARA (history of number of delivered viable infants)

PRECAUTIONS:

1. Take appropriate infection control precautions.
2. Early notification of medical control is essential for known or suspected complications so that receiving facility can be appropriately selected and notified.

BASIC LIFE SUPPORT CARE:

1. Administer 100% oxygen if any complications are known or suspected.
2. Assess length of contraction, measuring from beginning to end of contraction.
3. Assess time between contractions, measuring from beginning of one to beginning of the next.
4. Place patient in position of comfort and reassure.
5. During a contraction, assess for perineal bulging, crowning, and prolapsed cord.
6. If delivery is imminent, open OB kit, prepare for delivery and newborn resuscitation.
7. Suction infant's mouth, then nose, as soon as head appears on the perineum. Resuction mouth then nose immediately upon delivery.
8. Note delivery time. Keep infant at placental level until cord is cut.
9. Immediately stimulate respirations while drying and wrapping infant with a dry blanket. Cover infant's head ASAP.
10. Assess and record one minute APGAR.
11. Apply cord clamps once it stops pulsating. Double clamp cord at 6" and 8" from infant and cut cord.
12. Episiotomy is contraindicated in field. Control bleeding from perineal tears with direct pressure.
13. Assess and record five minute APGAR.
14. Assist in the delivery of placenta and retain in plastic bag.
15. Massage uterus upward to stimulate contractions and control postpartum bleeding. Allow nursing if desired.
16. EMT with IV training - establish large bore IV of NS and administer 500-1,000 cc fluid challenge in any woman with excessive prenatal or postpartum bleeding.

NEONATAL RESUSCITATION:

1. Stimulate and dry patient.
2. Evaluate respirations
   A. Spontaneous: Evaluate heart rate
   B. None or gasping: Ventilate @ 40-60 breaths per minute with BVM with pop-off valve with 100% oxygen
3. Apply ECG
4. Evaluate heart rate (HR)
   A. Above 100: Evaluate color
   B. 60 - 100/min: Continue with PPV and 100% oxygen
   C. < 60/min: CPR with hands wrapped around chest and using two overlapped thumbs placed on the middle of the sternum
   D. Reevaluate every 30 seconds for response to treatment
5. Evaluate color
   A. If blue centrally: Administer oxygen by blowby. Reevaluate every 30 seconds to see if oxygen flow can be reduced.
   B. If pink or peripheral cyanosis: Observe & monitor

6. If 5 minute APGAR is < 8:
   A. Evaluate blood sugar (BS) with heel stick. Normal BS range is 30 - 80 mg/dL for newborns. Consult with MD if BS < 35 mg/dL

COMPLICATIONS:

1. Contact medical control early on if complications are known or suspected so that appropriate destination may be determined.

SPECIAL NOTES:

1. Document mother and child on separate run reports.
2. United Hospital and St. John's Hospital are the only East Metro Hospitals equipped to accept patients between 20-32 weeks gestation who are in active labor. St. John's Hospital has some limitations on these patients. Notify MRCC well ahead of time.
3. If mother has serious hemorrhage or signs and symptoms of serious shock, transport to the nearest hospital (trauma patients should be transported to a Level 1 Trauma Center). If emergency arrangements have been made at the receiving hospital and EMS provider is comfortable with extended travel time, transport patient to the hospital that is expecting the patient.

ABRUPTIO PLACENTAE

SIGNS & SYMPTOMS:

1. Vaginal bleeding
2. Contractions
3. Severe tearing sensation
4. Firm and tender abdomen
5. S & S of shock
6. S & S of fetal distress including ↓ movement
7. Ruptured membranes > 24 hours

OBTAIN HISTORY OF:

1. Trauma
2. Assault/abuse
3. Prenatal care
4. Hx of placenta previa
5. Hypertension
6. Cocaine, tobacco or alcohol use
7. Amount and color of blood and if clots present

PRECAUTIONS:

1. External vaginal bleeding is not always visible

BASIC AND ADVANCED LIFE SUPPORT CARE:

1. Maintain universal blood and body substance precautions
2. Ensure open airway and adequate ventilations – Apply high flow oxygen
3. Treat for shock - Keep patient warm
4. Place in left lateral recumbent position
5. Monitor vital signs at least every 5 minutes
6. EMT with IV training - start large bore IV(s) and if S&S of shock infuse 500 – 1000 cc N.S.

BREECH DELIVERY

SIGNS & SYMPTOMS:

1. Labor
2. Presentation without hair
3. Buttock, arm or feet visible
4. Pulsating presentation part

OBTAIN HISTORY OF:

1. Pregnancy/Prenatal care
2. Due date
3. Possibility of multiple births
4. Previous breech deliveries or OB complications
5. Pelvic tumors
6. Drug or alcohol use
7. Past trauma

PRECAUTIONS:

1. If the umbilical cord is compressed and the infant is in distress, the provider can cause birth trauma by attempting to deliver the infant too rapidly.

BASIC LIFE SUPPORT CARE:

1. Maintain universal blood and body substance precautions
2. Identify the need for imminent delivery or need for immediate transportation:
    A. If delivery is not imminent, transport patient to hospital of choice, if 20-32 weeks bring mother to nearest facility with Level III nursery (United, St. John's, or ANW in Minnesota). Place mother in left lateral recumbent position.
    B. If delivery is imminent but not possible, transport the mother to the nearest hospital with surgery facilities or where emergent plans have been prepared for her care. Place mother in Trendelenburg position to slow delivery
    C. If delivery is imminent, position mother for delivery, prepare a clean field, allow delivery up to the level of the umbilicus and if in the front position extract the legs downward after the buttocks is delivered, support the baby's body with the palm of the hand and forearm, gently extract a 4"-6" loop of umbilical cord to allow delivery, gently rotate the baby to align the shoulders in an anterior-posterior position and deliver the shoulders, avoid excessive head and spine movement or traction when the head is delivered; if the head does not deliver, place a gloved hand into the vagina with palm towards the baby's face and form a "V" on either side of the baby's nose making a space for air to enter. Place mother on high flow oxygen
3. EMT with IV training - start IV TKO
4. After Birth, follow guidelines for newborn infant:
    A. Be prepared to suction and support infants airway and ventilations
    B. Warm and dry infant
    C. Treat mother for hemorrhage

SPECIAL NOTES:

1. Inform the hospital as soon as possible of your patient so they can prepare for their arrival.
2. APGAR scores are typically lower, especially at 1 minute, after a breech delivery.
3. Incidence of breech delivery is higher during the 21-28 weeks of gestation, so low birth weight can be a concern for the baby.
4. Intracranial hemorrhage, injury to the spinal cord, liver, adrenals and spleen are possible during a breech delivery.

CORD PROLAPSE

SIGNS & SYMPTOMS:

1. Labor
2. Rupture of membranes
3. Pulsating presenting part

OBTAIN HISTORY OF:

1. Pregnancy/Prenatal care
2. Due date
3. Possibility of multiple births
4. Rupture of membranes
5. Drug or alcohol use

PRECAUTIONS:

1. 47% of cord prolapse occurs within five minutes of rupture of amniotic sack. This is a life-threatening complication that requires emergency cesarean birth to save the life of baby.

BASIC LIFE SUPPORT CARE:

1. Place mother into knee-chest position, with buttocks elevated as high as possible.
2. Insert gloved hand into vagina and lift the presenting part off the cord.
3. Do not remove hand until arrival at the hospital. Take care to not compress the cord.
4. Give mother 100% oxygen via nonrebreather.
5. Transport emergently to closest hospital.
6. Do not allow mother to stand up or lay on her back.
7. Keep mother warm.

ADVANCED LIFE SUPPORT CARE: In addition to above and as appropriate:

1. EMT with IV training - start large bore IV with NS.

SPECIAL NOTES:

1. Notify receiving hospital as soon as possible so they can prepare their OR team.

MECONIUM ASPIRATION SYNDROME (MAS)

SIGNS & SYMPTOMS:

1. Viscous, dark green substance present
2. Cyanosis
3. End-expiratory grunting
4. Nasal flaring
5. Intercostal/sternal retractions
6. Tachypnea
7. Barrel Chest in the presence of air trapping
8. Newborn with green urine

OBTAIN HISTORY OF:

1. Placental distress
2. Maternal hypertension
3. Pre-eclampsia
4. Oligohydramnious (low fluid-amniotic sac)
5. Maternal drug abuse, especially cocaine and tobacco
6. At least 34 weeks gestation (Meconium usually not present until the 34 week)

PRECAUTIONS:

1. Aspiration of meconium-stained amniotic fluid can cause several complications; hypoxia is of the most concern for the EMS provider.

BASIC LIFE SUPPORT CARE:

1. Upon delivery of the newborns head on the perineum, carefully suction the mouth and then the nose.
2. Initiate resuscitation: dry, stimulate, ensure open airway, ventilate and apply oxygen as needed.
3. Maintain newborn body heat
4. DO NOT perform harmful techniques like squeezing the chest, inserting a finger into the mouth of the baby or externally occluding the airway of the baby.

SPECIAL NOTES:

1. Meconium in the amniotic fluid can be detected in 8-20% of all births after 34 weeks gestation. 1-9% may develop Meconium Aspiration Syndrome.

PLACENTA PREVIA

SIGNS & SYMPTOMS:

1. Painless vaginal bleeding during the 2nd or 3rd trimester
2. Signs and symptoms of shock

OBTAIN HISTORY OF:

1. Painless vaginal bleeding during the 2nd & 3rd trimester
2. Past C-section delivery
3. Placenta Previa in current or past deliveries
4. Time and amount of bleeding
5. Color of blood and any clots present
6. Prenatal care

PRECAUTIONS:

1. As a general rule, cases of painless vaginal bleeding in the 2nd or 3rd trimester should be considered placenta previa.
2. Placenta can create a blockage to prevent blood from entering the vagina. Subsequently uterus can fill with free blood without vaginal bleeding

BASIC AND ADVANCED LIFE SUPPORT CARE:

1. Maintain universal blood and body substance precautions
2. Administer high flow oxygen
3. Keep patient warm
4. Place patient in left lateral recumbent position
5. Monitor vital signs at least every 5 minutes
6. EMT with IV training - start large bore IV (s) and if symptomatic, infuse 500-1000 ml of normal saline and recheck vital signs

POSTPARTUM HEMORRHAGE

SIGNS & SYMPTOMS:

1. Blood loss > 500 ml after vaginal delivery
2. Birth trauma to genital tract
3. Weakness
4. Signs and Symptoms of shock

OBTAIN HISTORY OF:

1. Delivery date and time
2. Estimate of blood loss
3. Delivery of intact placenta
4. Postpartum hemorrhage in past deliveries
5. Multiple fetuses
6. Prolonged labor

PRECAUTIONS:

1. Estimates of blood loss at delivery are subjective and generally inaccurate. Studies suggest that care givers underestimate actual blood loss. The volume of a clot represents ½ the volume of blood used to form the clot.

BASIC AND ADVANCED LIFE SUPPORT CARE:

1. Administer high flow oxygen
2. Keep patient warm
3. Raise the patient's legs
4. Massage fundus towards feet with support on lower uterus just above symphysis pubis
5. Allow infant to nurse
6. Monitor vital signs at least every 5 minutes
7. Apply large dressing and direct pressure to stop external bleeding
8. For external tears, consider the use of ExcelArrest or BleedArrest.
9. EMT with IV training - start 1-2 large bore IV (s)
10. Infuse 500-1000 cc of normal saline and recheck vital signs

SPECIAL NOTES:

1. Usually caused by a failure of the uterus to contract and retract following delivery.

PRE-ECLAMPSIA/ECLAMPSIA

SIGNS & SYMPTOMS (with pregnancy):

1. Headache
2. Edema
3. Visual disturbances
4. Upper right quadrant/ epigastric pain
5. Decrease in urinary output
6. Seizure
7. Unresponsiveness
8. BP greater than 140-90 /p 20th week of pregnancy

OBTAIN HISTORY OF:

1. Pregnancy
2. Hypertension
3. Renal disease
4. Past and family history of pre-eclampsia/eclampsia
5. Recent past seizure activity

PRECAUTIONS: None

BASIC LIFE SUPPORT CARE (ECLAMPSIA):

1. Do not delay transport
2. Maintain an open airway and adequate ventilations, apply oxygen as needed to ensure SaO_2 greater than 95%.
3. Monitor vital signs every 5 minutes
4. Place patient on stretcher in *Left Lateral Recumbent Position*
5. Protect against maternal injury during seizure activity
6. Decrease external stimulation as much as possible (lower lights and RLS only in emergencies)
7. EMT with IV training - establish IV TKO

SPECIAL NOTES:

1. Usually occurs during third trimester of pregnancy or within 48 hours after birth. Cases have happened before 20 weeks gestation and as late as 23 days after delivery.
2. Eclampsia is defined as seizure activity or coma unrelated to other cerebral conditions in an O.B. with preeclampsia.
3. In the U.S., approximately 5% of pregnancies are complicated by preeclampsia and 0.5-2% progress to eclampsia.
4. No definite cause has been identified; however, genetic, immunologic, endocrinologic, nutritional, and infectious agents have been proposed as possible causes.
5. Preeclampsia/eclampsia creates a functional derangement of multiple organ systems including the central nervous system, hematologic, hepatic, renal and cardiovascular system.

PAIN MANAGEMENT

SIGNS AND SYMPTOMS:

1. Pain associated with:
   A. Isolated musculoskeletal traumatic injury
   B. Acute burns
   C. Abdominal pain of known origin
   D. Suspected kidney stones
      (Toradol is especially effective for kidney stones)
2. Anxiety due to the above

OBTAIN HISTORY OF:

1. Past use of pain medications
2. Known hypersensitivity or allergies

PRECAUTIONS:

1. Decreased level of consciousness
2. Hypotension
3. Closed head injury
4. Other precautions pertinent to each medication listed below
5. The elderly patient due to increased sensitivity to pain medications

BASIC LIFE SUPPORT:

1. Obtain patient history, allergies, and current medications.
2. Obtain a complete set of vital signs initially, noting mental status and reevaluate at least every five minutes if patient is unstable.
3. Evaluate, rate and document the patient's pain using the 1-10 scale.
4. Ensure patient is restless due to pain and not hypoxia.
5. Consider measures including position of comfort, icepacks, splinting, and padding.
6. Reevaluate pain after treatments using 1-10 scale.
7. Consider ALS response.
8. EMT with IV training may establish IV NS TKO.

SPECIAL NOTES:

1. All patients reporting significant pain and requiring intervention with pain medication **must** be transported by ALS. The reasoning for BLS transport of patients with high pain ratings must be clearly documented in the patient care report and reported to MRCC.
2. Geriatric patients may require smaller doses of medications.
3. Patients suffering from muscle spasms may benefit more from Versed than Morphine.
4. Burn gel dressings may provide significant relief from pain associated with burns. Be aware of the possibility of hypothermia if using burn gel on a greater than 10% burn.
5. Use caution, the relief of pain can relax the patient, allowing respirations to become depressed.
6. Each medication has its own precautions; make sure you are familiar with each medication and how they can potentiate each other when used together.
7. Document any issues/side effects such as respiratory distress, nausea/vomiting, diaphoresis, vagal response or anaphylactic reactions.
8. Maintain awareness for drug seeking behavior.

POISONING / OVERDOSE

SIGNS & SYMPTOMS:

1. GCS < 15; abnormal behavior
2. Traumatic injuries; needle tracks
3. Pupils: dilated, constricted, ≠, sluggish
4. Seizures; incontinence
5. Hypothermia, hyperthermia
6. Snoring respirations
7. Irregular/unstable vital signs; arrhythmias

OBTAIN HISTORY OF:

1. Scene factors: needles, pills, suicide notes, etc.
2. Recent injury or illness
3. Substance abuse
4. Toxic exposure
5. Onset and duration
6. Medic alert tags
7. PMH (esp. seizures, diabetes, CVA) /Meds/Allergies

PRECAUTIONS:

1. An altered or decreased LOC masks the signs of injury and illness. Any patient that is unconscious or has an altered mental status has the potential for occult trauma and/or spinal injury.

BASIC LIFE SUPPORT CARE:

1. Take spinal precautions if history is unreliable due to unconsciousness or altered mental status.
2. Consider oral or nasal airway if GCS < 9. Assist ventilations on any patient with decreased LOC and respirations < 10 or > 30.
3. Administer oxygen.
4. Perform blood glucose testing. If BS is < 80 follow hypoglycemia guideline.
5. Consider ALS response.
6. Contact National Poison Control Center (1-800-222-1222) and follow the operator's treatment instructions within your scope of practice. Contact MRCC with questions for treatment that appears to conflict with your training.
7. EMT with IV training - establish IV of NS TKO. Consider 250 cc fluid challenges in any adult patient with systolic BP < 90.
8. If CO is suspected, obtain blood sample in green tube and monitor patient with CO oximetry device if available. If the patient has no fire/smoke exposure and AMS or history of unconsciousness, transport to the patient directly to HCMC (see transportation guideline).
9. Initiate cardiac monitoring. Perform 12-lead if cardiac ischemia is suspected.
10. Apply restraints as necessary.
11. Collect emesis and bring with patient to hospital.
12. If trauma can be ruled out, position patient in recovery position during transport.
13. Intentional overdose with intent to harm oneself must be transported. Obtain emergency transport hold if patient is unwilling to cooperate.

RESPIRATORY – RELATED SIGNS AND SYMPTOMS

SIGNS & SYMPTOMS:

1. Dyspnea, tachypnea, or hyperventilation
2. Cough (productive or nonproductive)
3. Wheezing, stridor, or crowing
4. Rales, rhonchi, ↓ or ≠ lung sounds
5. Difficulty speaking & accessory muscle use
6. Orthopnea or tripod positioning
7. Cyanosis, ↓ O_2 sats, agitation or anxiety

OBTAIN HISTORY OF:

1. Past Medical History (PMH)
2. Medications and allergies
3. Cardiorespiratory disease
4. Onset, severity, & duration
5. Relieving factors (rest, inhaler, nebs)
6. Recent illness or trauma
7. Substance abuse (esp. tobacco)
8. Environmental or allergen exposure

PRECAUTIONS:

1. This guideline refers to spontaneously breathing and perfusing patients.

BASIC LIFE SUPPORT CARE:

1. Assess respiratory effort/quality by listening to lung sounds and by assessing their speech-to-breath ratio (1-word, short sentences or full sentences). Document initially and after each treatment.
2. Administer oxygen, monitor O_2 saturation, and capnometry if available.
3. Place patient in position of comfort and reassure.
4. Consider ALS response.
5. EMT with IV training - establish IV of NS TKO.
6. Initiate ECG monitoring. Obtain 12-lead ECG if signs and symptoms suggest cardiac etiology.
7. Assist patient with prescribed medications as directed by private physician.
8. Start CPAP therapy if appropriate and available.
9. BLS with medication training: For wheezing, suspected asthma and COPD, administer albuterol neb. Adults and children may receive continuous nebs on standing order at adult strength with reassessment in between if symptoms persist. Consider obtaining peek expiratory flow rate initially and after each treatment.
10. Using a BVM, assist respirations in any patient with decreased LOC and respiratory rates of < 10 or > 30/min.
11. If an asthma patient is in need of respiratory support, decrease ventilations to 8 per minute and perform manual exhalation if lung deflation is poor.

PEDIATRIC CONSIDERATIONS:

1. ALS: Children may receive one albuterol/Atrovent neb at adult strength on standing order. If further nebs are indicated, additional albuterol-only nebs may be given, as indicated, prior to medical control contact.
2. ALS: Consider Racemic Epinephrine for croup patients who are in respiratory distress.

SPECIAL NOTES:

1. Patients who receive treatment for respiratory distress should be transported to a medical facility for further evaluation. If patient refuses transportation, consult with Medical Control Physician before releasing patient.

SEIZURES

SIGNS & SYMPTOMS:
1. Skin: febrile and flushed, or normal
2. Incontinence
3. Tonic phase - body stiffening
4. Clonic phase - body jerking
5. Drowsiness, confusion, or unconsciousness
6. Abnormal behavior
7. Apnea and cyanosis

OBTAIN HISTORY OF:
1. Epilepsy or previous seizures
2. CVA, tumor, or HTN
3. Diabetes
4. Substance abuse
5. Recent trauma or illness (esp. fever, infection)
6. PMH/Meds (esp. anticonvulsants)/allergies
7. Pre-eclampsia

PRECAUTIONS:
1. Do not attempt to place anything into the airway of a seizing patient.
2. Be prepared to assist ventilations in (and possibly intubate) any patient who receives midazolam.
3. Seizures may be cardiac-related.

BASIC LIFE SUPPORT CARE:
1. If actively seizing, do not restrain the patient. Protect from harm.
2. Assess and support ABCs. Consider nasal airway.
3. Place in recovery position if no evidence of trauma.
4. Administer oxygen.
5. Assess blood sugar. If BS is < 80 follow hypoglycemia guideline.
6. Consider ALS response
7. EMT with IV training - establish an IV TKO in any patient with a first time seizure (except children), recurrent or status seizures, or seizures associated with overdose, hypoglycemia, or trauma.
8. Initiate cardiac monitoring.
9. Obtain body temperature if patient appears febrile. Attempt to cool, but do not allow to shiver.

PEDIATRIC CONSIDERATIONS:
1. Orders for all other indications in children must come from Medical Control Physician.
2. Pediatric febrile seizures should be transported by ambulance.

SPECIAL NOTES:
1. Patients not transported following a seizure must be given the written Non-Transportation Information sheets on Seizures.

TRACHEOSTOMY

SIGNS & SYMPTOMS:

1. Ostomy opening with/without obturator
2. Scarf covering opening

OBTAIN HISTORY OF:

1. Present illness
2. History, allergies and medications
3. Interventions taken before EMS arrival
4. DNR/DNI

PRECAUTIONS:

1. Avoid cross-contamination

BASIC LIFE SUPPORT CARE:

1. Establish patient responsiveness. If cervical spine injury is suspected, stabilize the spine.
2. Check and open the airway. Assess the tracheostomy tube and ensure that it is in place and not obstructed. If the obturator has been left in place, remove it to open the tracheostomy tube.
3. If trauma is present, dress the wound.
4. In infants, position a child's airway in a neutral position. Place a towel under the infant/child's shoulders as needed.
5. Assess the patient's breathing, including rate, effort, adequacy of ventilation as indicated by chest rise and air flow, auscultation and inspection.
6. If the patient is in respiratory distress, attempt assisted ventilation through the tracheostomy tube. If the patient is on a ventilator, follow the ventilator-dependent guideline. If the tracheostomy is a double-lumen tube, the inner cannula must be in place for bag-valve device to connect.
7. Check for a pulse. If no pulse or if the pulse is below 60 in a child (< 8 years of age) start compressions and continue to ventilate the patient via the tracheostomy.
8. If a pulse is present, obtain a set of vital signs including respiration rate, pulse rate, blood pressure, pulse oximeter and temperature (do not rely on SaO2 in patients with poor perfusion)
9. Obtain baseline vital signs from the patient's caregiver.
10. If secretions are present in the airway, use intermittent suction for no more that 10 seconds. Use 100 mm Hg or less of suction.
11. If the patient has adequate respirations, administer 100% oxygen by placing an oxygen mask over the tracheostomy.
12. Transport patient to the appropriate facility
13. Bring the patients medical information and other items that they have in their "go" bag.
14. Reassess the patient often and obtain a set of vital signs every 5 minutes.

TRAUMA-RELATED SIGNS & SYMPTOMS

SIGNS & SYMPTOMS:

1. Contusion, abrasion, laceration, hematoma
2. Pain, tenderness, guarding, numbness/tingling
3. Bruising, swelling, deformity, false/limited motion
4. Muscle weakness/paralysis, loss of sensation
5. Altered mental status
6. Irregular/unstable vital signs
7. ≠ pupils, JVD, incontinence, SQ air
8. Pale, cool, clammy skin; delayed capillary refill

OBTAIN HISTORY OF:

1. PMH/Meds/Allergies
2. Mechanism of injury/weapon description
3. Use of protective devices: helmets, seatbelts, airbags, padding
4. Substance abuse
5. Estimated blood loss at scene
6. Time of injury
7. Loss of consciousness

PRECAUTIONS:

1. Pulse oximetry readings may be difficult to obtain in states of low perfusion.
2. Substance abuse masks the signs of injury and illness. Any patient who is unconscious, has an altered mental status, or has a head injury has the potential for a spinal injury.

BASIC LIFE SUPPORT CARE:

1. Notify medical control immediately of any patient that meets trauma team alert criteria.
2. If signs and symptoms of shock, keep patient warm and consider Trendelenburg Position.
3. Take spinal precautions while assessing and supporting ABCs. Assist ventilations on any patient with decreased LOC and respirations < 10 or > 30.
4. Control bleeding with direct pressure, elevation, and pressure points. Apply hemorrhage control agent as appropriate and available.
5. Administer high concentration oxygen.
6. Backboard patient with C-collar if patient complains of head, neck, or back pain, or if suggested by mechanism of injury, or if history is unreliable due to unconsciousness or altered mental status.
7. In extremity trauma with loss of distal pulse, prior to splinting, make one gentle attempt with traction to realign long bones to restore distal circulation. If unsuccessful, splint as indicated and notify receiving personnel immediately about circulatory status. Do not attempt to reduce/realign injured joints.
8. Immediately begin transport any patient with significant airway, breathing, circulatory, or neurological compromise. **Attempt to keep scene time to 5 minutes in severe trauma, but remember that time spent at the scene, assessing and managing the patient's ABCs is time well spent**. Focused surveys, if patient is critical, should be performed enroute.
9. EMT with IV training - initiate large bore IV(s) in any patient exhibiting signs and symptoms of shock or who has the potential to become shocky due to known injuries or mechanism of injury. IV/IO(s) in unstable patients should be established enroute unless extrication is delayed. Do not delay rescue or extrication for IV/IO.
10. Consider fluid challenges in any adult patient with systolic BP < 90. Attempt to maintain systolic BP @ 90 – 100 mmHg. Fluid challenges are typically 20 cc/kg.

PEDIATRIC CONSIDERATIONS:

1. In children with signs & symptoms of shock, consider fluid challenges of 20 cc/kg. IO may be the preferred route in pediatric patients < 8 with significant injuries.

HELMET CONSIDERATIONS: The decision about whether to remove a helmet should be based on three factors: 1) the ability of EMS personnel to access the patient's ABC for an evaluation and provide treatment if indicated, 2) the status of the patient's level of consciousness and ABCs, and 3) the existence of shoulder pads.

1. The relative position of the head and thorax must be considered when immobilizing a patient wearing helmet and shoulder pads. Patients with football shoulder pads and helmets are generally held in a neutral alignment when wearing both pieces of equipment. Patients wearing hockey or lacrosse shoulder pads are generally not neutrally aligned. Removal of the shoulder pads should be considered if the helmet is removed.

A. In the stable patient without ABC or neurological compromise, both the helmet and shoulder pads should be left in place. Padding, as necessary, should be placed to maintain neutral alignment. Stabilization may be accomplished using the horseshoe blanket technique and 2" tape.
B. The facemask and chinstrap should be removed, regardless of ABC compromise or altered LOC. The easiest way to accomplish this is to snip the clips holding the facemask in place, or remove the screws holding the plastic clips in place.
C. The entire helmet should be removed if:
    1. The helmet and chinstrap do not hold the head securely (i.e. immobilization of the helmet does not also immobilize the head)
    2. The design of the helmet and chinstrap is such that even after removal of the facemask, the airway can not be assessed or managed properly
    3. The facemask cannot be removed after a reasonable period of time
    4. The helmet prevents immobilization for transportation in an appropriate position

2. Patients without shoulder pads (e.g. bicycle, motorcycle, ski)
    A. Patients with helmets only: in the absence of shoulder pads, EMS personnel should remove helmets so that the spine may be properly aligned.
3. Technique for removing helmet: Person A stabilizes the head and neck while Person B removes the chin strap and helmet pads and, if present, deflates the helmet's air cells. Person B then stabilizes the neck and head by placing one hand on the occiput and one hand under the lower jaw. Person A spreads the helmet opening and gently slides the helmet off the head. Person B carefully supports the head to prevent it from dropping, and maintaining it at the same level as the torso. Padding should be placed to maintain neutral alignment. Stabilization may be accomplished using the horseshoe blanket technique and 2" tape.

SPINAL IMMOBILIZATION: Spinal immobilization is indicated in patients who have sustained an injury with a mechanism of injury having the potential for causing spinal injury (or when the mechanism of injury is unclear) and who have at least one of the following criteria:

1. Altered mental status (requires that providers have the ability to communicate with the patient. If there are communication difficulties (e.g. children, language barriers, hearing impairment, etc.) that make assessment of mental status difficult, err on the side of immobilizing the patient)
2. Evidence of intoxication or other mind-altering substance ingestion
3. Distracting painful injury
4. Neurologic deficit
5. Spinal pain or tenderness
6. Situations which may impact the patient's perception and communication of pain (e.g. extremes of age < 12 or > 65) or non-English speaking or non-verbal patients

SPECIAL NOTES:

1. Contact Medical Control Physician if surgical field amputation may be needed.
2. Do not hyperventilate patients with head injuries unless they are actively herniating!
3. When possible, monitor head injury patients with CO_2 monitor. The goal is a value of 35.
4. All amputated parts should be retrieved, if possible, for possible reimplantation. Wrap the part in a moist sterile dressing (DO NOT SOAK, IMMERSE OR ALLOW TO FREEZE). Place the part in a sealed plastic bag and place the bag on regular ice or cold pack. Avoid tourniquets and never clamp bleeding vessels. Collect teeth and place in container of sterile normal saline.
5. Potential femur fractures in all ages should be stabilized using a splint capable of applying traction.

Patients from minor vehicle accidents and those with wounds, lacerations, sprains or contusions who are not transported must be given the appropriate written Non-Transportation Information sheets.

VENTILATORS

SIGNS & SYMPTOMS:

1. Alarms sounding
2. Patient fighting tube
3. Cyanosis
4. Respiratory distress

OBTAIN HISTORY OF:

1. History of present illness
2. Medical history
3. Allergies
4. DNR status

PRECAUTIONS:

1. Patient must be ventilated, if ventilator cannot be used – use bag-valve device
2. Ventilate adult patients 8-10 times per minute and 20 times per minute for children and infants.

BASIC LIFE SUPPORT CARE:

1. Establish responsiveness.
2. Ensure open airway.
3. Assess the patient's breathing including rate, effort and adequacy of ventilation as indicated by chest rise, airflow and auscultation.
4. Look at the ventilator and determine the reason for the alarm (treat the patient and not the machine).
5. If the patient is not breathing:
    A. Disconnect the ventilator
    B. Ask caregiver to turn ventilator off to silent the alarm
    C. Ventilate the patient using a bag-valve-mask attached to supplemental oxygen.
    D. Assess for equal chest rise and breath sounds.
6. Check for a pulse. If no pulses are present, start CPR and apply AED/Defibrillator.
7. Assess circulation and ventilations to ensure good oxygenation and circulation
8. Consider ALS response.
9. Obtain a complete set of vital signs including pulse, respirations, blood pressure, pulse oximetry and temperature. Ask the caregiver for a set of baseline vital signs.
10. If breathing is adequate, place in position of comfort and administer high flow oxygen.
11. Transport to appropriate facility

SPECIAL NOTES:

1. Caregivers may be the most important resource for problem solving problems with a ventilator.

Medications

MEDICATION ADMINISTRATION

POLICY:

1. Basic life support services carry and administer the following medications: oxygen and dextrose (oral). EMTs may assist the patient in taking certain medications as prescribed by their personal physician after consulting with Medical Control Physician.
2. In addition to those listed above, basic life support services with medication training may carry and administer the following medications: albuterol, aspirin, glucagon, nitroglycerin and an epinephrine autoinjector. EMTs may not change their scope of practice until appropriate training and medical direction approval have been obtained.
3. In addition to those listed in #1, advanced life support services may carry and administer the following medications: adenosine, Albuterol, Amiodarone, Atrovent, atropine, Benadryl, calcium chloride, 50% dextrose, dopamine, 1:1000 epinephrine, 1:10,000 epinephrine, Fentanyl, Glucagon, Haldol, magnesium sulfate, Mark – 1 Kits, morphine, Narcan, nitroglycerin, nitrous oxide, Opthane, Phenergan, Racemic epinephrine, sodium bicarbonate, Toradol and Versed. Oral dextrose is optional for ALS agencies and the epinephrine autoinjector may be carried.
4. In addition to those listed above, agencies performing RSI carry and administer the following additional medications: etomidate, vecuronium, and succinylcholine.
5. General guidelines to be followed when giving medications:
    A. Perform patient assessment.
    B. Manage ABCs as indicated.
    C. Establish IV of normal saline.
    D. Attach monitor and obtain ECG if indicated.
    E. Obtain complete set of vitals: BP, pulse, respirations, and O2 sats.
    F. Inquire about patient allergies.
    G. Obtain/estimate patient weight.
    H. Obtain physician order if required, and repeat the order back to the physician.
    I. Check medication for correct concentration, correct dose and expiration date.
    J. Administer medication.
    K. If administering during cardiac arrest, circulate drugs with chest compressions.
    L. Repeat assessment (e.g. lung sounds, pain scale) and vitals.
    M. Notify medical control that drug has been given and any changes in patient condition.
    N. Document drug, dosage, route, time, initials of person administering, SO (standing order) or VO (verbal order) and patient response.
6. Under special circumstances, and on the order of the medical control physician, an EMT may assist a patient in taking medications prescribed for the patient by their personal physician. Some of the more common medications that EMTs may be asked to assist with include nitroglycerin, epinephrine, aspirin, and metered-dose inhalers for asthma.
7. Use caution when administering medications to pregnant women. Consult with Medical Control Physician if there are any questions.
8. In the intubated patient, albuterol and Atrovent should be administered with an adapter that permits in-line nebulization.
9. ALS: For purposes of medication standing orders, children are those patients < 12 years.
10. ALS: All infusions (dopamine and epinephrine) must be administered via a Buretrol with 60 gtt tubing. Fill the Buretrol with 50 ml of the solution. Close off the Buretrol to the bag and control the appropriate drip rate via the 60 gtt tubing. Buretrol should be as high as or higher than bag to run well.
11. ALS: Controlled substances: fentanyl, morphine, nitrous oxide and Versed have special documentation requirements.
12. ALS: Any medication that may be administered via the IV route may also be administered IO at the same dose.

ALBUTEROL (generic), PROVENTIL, VENTOLIN (brand)

ACTION: Sympathomimetic bronchodilator ($beta_2$-adrenergic agonist)

INDICATIONS:
1. For relief of acute bronchospasm (reversible airway obstruction)

CONTRAINDICATIONS:
1. Allergy or known hypersensitivity to albuterol

PRECAUTIONS:
1. Beta-receptor blocking agents and albuterol inhibit the effect of each other.
2. Use with caution in patients with heart disease, hypertension, diabetes, the elderly and those being treated with antidepressants.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Hypertension and headache
2. Arrhythmias and chest pain
3. Nervousness and shakiness
4. Rare: May produce immediate allergic reactions or paradoxical bronchospasm, which can be life threatening. Discontinue treatment immediately if this occurs.

ADMINISTRATION:
1. BLS with medication training:
   A. Pour one unit dose bottle (2.5 mg = 3 ml of 0.083% solution) into nebulizer reservoir.
   B. Connect nebulizer to oxygen source at 6 or 8 liters per minute (depending on manufacturer).
   C. Have patient breathe as calmly and deeply as possible until no more mist is found in the nebulizer chamber (5 - 15 minutes). Routine nebulizer therapy should be accomplished by instructing the patient to close his/her lips tightly around the mouthpiece. An acceptable alternative to using the mouthpiece would be to attach the nebulizer reservoir to an oxygen mask, i.e. remove the bag from a non-rebreather nebulizer reservoir and do not use the T-piece or the mouthpiece.
   D. Continuous nebulizer treatments (with reassessment in between) may be given to all ages as indicated.
   E. Restart patient on oxygen at appropriate concentration.
2. ALS: Same as above except that Atrovent 500 mcg is added to the first (only) neb, unless contraindicated.
3. ALS: In the intubated patient, albuterol should be administered with an adapter that permits in-line nebulization.
4. Further orders must come from Medical Control Physician.

PEDIATRIC CONSIDERATIONS:
1. BLS with medication training: Continuous nebs, at adult strength, may be given on standing order.
2. ALS: Continuous nebs (with Atrovent added to first neb) at adult strength, may be given on standing order.

SPECIAL NOTES:
1. May begin treatment prior to IV therapy. This may decrease anxiety in the patient.
2. Nebulizer treatments for patient with active tuberculosis should be performed in well-ventilated areas (outside patient compartment if possible). Providers should use appropriate respiratory protection.
3. ALS providers can provide in-line nebs during CPAP therapy as appropriate.

ASPIRIN

ACTION: Analgesic; anticoagulant that slows the blood clotting mechanism in the body, and may help to reduce the damage caused by an acute myocardial infarction

INDICATIONS:
1. Suspected cardiac ischemia

CONTRAINDICATIONS:
1. Allergy to aspirin or other non-steroidal anti-inflammatory agents (includes many non-aspirin/non-Tylenol™ pain relievers such as Advil™ and Alleve™)
2. Active GI bleeding
3. Aortic dissection

PRECAUTIONS:
1. Recent internal bleeding (within last 3 months)
2. Known bleeding diseases
3. Recent surgery
4. Possibility of pregnancy
5. Allergies to ANY pain medication
6. Patients with a history of asthma may take if they have tolerated ASA in the past and are not currently having asthma-related symptoms.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Bleeding

ADMINISTRATION:
1. BLS: an EMT may assist the patient in taking aspirin as directed by the patient's personal physician.
2. BLS with medication training or ALS: have the patient chew 324 mg (generally one adult or four children's) aspirin.
3. The patient may drink a small amount of liquid after chewing the tablets, if desired.
4. Further orders must come from monitoring physician.

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without physician order.

SPECIAL NOTES:
1. It is unnecessary to administer aspirin to a patient that has taken it within the last 12 hours. If unsure, it is preferable to administer aspirin as above.
2. Being on current anticoagulant therapy (e.g. Coumadin) is not necessarily a reason to withhold aspirin. Consult with Medical Control Physician if there are questions.

ATROVENT™ (brand), IPRATROPIUM BROMIDE (generic)

ACTION: Anticholinergic bronchodilator

INDICATIONS:
1. For relief of acute bronchospasm (reversible airway obstruction) in COPD patients only

CONTRAINDICATIONS:
1. Allergy or known hypersensitivity to Atrovent
2. Hypersensitivity to atropine (chemically related)

PRECAUTIONS:
1. Use with caution in patients with heart disease, hypertension, glaucoma and the elderly.
2. Ipratropium may worsen the condition of glaucoma if it gets into the eyes. Having the patient close their eyes during nebulization may prevent this.

ADVERSE REACTIONS/SIDE EFFECTS:
1. More common: cough, dry mouth or unpleasant taste
2. Less common or rare: vision changes, eye burning or pain, dizziness, headache, nausea, nervousness, palpitations, sweating, trembling, increased wheezing or dyspnea, chest tightness, rash, hives or facial swelling

ADMINISTRATION:
1. Atrovent is used only in combination with albuterol in the prehospital setting.
2. Dosage for adults: Pour one unit dose bottle (500 mcg = 2.5 ml of 0.02% solution) into nebulizer reservoir with one unit dose of albuterol.
3. Connect nebulizer to oxygen source at 6 or 8 liters per minute (depending on manufacturer).
4. Have patient breathe as calmly and deeply as possible until no more mist is found in the nebulizer chamber (5-15 minutes). An acceptable alternative to using the mouthpiece would be to attach the nebulizer reservoir to an oxygen mask, i.e. remove the bag from a non-rebreather nebulizer reservoir and do not use the T-piece or the mouthpiece. If a mask is used, adjust the mask to prevent mist from getting into the patient's eyes.
5. **One nebulizer treatment with ipratropium may be given to COPD patients prior to contact with medical control. If further nebulization is indicated, albuterol-only nebs should be given.**
6. In the intubated patient, Atrovent should be administered with an adapter that permits in-line nebulization.
7. Further orders must come from monitoring physician.

PEDIATRIC CONSIDERATIONS:
1. One Atrovent/albuterol neb treatment at adult strength may be given to children suffering from asthma prior to contact with medical control. If further nebulization is indicated, albuterol-only nebs should be given.

SPECIAL NOTES:
1. Nebulizer treatments for patients with active tuberculosis should be performed in well-ventilated areas (outside patient compartment if possible). Providers should use approved respiratory protection.

DEXTROSE 50% IN WATER ($D_{50}W$) (generic)

ACTION: Hyperglycemic; increases circulating blood sugar levels

INDICATIONS:
1. Suspected or known hypoglycemia (BS < 80 mg/dL)

CONTRAINDICATIONS:
1. Intracranial hemorrhage

PRECAUTIONS:
1. May cause CNS symptoms in the alcoholic patient.
2. Should not be used as a diagnostic agent in the patient with altered LOC unless the BS is known to be < 80 mg/dL or, if the BS cannot be determined, patient is known to be diabetic.
3. If CVA or head trauma is suspected as the cause of altered mental status, contact medical control physician prior to administration.

ADVERSE REACTIONS/SIDE EFFECTS:
1. May aggravate HTN and CHF
2. May cause tissue necrosis at injection site if infiltration occurs

ADMINISTRATION:
1. Blood sugar between 40 and 80mg/dL in a conscious, alert patient, give 50% dextrose orally or ½ amp IV/IO and recheck a blood sugar. Administer remaining amp if no change.
2. Blood sugar < 40 mg/dL with or without altered LOC:
   A. Establish IV/IO of NS TKO in large vein.
   B. Administer $D_{50}W$ (25 grams) IV/IO x 1.
3. Repeat BS measurement.
4. Further orders must come from monitoring physician.

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without Medical Control Physician order.
2. Initial dose is 0.5 - 1.0 g/kg IV/IO. A maximum concentration of 25% dextrose in water ($D_{25}W$) should be infused. $D_{50}W$ must, therefore, be diluted 1:1 with NS to achieve $D_{25}W$. For example, to administer 10 g. to a 20 kg. Child, mix 20 cc $D_{50}W$ with 20 cc NS and infuse slowly via IV/IO. Mixing the solution in a Buretrol may be necessary.
3. A maximum concentration of 10% dextrose in water ($D_{10}W$) should be used in neonates. $D_{50}W$ must, therefore, be diluted 1:4 with NS to achieve $D_{10}W$. Neonatal dosage is 5 - 10 cc/kg of $D_{10}W$ administered over 20 minutes.

SPECIAL NOTES:
1. All patients whose hypoglycemia is due to oral hypoglycemic agents should be transported. Medical Control Physician consult required before patient can refuse transport.
2. If infiltration occurs, notify physician at receiving hospital immediately upon arrival so that antidotal therapy can begin immediately.
3. ALS services: In patients with BGL < 40 mg/dL, IV/IO dextrose and/or glucagons are considered first/second line treatments.

DEXTROSE, ORAL (generic), GLUCOSE (generic), GLUTOSE (brand)

ACTION: Hyperglycemic; increases circulating blood sugar levels

INDICATIONS:
1. Suspected or known hypoglycemia (BS < 80 mg/dL)

CONTRAINDICATIONS:
1. Intracranial hemorrhage

PRECAUTIONS:
1. Airway must be carefully maintained.
2. Should not be used as a diagnostic agent in the patient with altered LOC unless the BS is known to be < 80 mg/dL or, if the BS cannot be determined, patient is known to be diabetic.

ADMINISTRATION
1. Logroll patient to prevent aspiration and place in the recovery position.
2. Check blood sugar.
3. Administer 1 tube (Approximately 25 - 31 gm per tube) in downside cheek of log-rolled patient.
4. Administer slowly, monitoring absorption. Maintain adequate airway.
5. Repeat BS measurement.
6. Further orders must come from monitoring physician.

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without physician order.
2. The initial dosage is usually one half of the adult dose.

SPECIAL NOTES:
1. All patients whose hypoglycemia is due to oral hypoglycemic agents should be transported. Medical Control Physician consult required before patient can refuse transport.
2. BLS with medication training: In patients with decreased level of consciousness from hypoglycemia, glucagon is considered first-line treatment.
3. ALS services: In patients with BS < 40 mg/dL, IV/IO dextrose and/or glucagon are considered first/second line treatment.

EPINEPHRINE 1:1000 (generic), ADRENALINE (brand)

ACTION: Stimulates both α and β receptors; bronchodilator, cardiac stimulator, and peripheral vasoconstrictor

INDICATIONS:
1. Allergic reaction from stings, and ingested, inhaled, injected, or absorbed allergens resulting in the following: increased heart rate, decreased BP, respiratory distress, hives, facial or airway swelling.
2. Anaphylaxis with evidence of difficulty communicating, muscle retraction, nasal flaring, and/or swelling of tongue or throat.
3. Asthma, as a second line treatment after nebulization

CONTRAINDICATIONS:
1. None during cardiac arrest; otherwise tachyarrhythmias
2. Do not administer IV bolus.

PRECAUTIONS:
1. **Do not use in patients < 12 or > 40 years of age without physician order.**

ADVERSE REACTIONS/SIDE EFFECTS:
1. Nervousness, restlessness, and tremors
2. Headache and HTN
3. Arrhythmias and angina

ADMINISTRATION:
1. For non-severe reactions (no anaphylactic shock or impending respiratory or cardiac arrest): Epinephrine 0.3 mg (0.3 cc of 1:1000 solution) SQ or IM may be given to patients (ages 12 - 40 years) prior to medical control contact. Consider follow up dosing with Benadryl.
2. For severe reactions (anaphylactic shock or impending respiratory or cardiac arrest): Administer 0.5 mg 1:1000 epinephrine SQ/IM. Follow with Benadryl 25 mg IV or 50 mg IM prior to Medical Control Physician contact.
3. For acute asthma attack, if albuterol neb(s) have been unsuccessful:
   A. Epinephrine 0.3 mg (0.3 cc of 1:1000 solution) SQ may be given to patients (ages 12 - 40 years) prior to medical control contact.
4. Obtain MD order before administering epinephrine in patients <12 or > 40 years of age.
5. An epinephrine drip should only be established on physician order. When administering an epinephrine infusion, **a Buretrol with 60 gtt tubing must be used.**
6. To mix a drip, add 1 mg of epinephrine 1:1000 to 500 cc NS (2 mcg/cc). The initial dose for adults is 1 mcg/min titrated to desired hemodynamic response (2 - 10 mcg/min).

Infusion rate	gtts/min (w/ 60 gtt tubing):
1 mcg/min	30 gtts/min

PEDIATRIC CONSIDERATIONS:
1. For non-severe reactions (see above for definition): Obtain physician order.
2. For severe reactions (see above for definition): May administer 0.01 mg/kg (ml/kg) IV/IO or IM prior to physician contact.

SPECIAL NOTES:
1. IV administration is the route of choice for anaphylactic shock and if given, should be administered in the 1:10,000 concentration, however, if IV access is not readily obtainable, the 1:1000 concentration may be given SQ or IM.

EPINEPHRINE: PREMEASURED INJECTION DEVICE, EPIPEN® (brand)

ACTION: Stimulates both α and β receptors; bronchodilator, cardiac stimulator, and peripheral vasoconstrictor

INDICATIONS:
1. Patients experiencing a severe allergic reaction from stings or other allergens (anaphylactic shock or impending respiratory or cardiac arrest)

PRECAUTIONS:
1. Patients who have known allergic reactions to insect bites or other allergens will often have epinephrine prescribed in the form of an EpiPen® (or other similar device) that delivers an injection of pre-measured epinephrine.
2. **Use with caution in patients > 40 years.**
3. At the time when a request to deliver or assist a patient with their epinephrine is made, any suspected complicating conditions, such as the following, should be reported:

- Heart disease
- Psychosis
- Hypertension history
- Age > 40 years
- COPD
- Glaucoma
- Pulmonary edema
- Hyperthyroidism
- Pregnancy

CONTRAINDICATIONS:
1. There are no absolute contraindications to the use of epinephrine in a life-threatening situation.

ADMINISTRATION:
1. In severe anaphylaxis, EMTs may assist a patient in administering their own prescribed EpiPen. BLS services with medication training may administer an EpiPen carried by that service to a patient in severe anaphylaxis. BLS providers should consult with the Medical Control Physician for orders in patients with non-severe anaphylaxis. Paramedics can administer as they would epi 1:1000 solution.
2. If possible, immediately remove insect stinger, but do not squeeze, pinch, or push it deeper into the skin.
3. Obtain order from medical control physician.
4. Assist in administration. Refer to specific manufacturer instructions, but generally:
5. EpiPen administration:
   A. Pull off safety cap.
   B. Wipe injection site with alcohol.
   C. Place tip of EpiPen on exposed thigh (anterior/lateral) at right angle to the leg. Apply in this area regardless of what area of the body has been stung.
   D. Press hard into thigh until autoinjector mechanism triggers, and hold in place for several seconds. Remove the EpiPen and discard into sharps container.
   E. Massage injection site for 10 seconds to enhance absorption.
   F. With persistent severe anaphylaxis, additional injections may be necessary. Consult with Medical Control Physician if a second dose is indicated.
6. Document any changes in patient condition.

PEDIATRIC CONSIDERATIONS:
1. In severe anaphylaxis, EMTs may assist a patient in administering their own prescribed EpiPen.
2. BLS services with medication training should contact medical control prior to administering an EpiPen carried by that service to a patient in severe anaphylaxis.
3. The EpiPen comes in two available dosing options: EpiPen delivers 0.3 mg (in 0.3 cc) of 1:1,000 epinephrine IM. EpiPen Jr. delivers 0.15 mg (in 0.3 cc) of 1:2,000 epinephrine IM and is intended for use in patients < 60 lbs.

GLUCAGON (generic)

ACTION: Antihypoglycemic; converts stored liver glycogen to glucose, resulting in ↑ circulating blood sugar

INDICATIONS:
1. Suspected or known hypoglycemia (BS < 80 mg/dL) in diabetic patents, if symptomatic and IV cannot be established.
2. Beta blocker overdose or toxicity; including: acebutolol (Sectral), alprenolol, atenolol (Tenormin), betaxolol (Betoptic, Kerlone), bevantolol, bisoprolol, carteolol (Cartrol), flestolol, labetalol (Normadyne, Trandate), levobumolol (Betagan), metoprolol (Lopressor), nadolol (Corgard), oxprenolol, penbutolol (Levatol), pindolol (Visken), propranolol (Inderal, Blocadren, Timoptic), sofalol, timolol
3. Calcium channel blocker overdose or toxicity; including: verapamil (Calan, Isoptin), diltiazem (Cardizem), nifedipine (Procardia, Adalat), nicardipine (Cardene, Vasonase), nimodipine (Nimotop), amlodipine, felodipine, flunarizine, bepridil, isradipine, nisoldapine, nitrendapine

CONTRAINDICATIONS:
1. Allergy or known hypersensitivity to glucagon

ADVERSE REACTIONS/SIDE EFFECTS:
1. Occasional nausea and vomiting

ADMINISTRATION:
1. For hypoglycemia:
   A. When IV access is unavailable, an initial dose of glucagon may be given prior to contact with medical control.
   B. Glucagon comes with one unit (1 mg) of powdered glucagon and 1 ml of diluting solution.
   C. Inject diluting solution into powdered glucagon vial. Shake gently until solution is clear and draw up medication into syringe.
   D. Inject SQ or IM into abdomen, buttocks, thigh or upper arm.
      1. Turn patient to one side in case vomiting should occur.
      2. If patient wakes up and is able to swallow, give a fast acting carbohydrate immediately.
   E. Repeat blood glucose measurement.
   F. Further orders must come from monitoring physician.
2. For overdose or toxicity, consult with medical control physician.

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without physician order.
2. For children < 20kg, administer half the adult dose.

SPECIAL NOTES:
1. ALS: For severe hypoglycemia (blood sugar < 40 mg/dL), 50% dextrose IV/IO is treatment of choice.
2. BLS with medication training: In the patient with decreased LOC, glucagon is preferred over oral dextrose.
3. For conscious patients, simple, oral carbohydrates are most effective.
4. If the family has already given patient glucagon, a dose may be administered prior to Medical Control Physician contact if still unconscious after 15 minutes.
5. All patients whose hypoglycemia is due to oral hypoglycemic agents should be transported.
6. Services with medication training must have glucometry capabilities.

MARK 1 KITS

A MARK 1 Chemical Agent Treatment Kit contains an auto-injector with 2 mg of Atropine and an auto-injector with 600 mg of Pralidoxime (2-PAM) Chloride. These are antidotes to be used when a patient or provider becomes symptomatic from contact with a nerve agent or organophosphate agent (i.e. pesticides, herbicides).

ACTIONS: Atropine = blocks muscarinic effects of nerve agents (e.g. bronchorrhea, bronchoconstriction). 2-PAM Chloride = Reactivates cholinesterase outside the CNS which has been inactivated by organophosphate pesticides and related compounds.

INDICATIONS:
1. Recognition of the existence of a potential chemical or organophosphate agent release.
2. Some or all of the signs and symptoms consistent with exposure to a nerve agent, including:
   A. SLUDGE: S-salivation, L-lacrimation, U-urination, D-defecation, G-GI symptoms & cramps, E-emesis.
   B. Difficulty breathing.
   C. Agitation: confusion, seizures or coma.

CONTRAINDICATIONS:
1. Not to be used as a prophylactic mode of protection.

PRECAUTIONS:
1. Atropine must be administered before 2-PAM CL

ADVERSE REACTIONS/SIDE EFFECTS:
1. Blurred or double vision
2. Dizziness
3. Headache
4. Tachycardia
5. Weakness
6. Nausea

ADMINISTRATION:
1. Scene safety – Use appropriate PPE and assure adequate decontamination of the patient.
2. Manage airway, breathing, circulation as needed
3. Administer Atropine Auto-injector IM and repeat every 3-5 minutes (2-20 mg) until symptoms improve.
4. After Atropine, administer (2-PAMCL) Auto-injector IM. May repeat a second dose after 5-10 minutes if no improvement.
5. Start IV Normal Saline to sustain systolic BP over 90 mm/hg.
6. Monitor ECG.
7. Secure airway with advanced airway if needed.
8. Contact Medical Control Physician

PEDIATRIC CONSIDERATIONS:
1. Use pediatric Mark-1 if available and after contacting Medical Control Physician.

SPECIAL NOTES:
1. Some patients will need high-pressure ventilation to successfully ventilate them. Because these patients may need up to 70 cm/H_2O to provide adequate ventilation, use a Bag Valve Mask instead of the demand valve to ventilate the patient.
2. Hold each auto-injector in place for 10 seconds so the medication can be completely injected.
3. Properly dispose of the MARK 1 Kit auto-injectors in a sharps container.
4. If a MARK 1 Kit is not available, Atropine can be administered IM/IV/IO after consulting with a Medical Control Physician.
5. The use of a MARK 1 Kit is based on the patient's signs and symptoms, not the suspicion or presence of a nerve agent.

6. To control seizure activity, consult with a Medical Control Physician concerning the use of Versed.

NARCAN (brand), NALOXONE (generic)

ACTION: Narcotic antagonist

INDICATIONS:
1. Respiratory depression (< 12/min.) from narcotic overdoses such as: morphine (Roxanol, Duramorph), Fentanyl, meperidine (Demerol), heroin, codeine, oxycodone (Percodan), oxymorphone (Numorphan), hydromorphone (Dilaudid), diphenoxylate (Lomotil), propoxyphene (Darvon), and pentazocine (Talwin)
2. As a diagnostic tool in coma of unknown origin

CONTRAINDICATIONS:
1. Allergy or known hypersensitivity to Naloxone

PRECAUTIONS:
1. Very short half-life; monitor patient closely and prepare to re-dose if deterioration occurs.
2. Naloxone should be titrated to the patient's respiratory status, not the level of consciousness. In the patient with a protected airway (i.e. gag reflex), adequate respirations, and GCS of 10 - 14, use discretion regarding the administration of Narcan.
3. Patient restraints may be required following reversal of some narcotics. Consider applying these prior to the administration of Narcan.

ADVERSE REACTIONS/SIDE EFFECTS:
1. In the chronic narcotic abuser, may precipitate withdrawal symptoms, including seizures, violent behavior, miscarriage or premature labor.
2. Hypotension or hypertension

ADMINISTRATION:
1. An initial dose of up to 2.0 mg IV/IO (titrated to respiratory status) may be given prior to Medical Control Physician contact.
2. Further orders must come from monitoring physician. Follow-up dosing will generally be 2.0 mg every 2-3 minutes up to a total 10 mg

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without physician order.
2. For patients ≤ 20 kg or 5 years: Initial dose is 0.1 mg/kg IV/IO.
3. For patients > 20 kg or 5 years: Initial dose is 2.0 mg IV/IO.

SPECIAL NOTES:
1. If no response after 10 mg, it is unlikely to be effective.
2. Remarkably safe and effective.

NITROGLYCERIN (NTG) (generic), NITRO-BID, NITRO-DUR, NITROL (brand)

ACTION: Antianginal, coronary and peripheral vasodilator

INDICATIONS:
1. Chest pain of suspected cardiac origin
2. Pulmonary edema
3. Hypertension (only on physician order)

CONTRAINDICATIONS:
1. Allergy or known hypersensitivity to nitroglycerin
2. Head trauma
3. Hypovolemia, hypotension (BP < 90 systolic in adults), and shock
4. Recent sildenafil [Viagra, Levitra (24 hrs.) or Cialis (48 hrs.)] ingestion

PRECAUTIONS:
1. BLS: May be administered only to patients for whom it is prescribed.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Headache, dizziness, and weakness
2. Tachycardia, fainting, and hypotension

ADMINISTRATION:
1. Establish IV NS TKO.
2. Inquire about Viagra, Levitra or Cialis use.
3. **Basic Life Support**:
   A. Assist patient in taking NTG as prescribed by personal physician.
   B. If systolic BP drops < 90 after any NTG, discontinue NTG and administer a 250 cc fluid bolus.
4. **Basic Life Support with IV training**: If IV is established and systolic BP is at least 110, contact medical control operator for orders to administer up to 2 NTG SL 3 – 5 minutes apart. Further NTG orders must come from Medical Control Physician.
5. **Advanced Life Support**:
   A. For myocardial ischemia or pulmonary edema:
      1. Give 0.4 mg (gr 1/150) NTG tablet or one metered dose NTG spray sublingually. Repeat vitals.
      2. Repeat tablet or spray sublingually every 5 minutes as long as pain or pulmonary edema persists and patient is not hypotensive, regardless if patient has taken own prescription.
      3. If patient tolerates first NTG dose and blood pressure is > 110/P, patient can receive 1" NTG paste instead of repeat doses of spray or tablets (MUST NOTIFY NURSE IF PASTE IS USED).
      4. Notify medical control that NTG has been given.
   B. CHF/Pulmonary Edema
      1. BP ≥ 140/p give 0.8 NTG SL q. 3-5 min to patient response, if BP 90/p-139/p, administer 0.4 mg of NTG SL every 3 - 5 minutes titrated to patient response.
   C. For hypertension: Obtain physician order.

PEDIATRIC CONSIDERATIONS:
1. Do not give to patients < 12 years without physician order.

SPECIAL NOTES:
1. Consider giving morphine sulfate if pain is unrelieved by NTG.
2. NTG is effective in relieving angina pectoris. Other conditions such as esophageal spasm can respond as well.

OXYGEN (GENERIC)

ACTION: Increases arterial oxygen tension (SaO_2) and hemoglobin saturation

INDICATIONS: LOW CONCENTRATION (24 - 44%):
1. History of chronic obstructive pulmonary disease (emphysema, chronic bronchitis, asthma in adult, heavy smoker [40 pack years or more])
2. Patients with SaO_2 readings ≥ 95%

INDICATIONS: HIGH CONCENTRATION (60 - ≈ 100%):
1. Smoke, carbon monoxide, or toxic gas inhalation
2. Trauma or suspected blood loss
3. Hypoxia ($Sa0_2$ < 95%) from any cause
4. Respiratory distress, poor capillary refill or other indications of poor oxygenation
5. Unresponsive patient
6. Obstetric patients with known or suspected complications

CONTRAINDICATIONS:
1. None in the prehospital setting

PRECAUTIONS:
1. This guideline refers to spontaneously breathing and adequately ventilating patients only.
2. High concentration 0_2 in some cases (emphysema and asthma) may depress respiratory drive; be prepared to assist ventilation, but don't allow patients to become severely hypoxic for fear of respiratory arrest.
3. Agitation or restlessness can be a sign of hypoxia.
4. Do not use in the presence of open flames.
5. Treatment for anxiety hyperventilation should be treated with reassurance and coaching to slow breathing. If the possibility of another underlying cause exists (i.e. pulmonary embolus, asthma, MI) then the patient should be treated with oxygen. DO NOT treat any patient by having them breathe into a paper bag or O_2 mask that is not supplied with O_2.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Nonhumidified oxygen can dry mucous membranes, but humidified 0_2 is not indicated in the prehospital setting.

ADMINISTRATION:
1. Deliver low concentrations via nasal cannula @ 1 - 6 lpm.
2. Deliver high concentrations via non-rebreather mask @ 6 - 15 lpm.
3. Attempt to obtain and document pulse oximetry readings before and during oxygen therapy.

PEDIATRIC CONSIDERATIONS:
1. Use pediatric mask or blow-by if mask is not tolerated.

SPECIAL NOTES:
1. If oximetry is unavailable, patients should receive high concentration oxygen unless low concentration is indicated.

Procedures & Equipment

12 LEAD ECG MONITORING

INDICATIONS:
1. Conscious, stable patients presenting with presumed signs and symptoms of cardiac origin
2. Chest pain or pressure of presumed cardiac etiology, and/or
3. Shortness of breath of presumed cardiac etiology
4. Syncope
5. Resuscitated cardiac arrest patient

CONTRAINDICATIONS:
1. Patients who have been subjected to trauma
2. Cardiac arrest (on-going)

PRECAUTIONS:
1. Do not significantly delay transport to conduct test.
2. On female patients, always place leads V3 – V6 under the breast rather than on the breast.
3. Never use the nipples as reference points for electrode location as nipple locations may vary widely.
4. A "normal" ECG does not definitively rule out a MI nor should it be justification for nontransport.
5. Women, the elderly, and persons with diabetes may present with atypical S&S of AMI.

PROCEDURE:
1. Whenever possible, attempt to obtain 12-lead with patient in supine position. If patient does not tolerate, place in semi-reclining or sitting position. Document the patient's position.
2. Document patient name, sex, and age. Leave ECG size preset at x 1.
3. Prep the skin and shave hair as necessary.
4. Apply electrodes as follows and attach the appropriate lead to an electrode:

Limb (extremity) Leads:	Precordial (chest) Leads:
Right arm (RA) – Right forearm	V1 – Fourth intercostal space to the right of the sternum
Right leg (RL) – Right calf	V2 – Fourth intercostal space to the left of the sternum
Left arm (LA) – Left forearm	V3 – Directly between leads V2 and V4
Left leg (LL) – Left calf	V4 – Fifth intercostal space at midclavicular line
	V5 – Level with V4 at left anterior auxiliary line
	V6 – Level with V5 at left midaxillary line

5. Secure the cable with the cable clasp to an item of the patient's clothing.
6. Attempt to obtain the 12-lead while the vehicle is not moving. Ask the patient to remain motionless for 10 seconds (it is okay to breathe). Acquire and print two copies of the 12-lead ECG report.
7. If the monitor detects signal noise (such as patient motion or a disconnected electrode), the 12-lead acquisition is interrupted until noise is removed. Take appropriate action as required (such as reconnecting leads).
8. Interpretation should be relayed to receiving hospital during patient report. Document "Obtained 12-lead ECG." on patient run report and attach one copy to run report.
9. Notify receiving hospital immediately after 12-lead has been performed and found to meet Cath Lab Activation Criteria. Leave one copy of 12-lead with receiving physician.
10. Replace supplies and service per manufacturer recommendations.

SPECIAL NOTES:
1. Locating the V1 position (fourth intercostal space) is critically important because it is the reference point for locating the placement of remaining V leads. To locate the V1 position:
   A. Place your finger at the notch in the top of the sternum.
   B. Move your finger slowly downward about 1.5 inches until you feel a slight horizontal ridge or elevation. This is the "angle of Louis" where the manubrium joins the body of the sternum.
   C. Locate second intercostal space on the right side, lateral to and just below the angle of Louis.
   D. Move your finger down two more intercostal spaces to the fourth intercostal space, which is the V1 position.
2. In the setting of an acute myocardial infarction, rapid assessment, treatment, and undelayed transport are essential to avoid further delays to in-hospital treatment, such as thrombolytics and angioplasty.

3. Patients complaining of cardiac signs and symptoms will have a 12-Lead ECG done as soon as possible. Because treatment can affect how ST-elevation looks on a 12-Lead, the 12-Lead should be performed with the initial set of vital signs.
4. ALL BLS providers who acquire a 12-Lead ECG and have the ability to transmit that 12-Lead to the receiving hospital are required to do so before arrival at that facility. ALS providers have the option to transmit the 12-Lead if they feel it is appropriate.
5. Patients with ST-Elevation should be transported to a facility that can have the patient in their cath lab within 60 minutes and have balloon inflation under 90 minutes. Tri-County EMS has received confirmation from Regions, United and St. Joe's Hospital that they can meet the above criteria.
    A. Inclusion criteria for a "Cath Lab Activation (CLA)" patient will include (consider activation of cath lab from scene):
        a. Patient has cardiac symptoms
        b. ST-elevation greater then 2 mm in two or more contiguous chest leads, or 1mm elevation in contiguous limb leads
        c. QRS complex that is less than 0.12 sec. (120 ms or 3 small boxes)

AUTOMATIC TRANSPORT VENTILATOR (AUTOVENT 2000™)

INTRODUCTION:
The Autovent 2000 transport ventilator is intended for controlled ventilatory assistance of 8 - 15 breaths/ minute, delivering tidal volumes of 400 - 1200 cc. Tidal volume is the amount of air that is inhaled and exhaled during one normal respiratory cycle. The Autovent 2000 allows for two-handed mask seal and airway positioning.

INDICATIONS:
1. Patients weighing at least 40 kg. (approx. 90 lb.)
2. Patients requiring controlled ventilatory assistance due to ↓ LOC (GCS < 9) or apnea
3. Control rate of ventilation

CONTRAINDICATIONS:
1. Patients weighing < 90 lb.
2. Patients with a known tidal volume that is below normal, i.e. patient with one lung removed

PRECAUTIONS:
1. Use only if trained in the proper use of the device.
2. Do not make changes in the configuration of the ventilator tubes, hoses, or parts without manufacturer and Regions Hospital EMS approval.
3. Source gas must be medical oxygen limited to 50 psi.
4. The device must be tested prior to use on any patient.
5. The patient control valve assembly and control module are a matched set. Do not interchange parts with other ventilators, as the settings may not be accurate.
6. Air transport services using this device must refer to the manufacturer's altitude conversion chart if exceeding 500 meters (1640 ft.) ambient cabin altitude.
7. Frequent re-evaluation of ventilation is critical. There is no audible alarm to indicate the ventilator is not working. If there is any question about whether the patient is being adequately ventilated, discontinue use and manage the airway with a positive pressure demand valve device or bag valve mask and 100% oxygen.
8. Patients with increased airway resistance, from causes such as asthma, near drowning, and pulmonary edema, may require higher inspiratory ventilation pressures. The pressure limit alarm may sound while ventilating these patients. If this occurs, pre-set tidal volumes may not be delivered to the patient. Discontinue ventilator use and proceed with bag valve mask ventilation (no demand valve) to ensure adequate tidal volumes.
9. Device will stop functioning if oxygen tank is empty.
10. In the spontaneously breathing patient, discontinue ventilator and support breathing manually as needed.

PROCEDURE:
1. Insure patient's ABCs are being appropriately managed. If standard resuscitation mask is being used, attempt to insert oral or nasal airway.
2. Ventilator preparation
   A. Set tidal volume equal to 10 cc for every kg. of body weight, or 5 cc for every lb. of body weight. Example: a 70 kg. patient would have a tidal volume of 700 cc, and a 180 lb. patient would have a tidal volume of 900 cc.
   B. Set breaths per minute (BPM) at 12, unless medical control requests a different setting. If asked to hyperventilate, set the BPM at 20.
   C. Count the number of complete ventilator cycles for 15 seconds:
      1. If set at 12 BPM, expect 3 cycles (breaths) in 15 secs.
      2. Inspiratory time should be approximately 1.5 seconds.
   D. Occlude the outlet of the patient valve assembly. An audible pressure limit alarm should sound with the next cycle (breath). This assures that the pressure limit is intact and the lungs will not be over inflated.
   E. If the ventilator fails any of these tests, do not use and continue ventilation with other means.
3. Patient ventilation
   A. Attach mask to patient valve assembly. Place mask on patient and properly position airway using a two-handed technique.
   B. Assess for adequate ventilation, i.e. chest rise, lung sounds, SaO_2 and end tidal CO_2
   C. Count cycles (breaths) for one minute to assure correlation with BPM setting.

D. If the pressure limit alarm sounds during the inspiratory phase and adequate chest movement does not occur, an increase in airway pressure is being detected.
    1. Check for kinked ventilator tubing. Correct as indicated.
    2. Assess patient for airway obstruction. Suction and treat as indicated.
    3. If airway is not obstructed and ventilator continues to alarm, discontinue use and proceed with bag valve mask ventilation (no demand valve) to ensure adequate tidal volumes.
4. Cleaning and disinfection must be accomplished according to manufacturer specifications after every patient use.

SPECIAL NOTES:

1. May be used with the Combitube or the King LTS-D. Attach patient valve assembly to whichever tube is being used for ventilation.

CARBON MONOXIDE OXIMETRY DEVICE

INTRODUCTION:
Carbon monoxide oximetry devices, such as the Rad57, can be use to evaluate potential carbon monoxide poisoning in patients or firefighters.

INDICATIONS:
1. Patients exhibiting the following signs and symptoms:
    A. Flu-like symptoms
    B. Dyspnea
    C. Headache
    D. Chest pain
    E. Lethargy
    F. Nausea/vomiting
    G. Hallucinations or giddiness

PROCEDURE:
1. Obtain a history of potential carbon monoxide exposure and history of smoking.
2. Secure or maintain the airway
3. Provide oxygenation and ventilation as needed
4. Consider ALS response.
5. Apply finger probe to patient using the correct technique.
    A. If patient SpCO = 0-3%, no further evaluation is necessary.
    B. If patient SpCO = 3-12% with no altered mental status and no symptoms, no further evaluation necessary.
    C. If patient SpCO = 3-12% with symptoms listed above (regardless of the presence of altered mental status), treat with 100% O_2 and transport for further evaluation.
    D. If patient SpCO > 12%, treat with 100% O_2 and transport for further evaluation.

SPECIAL NOTE:
1. Patients requiring further evaluation should be transported according to the hyperbaric transportation policy.

CHEST DECOMPRESSION

INDICATIONS:

1. To relieve a tension pneumothorax evidenced by:

- Absent breath sounds
- Falling systolic blood pressure
- Central cyanosis
- Pulseless electrical activity
- Increased respiratory difficulty
- Distended neck veins
- Narrowing pulse pressure
- Tracheal deviation
- Increased tympany

PRECAUTIONS:

1. Crepitus and/or subcutaneous air may be present with a simple or tension pneumothorax.
2. Always insert needle over (cephalad to) rib to avoid neurovascular bundle.
3. The Protectiv™ IV catheter must not be used for this procedure.

PROCEDURE:

1. This procedure may be performed on a patient when indications are present prior to physician order.
2. On the appropriate side:
   A. Identify 2nd intercostal space.
   B. Swab with Povodone Iodine (Betadine) at midclavicular line.
3. Needle insertion
   A. In adults, use a 10 g. 3" needle through catheter (Cook Needle).
   B. Position tip of needle in incision and insert.
   C. Advance needle into chest walking the needle up over the inferior rib at 45° angle to the chest wall and parallel to sternum. At pleural cavity a slight "give" is felt.
   D. Advance further into chest until bevel clears pleura. Do not advance the needle any further than is necessary to advance the catheter.
4. Advance the catheter over the needle and then remove needle.
5. Connect tubing, making sure to pay attention to proper flow direction of the Heimlich valve.
6. Secure catheter to chest.
7. Catheter may be connected to LOW suction to assist evacuation of pneumothorax. Do not clamp tubing. Suction may be applied intermittently.
8. Notify medical control that procedure has been performed.

PEDIATRIC CONSIDERATIONS:

1. In children < 12 years, use a 14 g. 1 ¾" needle through catheter instead.

SPECIAL NOTES:

1. Rush of air and/or tube fogging and/or patient improvement indicates correct placement.
2. In the majority of circumstances, bilateral decompression will be required.
3. Once needle is placed, prehospital personnel should not remove it.

COMBITUBE ®

INTRODUCTION:
The Combitube airway is designed to provide a patent airway for arrested patients when visualization of the airway and endotracheal intubation are not possible. It is designed to be inserted blindly. The double lumen design allows effective ventilations to be provided regardless of whether esophageal or tracheal placement is accomplished. The pharyngeal balloon fills the space between the tongue and soft palate, eliminating the need for a mask and the associated face mask seal problems. If the Combitube is placed in the esophagus, the distal cuff will occlude the esophagus. Ventilations are then provided through perforations at the pharyngeal site. If the device is placed in the trachea, it functions as an endotracheal tube, with the distal cuff preventing aspiration.

INDICATIONS:
1. Adult patients in respiratory arrest
2. Adult patients in cardiac arrest
3. Combitube® is intended for patients ≥ 5 ft
4. Medication assisted airway management when ETI is not used

CONTRAINDICATIONS:
1. Intact gag reflex
2. Patients < 5 feet in height
3. Known esophageal disease
4. Caustic substance (acid or lye) ingestion
5. Allergy or sensitivity to latex (The pharyngeal balloon contains latex).

PRECAUTIONS:
1. Take appropriate universal precautions, including facial protection, as expulsion of stomach contents can occur through the #2 tube if the initial placement is in the esophagus.
2. May be used in trauma, but take care to prevent neck movement.
3. In the arrested patient needing defibrillation, initial defibrillation (up to 3) should not be delayed for Combitube insertion.
4. Pulse oximetry, in states of low perfusion such as cardiac arrest, may be unreliable.

INSERTION PROCEDURE:
1. Open the airway and suction mouth and oropharynx.
2. Begin positive pressure ventilation with 100% oxygen and oral airway. Ventilate initially, attempting to maximize oxygen saturation, and giving ventilations slowly, over 1 second.
3. While the patient is being ventilated, assemble the Combitube as follows (syringes are pre-drawn to appropriate volumes): large syringe to the blue cuff, labeled #1 (100 cc); small syringe to the white cuff, labeled #2 (15 cc).
4. Test the device by inflating both cuffs and removing syringes from check valves.
5. Withdraw the air from both cuffs and leave assembled to speed insertion.
6. Attach mask elbow (fluid deflector) to the shorter (#2) white tube.
7. Lubricate tube tip and pharyngeal balloon well with water-soluble jelly. Move to patient's head.
8. Place the head in a neutral position. Grasp the lower jaw and tongue between the thumb and fingers. Place the tip of the Combitube into the mouth, aligning it along the midline of the mouth.
9. Slide the tip GENTLY along the palate and posterior surface of the oropharynx. Use a curving motion to guide the tube inward and downward. Advance the tube until the upper teeth or gums are aligned between the two black rings.
10. Do not force the tube. If resistance is met, withdraw the tube, reposition the head and reattempt.
11. If unable to place the tube within 30 seconds, continue ventilations and compressions for 1 - 2 minutes and reattempt.
12. Limit insertion attempts to two unless directed by medical control to make further attempts.
13. Inflate large pharyngeal balloon (blue #1 cuff) with 100 cc air.
14. Inflate distal balloon (white #2 cuff) with 15 cc of air.
15. Begin ventilating through the longer blue tube (#1).
16. Assess placement by:
    a. Listening over epigastrium for air gurgling in stomach.
    b. Observing the chest rise and fall.

c. Listening for bilateral lung sounds (midaxillary).

17. If there are bilateral lung sounds, absent stomach sounds and good chest rise, this indicates esophageal placement. Continue ventilating with 100% oxygen through the #1 tube.
18. If chest rise and lung sounds are absent, and/or if air is heard gurgling in the stomach, remove mask elbow and move ventilation device to the shorter tube (#2), and reassess placement as above.
19. If there are bilateral lung sounds, absent stomach sounds, and good chest rise while ventilating through the #2 tube, this indicates tracheal placement.
20. Additional assessment adjuncts, if available, may be helpful in determining tube placement:
    a. Pulse oximeter: low readings may indicate ineffective ventilations. Falling readings may indicate incorrect ventilation port.
    b. End-tidal CO_2 detector: lack of color change may indicate incorrect ventilation port.
    c. Direct visualization with laryngoscope
24. If tube placement cannot be determined, remove the Combitube and ventilate patient using oral or nasal airway.
25. Once tube placement is confirmed, secure tube with tape or tube restraint.
26. Subsequently, ventilate once every eight seconds. Each ventilation should be given over 1 second. Switch to automatic transport ventilator as soon as convenient.
27. If the device is placed in the esophagus, the #2 tube should be used to relieve gastric distention:
28. Remove mask elbow and insert the stomach catheter (provided) into the #2 tube, advancing it to the first black line. If relief is not obtained, continue inserting to the second black line. The goal is to remove air from the stomach. Removal of stomach contents is not necessary.
29. The stomach catheter may be connected to the mayon suction tubing and placed on LOW suction (portable or installed units) for several minutes. Continuous suction should not be used.

REMOVAL PROCEDURE:

1. The Combitube should not be removed unless:
    A. Tube placement cannot be determined.
    B. BLS only: The patient no longer tolerates the tube (begins to gag).
    C. The patient vomits past either the distal or pharyngeal balloon.
    D. There is a palpable pulse and the patient begins breathing on his or her own.
    E. An ALS provider is present to place an ET tube.
2. Have suction equipment ready.
3. Log roll the patient to the side.
4. Deflate pharyngeal cuff using #1 pilot balloon. Pilot balloon should completely collapse.
5. Deflate distal cuff using #2 pilot balloon. Pilot balloon should completely collapse.
6. Gently remove the Combitube while suctioning the airway.

SPECIAL NOTES:

1. There may be occasions following the insertion of the Combitube where auscultation of breath sounds is negative AND gastric insufflation is negative. This may result from advancing the Combitube too deep into the airway, causing the pharyngeal balloon too push the epiglottis over the tracheal opening. This essentially creates a partial airway obstruction making ventilation difficult. If this occurs, deflate the No. 1 pilot (pharyngeal) balloon, pull the Combitube approximately 2 - 3 cm out of the patient's mouth and reinflate the pharyngeal balloon. This will reseat the pharyngeal balloon higher in the airway. If auscultation of breath sounds is now positive, and auscultation of gastric sounds is negative, continue ventilating. It is normal for the Combitube to rise slightly out of the mouth as the pharyngeal balloon is being inflated. Do not attempt to prevent the Combitube from rising while that balloon is being inflated. Remove any Combitube if you cannot determine which port is appropriate or if ventilation becomes more difficult after insertion.
2. The Combitube should be stored in its original container. This assures that all necessary components are present, protects the distal and pharyngeal cuffs, and provides proper pre-filled syringe volumes.
3. The Combitube may be used with an oxygen-powered resuscitator, a bag-valve-mask, or an automatic transport ventilator.
4. If air leaks around the pharyngeal balloon, up to 20 cc of air may be added to it (#1 pilot balloon). Do not add additional air to the distal cuff (#2 pilot balloon).
5. The Combitube must be left in place when a patient is pronounced in the field.
6. The Combitube is a single use device and should be discarded after use.

7. Upon arrival at the medical facility, the large syringe should be brought into the ER to facilitate the decompression of the pharyngeal balloon for ET intubation.
8. ALS:
   A. In the unintubated patient, paramedics should use the airway they feel is most appropriate for the situation. A Combitube should not be placed if the patient has been successfully endotracheally intubated.
   B. If the Combitube has been placed in the esophagus, paramedics should make one attempt at ET intubation when they arrive at the scene. With suction ready, deflate the pharyngeal balloon, move the device to the left, and visualize vocal cords with laryngoscope. Intubate in usual manner. If successful, leave the Combitube in place as removal may dislodge ET tube.
   C. If the Combitube is in the trachea, and a paramedic or physician wishes to replace it with an endotracheal tube, a tube exchanger may be passed down the shorter, white (#2) tube.
   D. If sedation is necessary following intubation, 1 – 2 mg Versed may be given slow IV/IO prior to Medical Control Physician contact. Sedation is generally preferred to extubation for improved level of consciousness.

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

INTRODUCTION:
Continuous Positive Airway Pressure has been shown to rapidly improve vital signs, gas exchange, the work of breathing, decrease the sense of dyspnea, and decrease the need for endotracheal intubation in patients who suffer from shortness of breath from asthma, COPD, pulmonary edema, CHF, and pneumonia. In patients with CHF, CPAP improves hemodynamics by reducing preload and afterload.

INDICATIONS:
1. Any patient who is complaining of shortness of breath for reasons other than pneumothorax and:
    A. Is awake and oriented
    B. Is over 12 years old and is able to fit the CPAP mask
    C. Has the ability to maintain an open airway (GCS > 10)
    D. A respiratory rate greater than 25 breaths per minute
    E. Has a systolic blood pressure above 90 mmHg
    F. Uses accessory muscles during respirations
    G. Sign and Symptoms consistent with asthma, COPD, pulmonary edema, CHF, or pneumonia

CONTRAINDICATIONS:
1. Patient is in respiratory arrest
2. Patient is suspected of having a pneumothorax
3. Patient has a tracheostomy

PRECAUTIONS:
1. Use care if patient:
    A. Has impaired mental status and is not able to cooperate with the procedure
    B. Has failed at past attempts at noninvasive ventilation
    C. Has active upper GI bleeding or history of recent gastric surgery
    D. Complains of nausea or vomiting
    E. Has inadequate respiratory effort
    F. Has excessive secretions
    G. Has a facial deformity that prevents the use of CPAP
2. Intubation should be performed if:
    A. Respiratory or cardiac arrest
    B. Unresponsive to verbal stimuli (GCS is < 9) and attending paramedic is able to perform RSI or attempt intubation.

PROCEDURE:
1. Make sure patient does not have a pneumothorax!
2. **EXPLAIN THE PROCEDURE TO THE PATIENT**
3. Ensure adequate oxygen supply to ventilation device (100% when starting therapy and until SaO2 is >95%)
4. Place the patient on continuous pulse oximetry
5. Place the delivery device over the mouth and nose
6. Secure the mask with provided straps or other provided devices
7. Use 10 cm H2O of PEEP
8. Check for air leaks
9. Monitor and document the patient's respiratory response to treatment
10. Monitor vital signs at least every 5 minutes. CPAP can cause BP to drop.
11. Continue to coach patient to keep mask in place and readjust as needed
12. If respiratory status deteriorates, remove device and consider intermittent positive pressure ventilation with or without endotracheal intubation.

REMOVAL PROCEDURE:

1. CPAP therapy needs to be continuous and should not be removed unless the patient can not tolerate the mask or experiences continued or worsening respiratory failure.
2. Intermittent positive pressure ventilation and/or intubation should be considered if the patient is removed from CPAP therapy.

PEDIATRIC CONSIDERATIONS:

CPAP should not be used in children under 12 years of age

SPECIAL NOTES:

1. Advise medical control so receiving hospital can be prepared for patient.
2. Do not remove CPAP until hospital therapy is ready to be placed on patient.
3. Most patients will improve in 5-10 minutes. If no improvement within this time, consider intermittent positive pressure ventilation.
4. Watch patient for gastric distention.
5. Use nitroglycerine tablets to avoid nitroglycerine spray from being dispersed on medics.
6. May be the treatment of choice in a patient with a DNI order.
7. In-line nebs can be delivered with CPAP as appropriate

DONUT MAGNET

INDICATIONS:

1. ICD shocks not preceded by Ventricular Tachycardia or Ventricular Fibrillation
2. Multiple shocks in a patient with a suspect ICD (Metronic with Fidelis lead 2008)
3. Multiple shocks without warning symptoms, such as, palpitations, fainting, or near fainting

CONTRAINDICATIONS:

1. Patients who have evidence of Ventricular Tachycardia or Ventricular Fibrillation

PRECAUTIONS:

1. If external defibrillation or cardioversion is required external magnet should be removed
2. **ALL patients in which the magnet is to be utilized need to be on the cardiac monitor with external defibrillation pads applied**
3. Magnet will abort the ability of the ICD to deliver shocks for Ventricular Tachycardia or Ventricular Fibrillation

PROCEDURE:

1. Place the patient on the cardiac monitor with external defibrillation pads
2. Locate the patients ICD battery pack in the subclavicular area and tape the magnet directly over the device on the skin
3. Magnet will not affect the programmed pacing mode for bradycardia
4. If evidence of VT or VF is present, removal of the magnet reactivates the ICD and will result in therapy delivery of shock for VT or VF

SPECIAL NOTES:

1. Medtronic ICDs should emit a constant tone for 30 seconds when the magnet is first applied
2. Boston Scientific (formerly Guidant) ICDs will continue to emit a beep on the R wave as long as the magnet is in place
3. St. Jude ICDs do not emit any tones when the magnet is applied

INTRAOSSEOUS (IO) INFUSION: LD, AD, AND PD EZ-IO™

INDICATIONS:

1. Patients in critical need of vascular access for volume replacement or medication administration and who have either poor vein selection or in whom one or two intravenous attempts have failed. If a patient needs immediate access for medications or fluid therapy, the EZ-IO may be used in patients who are alert and oriented.
2. Pediatric needle (PD) weight guide = 3-39 kg, Adult needle (AD) >40 kg, bariatric needle (LD) as indicated by patient tissue depth over insertion site.
3. Decreased level of consciousness (GCS < 6 with no purposeful movement) due to medical or traumatic insult or injury.

CONTRAINDICATIONS:

1. Patients known, or appearing to be, under 3 kg.
2. Fractured tibia or femur
3. Knee replacement
4. Severe osteoporosis or tumor of the leg
5. Infection over the insertion site
6. Inability to locate landmarks for insertion
7. Excessive tissue over the insertion site

PROCEDURE:

1. Assemble and prepare all equipment and BSI, including a bag of normal saline with tubing purged.
2. Prep site with Betadine or alcohol prep.
3. Locate the appropriate landmarks for insertion site:
    a. Tibial placement = patella, tibial tuberosity, and flat surface of the tibia.
4. Open the EZ-IO cartridge and attach the needle set to the driver (there should be a snap).
5. Remove the cap from the needle by rotating clockwise until loose and pulling it free.
6. Stabilizing the leg (or arm if humerus site) with one hand, position the driver over the site at a 90 degree angle to the bone surface and power the needle through the skin ***only to the bone surface.***
7. Ensure the 5 mm mark (closest to the flange) on the catheter is visible. If the mark is not visible, do not proceed as the needle set is not long enough to penetrate the IO space.
8. Apply gentle pressure to drill and power needle set into the bone until a sudden lack of resistance is felt.
9. While supporting the needle set with one hand, pull straight back on the driver to detach it from the needle set.
10. Grasping the hub firmly with one hand, rotate the stylet counter clockwise until loose, pull it from the hub, place it in the stylet cartridge, and place in a biohazard container.
11. Confirm placement by: visible blood at the tip of the stylet, aspiration of marrow, free flow of IV fluid without evidence of leakage or extravasation. A cold and hard area on the extremity is sign of extravasation.
12. If the patient responds to pain (GCS>8), administer Lidocaine, 50 mg IO slowly (30 sec.) (Pediatric dose – 0.5 mg/kg).
13. Rapidly infuse a 10 cc flush of N.S.
14. Secure catheter and IV tubing with tape.
15. Watch for soft tissue swelling.

SPECIAL NOTES:

1. If drip rate is slow, flush with 10 cc normal saline. If slow drip continues, consider inflating BP cuff on bag to 300 mm/Hg.
2. All medications and blood or blood products that are given via the IV route may be given IO.
3. Device may be left in place for up to 24 hours.
4. Use caution giving lidocaine in the patient who only has a ventricular rhythm.
5. The device can be removed by grasping the catheter hub and rotating while pulling gently. A syringe can be attached if a larger handle is desired (rotate clockwise).

INTRAOSSEOUS (IO) INFUSION: PEDIATRIC ILLINOIS STERNAL NEEDLE

INDICATIONS:
1. Children < 8 years of age in critical condition and where IV cannulation has been unsuccessful.
2. As the primary vascular access for pediatric arrests

CONTRAINDICATIONS:
1. Do not perform on known or suspected fractured bones.

PRECAUTIONS:
1. Possible complications include subperiosteal or subcutaneous infusion, leaking around the puncture site, bone growth plate injury, osteomyelitis and/or fat embolism
2. For older (≥ 8 years) children and adults, an order must be obtained from the monitoring physician.
3. Save one site for ED personnel to access.

PROCEDURE:
1. Up to three IO attempts on children < 8 years may be made prior to contact with medical control. If only one leg is suitable for procedure, reserve at least one site for inhospital personnel.
2. Use Illinois Sternal/Iliac Aspiration Needle.
3. Insertion is 1 - 2 finger widths (child's) inferior to tibial tubercle on anteromedial aspect of tibia. Alternative site is 1 - 2 finger widths (child's) above lateral condyles in femur midline.
4. Prep skin with povidone-iodine and alcohol wipe.
5. Puncture with trochar in place and adjust guard for needle depth. Angle needle approximately 75-80 degrees off surface:
   A. Tibia: direct towards the feet and away from joint surface.
   B. Femur: direct towards the head away from joint surface.
6. Once in contact with periosteum, adjust the guard to ¼" off the skin surface. Use a firm pushing and boring motion (screwing) to penetrate the cortical surface (with penetration of cortex the needle suddenly "gives way"). If unsuccessful, back the guard off 3 – 4 turns and continue insertion attempt. Continue with this process until successful. Following insertion, the device should feel "firmly" in place.
7. Adjust guard to skin surface and continue manual stabilization of needle.
8. Remove trochar and attach 10 cc syringe containing NS.
9. Aspirate marrow:
   A. Inject entire contents of aspirate and normal saline into bone marrow.
   B. If aspiration unsuccessful, but normal saline injects easily, the needle is placed appropriately.
10. Attach IV tubing to needle and tape securely.
11. Watch for soft tissue swelling.
12. Notify medical control that procedure has been performed.

SPECIAL NOTES:
1. Flow rates of up to 1200 cc/hr can be achieved with pressure infusion. If drip rate is slow, flush with 10 cc normal saline. If slow drip continues, consider inflating BP cuff on bag at 300 mmHg.
2. If initial site fails, utilize other tibia or femur, using new needle for each site.
3. All medications that are given via the IV route may be given IO.

INTRAVENOUS (IV) INFUSION

INDICATIONS/NORMAL SALINE 1000 cc BAG:

1. Bleeding or potential bleeding from traumatic or non-traumatic causes, e.g. ectopic pregnancy, GI bleed, abdominal pain
2. Hypotension/dehydration from other causes, i.e. septicemia, hypothermia, anaphylaxis, spinal cord injury, protracted vomiting or diarrhea
3. Burn patients with arrhythmia, hypotension, delayed transport times, or need for analgesia
4. Diabetics with BS > 240 mg/dL, with signs of dehydration or when it is unclear if the situation is diabetic ketone acidosis.
5. Fluid challenges

INDICATIONS/NORMAL SALINE 250 or 500 cc BAG:

1. Anticipated need for medication administration in nonhypovolemic medical conditions such as chest pain, isolated head injuries with brief LOC, confusion or amnesia, seizures, hypoglycemia, shortness of breath, drug overdose, tachycardia > 120, hypertension with systolic BP > 200 and CVAs.
2. All non-traumatic pediatric patients (≤ 12 years) requiring IV.

INDICATIONS/SALINE LOCK:

1. Any patient > 12 years, not requiring volume replacement or multiple medication administration.

PEDIATRIC CONSIDERATIONS:

1. In the arrested or unconscious patient < 8 years, IO is the preferred vascular access route.

SPECIAL NOTES:

1. Vascular access may be established prior to medical control contact.
2. For penetrating, thoracic, or abdominal trauma and all trauma patients with a systolic BP < 90 or pulse > 120, attempts at IV insertion should not delay transport. Obtain IV access enroute in these patients unless there is prolonged extrication.
3. The Needle-Lock™ device should be used on all piggyback IVs. It eliminates the need for a separate needle and secures the piggyback line better than tape.
4. Distal sites, such as the forearm, are preferred in non-critical patients. The antecubital and external jugular site can be used in cases where rapid cannulation is required, i.e. cardiac arrest or severe trauma.
5. Hickman catheters®, peripherally inserted central catheter (PICC), implanted central venous access lines (Portacath®) and AV shunts should not be used for prehospital venous access, except by trained paramedics only, when the patient is in critical need of venous access and an IV is unavailable. Avoid placing IVs in the same extremity as shunts if possible.
6. Document site, type fluid, rate, needle gauge, and total volume infused.
7. If IV solutions have been "setup" (tubing inserted into bag) prior to use, the date and time of the setup must be documented on the IV bag. This setup must be used within 24 hours of the time it was prepared.

KING LTS-D AIRWAY

INTRODUCTION:
The KING LTS-D airway is designed to provide a patent airway for patients without an intact gag reflex as an alternative to endotracheal intubation or when endotracheal intubation is not possible. This device is designed to be placed blindly. The gastric access lumen allows for passage of a gastric tube up to 18 Fr.

INDICATIONS:
1. Patients > 5 feet tall
2. Patients in cardiac arrest
3. Patients with respiratory arrest
4. Medication assisted airway management when ETI is not used

CONTRAINDICATIONS:
1. Intact gag reflex
2. Patient < 5 feet tall
3. Known esophageal disease
4. Caustic substance ingestion
5. Know or suspected airway burns
6. Known or suspected airway obstruction.

INSERTION INTRUCTIONS:
1. Apply chin lift and introduce the KING airway into the corner of the mouth
2. Advance the tip under the base of the tongue while rotating the tube back to the midline
3. Without exerting excessive force, advance tube until the base of the connector is aligned on the teeth or gums
4. Inflate the cuff to 60–80 ml
5. Attach the BVM. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing (large tidal volume with minimal airway resistance)
6. Secure the device using the larger Thomas tube holder
7. Lubricate and insert a 16 Fr. gastric tube into the gastric access lumen

SPECIAL NOTE:
1. It may be advisable to partially insert the gastric tube before introduction of the device into the patient, in an attempt to slow any return of gastric contents through the gastric lumen. There is no check valve on that lumen to prevent backflow.

2. In accordance with the King Airway Pilot Study, the Wisconsin Advanced Airway Continuous Quality Improvement Data Record must be filled out and kept on file. This form may be required to be submitted to the DHS for review.

OXIMETRY

INTRODUCTION:
The use of pulse oximetry aids in the assessment of respiratory function in the field. The pulse oximeter allows for non-invasive monitoring of oxygen saturation (the percent of hemoglobin saturated with oxygen; referred to as SaO_2 or O_2 sat. A normal SaO_2 for healthy individuals is 95-100%. A low (≤ 93%) or falling SaO_2 indicates that the airway or ventilatory status may be compromised.

INDICATIONS:
1. Respiratory distress/complaints
2. Cardiac problems
3. Multiple system trauma
4. Poor color
5. Patients requiring use of airway adjuncts and/or assisted ventilations
6. Suspected shock
7. Altered level of consciousness

PRECAUTIONS:
1. Patients with hemoglobin disorders such as CO poisoning, anemia, and methemoglobinemia may give artificially high SaO_2 readings. Readings in such patients should be interpreted with extreme caution.
2. Pulse oximetry readings may be difficult to obtain in states of low perfusion.

PROCEDURE FOR PATIENTS WITH SaO_2 < 90% OR FALLING SaO_2:
1. Check airway and manage as indicated.
2. Increase oxygen delivery (increase liter flow) and/or assist ventilation.
3. Check pulse oximetry device placement. Possible causes of inaccurate readings include:
   A. Excessive probe movement
   B. Optical interference by bright light (direct sunlight, fluorescent and xenon arc lighting). Cover the sensor.
   C. Poor waveforms/signals (hypovolemia, hypothermia, profound hypotension, or vasoconstriction)
   D. Artificial fingernails and certain dark colored nail polishes may interfere with use.

PEDIATRIC CONSIDERATIONS:
1. Special probes may be required to obtain readings in pediatric patients.

SPECIAL NOTES:
1. Best probe site in adults is usually the middle fingertip with nail polish removed.
2. Attempt to obtain and document pulse oximetry readings before and during oxygen therapy.
3. The use of pulse oximetry as a vital sign is encouraged, as the oximeter may be helpful in detecting hypoxia not evidenced by signs or symptoms.

RESQPOD

INTRODUCTION:
The ACSI ResQPOD creates a small but important negative pressure in the chest during CPR, which has been shown to increase blood flow back to the patient's heart (preload).

INDICATIONS:
1. Cardiac arrest

CONTRAINDICATIONS:
1. < 12 y/o
2. < 100 lbs.

PRECAUTIONS:
1. Use only if trained in the proper use of the device.
2. Use in children and pregnancy has not been established.

PROCEDURE:
1. Select airway adjunct (mask, Combitube, King LTS-D, ET tube, or trach tube)
2. Continue CPR allowing complete chest re-coil after each compression.
3. Do not allow hyperventilation.
   A. 30 compressions to 2 ventilations with an unprotected airway
   B. 8-10 ventilations per min protected airway
4. Place ResQPOD **between adjunct and bag-valve mask** with supplemental oxygen and ensure the mask has a continuous tight seal.
5. Turn timing lights on with an advanced airway. These lights will blink at 10/min.
6. Ensure advanced airway is properly placed and secured with mechanical tube holder. Patient must be placed in head block and C-collar. Use caution so additional weight of ResQPOD does not move the advanced airway.
7. Document time ResQPOD is placed in circuit. Remove ResQPOD when the patient starts breathing, and reapply the device if the patient arrests again.

PEDIATRIC:
1. Do not use in patient < 12 y/o or under 100 lbs.

SPECIAL NOTES:
1. This device is single use only.
2. Use caution so the extra weight from the ResQPOD does not cause the advanced airway to become dislodged.
3. When the patient is intubated, use the lights on the ResQPOD to ensure the patient is not hyperventilated
1. If ResQPOD fills with blood/emesis/fluid, remove and shake the fluid out. Re-apply and continue ventilations.
2. If EMS providers or hospital staff have not been trained in the ResQPOD, discontinue use. Only healthcare providers who are trained in the use of the ResQPOD should use the device.

TOURNIQUETS

INTRODUCTION:
Tourniquets have long been a source of controversy because of the problems associated with their use (ischemia, nerve injury, etc). Recent advances in military medicine have improved the design and allowed for increased use for civilian EMS.

INDICATIONS:
1. Penetrating trauma from firearms and stabbings involving severe hemorrhage
2. Incidents involving blast injuries to extremities
3. Incidents resulting from industrial or farm accidents involving severe hemorrhage
4. Multiple causality injuries and lack of resources to handle hemorrhage control

CONTRAINDICATIONS:
1. Any bleeding that can be managed by direct pressure, elevation, or cold pack administration.
2. Major bleeding to a non-extremity

PROCEDURE:
1. Recognition that bleeding is uncontrollable with direct pressure
2. Apply tourniquet to the proximal segment of the bleeding limb
3. Tighten device until bleeding is stopped and secure device
4. Transport patient to trauma center and report time of placement

SPECIAL NOTE:
If transport to trauma center will be greater than 30 minutes, reassess tourniquet for possible removal

HEMORRHAGE CONTROL AGENTS

Hemorrhage control agents provide rapid hemostasis at the wound site, even when there is profuse bleeding. The current products recommended for use by Regions EMS are the BleedArrest CP and ExcelArrest products.

INDICATIONS:
1. Hemorrhage control agents are to be used as a topical application to control and manage a wound with severe bleeding.
2. Hemorrhage control agents can be used for actively bleeding open wounds.

PRECAUTIONS:
1. Indicated for topical use only
2. Do not use on:
   A. Sucking chest wounds
   B. Open brain injuries
   C. Open fractures with exposed bone
3. Do not use if foil package has been opened or damaged
4. Hemorrhage control agents are not intended for intravenous application

PROCEDURE – EXCELARREST XT FOAM HEMOSTAT PAD:
1. Tear open the ExcelArrest pouch and remove the pad.
2. Blot excess blood from the wound with a gauze pad.
3. Apply ExcelArrest foam to cover the wound **with the tan backing face up**.
4. Apply gauze over foam and press firmly for 5 minutes.
5. With foam in place, wrap and secure bandage around wound to maintain pressure.
6. Discard any unused product after opening.

PROCEDURE – BLEEDARREST CP
1. Tear open BleedArrest pouch.
2. Blot excess blood from the wound with gauze pad.
3. Apply liberal amount of BleedArrest particles to cover wound.
4. Using gauze, firmly apply pressure to the wound for 5 minutes. If bleeding continues, apply more BleedArrest and repeat step 4.
5. Wrap and secure bandage around wound to maintain pressure.
6. Discard any unused product after opening.

PEDIATRIC CONSIDERATIONS: Both products can be used on all pediatric patients

SPECIAL NOTES – EXCELARREST XT FOAM HEMOSTAT PAD:
1. This product comes in 2x2, 2x4, and 4x4 sizes. This guideline covers the use of all sizes commercially available.
2. If this product need to be removed in the emergency department, please instruct the ED staff to irrigate one edge of the dressing with normal saline in a standard syringe and apply firm upward pressure slowly.
3. Removal of this product may cause the clot to dislodge, leading to additional bleeding at the wound site.

SPECIAL NOTES – BLEEDARREST CP:
1. This product comes in a 20g bellows, a 100g pouch, and a 225g pouch.
2. Thorough irrigation of the product from the wound can be accomplished with normal saline in the emergency department prior to wound closure.

Forms

NON-TRANSPORTATION INFORMATION
HEAD INJURY

Head injuries can be potentially dangerous if bleeding or swelling results inside the head. You have decided not to be transported by ambulance to a medical facility following a possible head injury. Please contact your doctor if any of the following signs or symptoms develops:

- Drowsiness or increased irritability
- Persistent or bad headache
- Unequal pupils
- Weakness or loss of feeling in arms or legs
- Bleeding or discharge from the nose or ears
- Neck or back pain
- Nausea and vomiting
- Vision problems
- Speech or hearing difficulty
- Difficulty walking
- Twitching or convulsions
- Confusion, loss of memory, or loss of consciousness

Actions:

1. Awaken the patient every hour for the next 24 hours to make sure he/she can be easily aroused and can answer simple questions (name, birthdate, etc.).
2. Do not take any sedatives, alcohol, or pain medications without checking with a doctor. Check with your doctor if you are taking aspirin on a regular basis.
3. Apply cold to any tender/painful area on the head.
4. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
SEIZURE

Seizures occur when a group of brain cells become overactive. This disturbs the usual cooperation between the brain and the rest of the body, and causes muscles to move in an uncontrolled way. It is important to have regular check-ups so that your doctor can tell you why you have seizures. Seizures can be controlled with medicine. Your doctor will order blood tests routinely to be sure you are getting the right amount of medicine.

You have decided not to be transported by ambulance to a medical facility following a probable seizure. Please contact your doctor to notify him/her of this episode and if any of the following signs or symptoms develop:

- Change in frequency or type of seizure
- Periods of confusion, weakness, or loss of sensation
- If you have been injured from the seizure
- If you think you have side effects from medicines

Actions:

1. Take your medicine exactly as prescribed.
2. Wear a medic alert tag at all times.
3. Don't swim or bathe alone.
4. Do not drive until your doctor has said it is okay. You are required by law to inform the Motor Vehicle Licensing Department about your seizures.
5. If you feel like you are going to have a seizure, go to a safe place where you cannot get hurt.
6. Teach family members and others close by what to do when a seizure occurs.
7. Discuss with your doctor whether there should be any restrictions on your job or activities.
8. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
LOW BLOOD SUGAR

You have had a period of unconsciousness or altered level of consciousness that may have been caused by a low level of sugar and may be related to your diagnosed condition of diabetes. The paramedics or EMTs from the ambulance service may have administered medication or sugar to improve your condition, but this improvement is often only temporary. It is important to have regular check-ups so that your doctor can help you control your blood sugar level, which can be controlled with medication and proper diet. Staying as healthy as possible can also help keep your blood sugar in the normal range.

You have decided not to be transported by ambulance to a medical facility following a probable low blood sugar episode. Please contact your doctor to notify him/her of this episode and if any of the following signs or symptoms develop:

- If the frequency or severity of your low blood sugar episodes increases.

Actions:

1. Take your medicine exactly as prescribed and eat right away. The sugar/medicine you were given is short acting.
2. Wear a medic alert tag at all times.
3. Have a responsible person wake you every 2 hours for the next 12 hours.
4. Check your blood sugar again in 1 – 2 hours to make sure it is okay and then test your urine or blood sugar as directed.
5. If you feel like your blood sugar is getting low, test it and eat as directed.
6. Stay with a competent caregiver, and teach family members and others close by how to help you when your blood sugar becomes too low.
7. Discuss with your doctor whether there should be any restrictions on your job or activities.
8. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
SPRAINS AND CONTUSIONS

Sprains are painful injuries to joints that result from partial or complete tearing of ligaments. Contusions are collections of blood under the skin caused by damage to blood vessels. Fractures (broken bones) can present in similar ways and cannot be diagnosed without an x-ray. Signs and symptoms of sprains (and fractures) include pain or tenderness, swelling, bruising, and inability to use the joint.

You have decided not to be transported by ambulance to a medical facility following a possible sprain or contusion. Please contact your doctor if any of the following signs or symptoms develops:

- Bluish discoloration
- Numbness or loss of feeling
- Continued inability to use or move the joint
- Coldness to the injured area
- Excessive pain or swelling

Actions:

1. For the first 24 hours, keep the injured joint elevated on pillows while lying down.
2. For the first 24 hours, apply cold every 2 hours for 20 - 30 minutes.
3. Ibuprofen (such as Advil) or acetaminophen (such as Tylenol) may be taken as directed for pain or discomfort. Avoid taking aspirin (check with your doctor if you are currently taking aspirin on a regular basis).
4. Contact your doctor if symptoms persist or worsen.
5. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
FOREIGN OBJECT INGESTION/CHOKING

Sudden airway obstruction in an adult usually occurs during a meal. In a child, it generally occurs during mealtime or at play (choking on small objects placed into the mouth). Ingested objects/food can be dangerous if they block the passage of air into the lungs. Some ingested items that originally cause someone to choke are cleared by coughing, and then swallowed or spit out. Treatment depends on the size and location of the swallowed object. An object that gets stuck in the esophagus (food tube) must be removed as soon as possible. Once the object is in the stomach, it probably will pass through the body by itself without causing problems. This usually takes several days but may take 2 or 3 weeks. Pointed objects such as needles, nails, and toothpicks are more dangerous than round or smooth ones. Objects may be stuck in the lungs without causing current problems breathing.

You have decided not to be transported by ambulance to a medical facility following a choking episode or the swallowing of a foreign object. Please contact your doctor if any of the following signs or symptoms develops:

- Vomiting, gagging, choking, or drooling
- Fever over 100°
- Coughing, wheezing, or very noisy breathing
- You do not see the swallowed object in the stool within a few days
- Neck or throat pain, or the inability to swallow
- Abdominal pain, bloody bowel movement, cramping, or bleeding from the rectum

Actions:

1. If the swallowed object was not removed, you should check the stools until the object has passed. Putting the stool in a strainer and running water over it may make the job easier.
2. There is no need to change your diet while waiting for the object to pass. Do not take any medicine such as laxatives to make the object pass sooner.
3. Keep small objects, including coins, out of the reach of infants and young children.
4. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
WOUNDS AND LACERATIONS

Lacerations are cuts that leave a smooth or jagged wound in the skin. They may affect the top layer of skin, tissues below the skin, muscles, nerves and blood vessels. Good wound care and sutures (stitches), if required, will improve the healing of your wound, help prevent an infection, and may prevent permanent difficulty or inability to use an arm or leg normally.

You have decided not to be transported by ambulance to a medical facility following a laceration or wound. Please contact your doctor if any of the following signs or symptoms develops:

- Increased pain
- Redness or red streaks around the wound
- Fever (101° F. or higher) or chills
- Swelling, numbness or tingling
- Pus or drainage coming from the wound
- Bleeding that cannot be controlled

Actions:

1. If the paramedics/EMTs have recommended, or you feel you should be evaluated for possible stitches, **you should seek medical attention as soon as possible, and within 6 hours of the injury**.
2. Clean the wound and keep it clean. Wash the wound with soap and water 2 - 3 times a day. Do not soak.
3. After washing, you may apply a small amount of an antibiotic ointment such as bacitracin (available without prescription). Do not apply any ointment if you will be seeking immediate medical attention.
4. Cover the wound with gauze dressing. Band-Aids make the skin wet and increase the chance of infection.
5. Ibuprofen (such as Advil) or acetaminophen (such as Tylenol), if you are not allergic, may be taken as directed for pain or discomfort. Avoid taking aspirin (check with your doctor if you are currently taking aspirin on a regular basis).
6. Contact your doctor if it has been more than five years since your last tetanus shot or if you are uncertain when your last shot was. If needed, a tetanus shot should be given within 24 hours of the injury.
7. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
MOTOR VEHICLE CRASH

Accidents involving motor vehicles can cause injuries that are sometimes not apparent at the time of the accident. Some of these injuries can be serious and are difficult to detect unless there is further testing and evaluation by a physician. These injuries include, but are not limited to head, neck, back, chest or abdominal injuries. Lacerations (cuts) and bruising are common and may require further care and evaluation. Good wound care and sutures (stitches), if required, will improve the healing of your wound, help prevent an infection, and may prevent permanent difficulty or inability to use an arm or leg normally.

You have decided not to be transported by ambulance to a medical facility following a motor vehicle accident. Please contact your doctor if any of the following signs or symptoms develops:

- Increased pain to any body area
- Drowsiness or increased irritability
- Persistent or bad headache
- Unequal pupils
- Weakness or loss of feeling in arms or legs
- Bleeding or discharge from the nose or ears
- Neck or back pain
- Swelling, numbness or tingling
- Nausea and vomiting
- Vision problems
- Speech or hearing difficulty
- Difficulty walking
- Twitching or convulsions
- Confusion, loss of memory, or loss of consciousness

Actions:

1. Awaken the patient every hour for the next 24 hours to make sure he/she can be easily aroused and can answer simple questions (name, birth date, etc.).
2. Do not take any sedatives, alcohol, or pain medications without checking with a doctor. Check with your doctor if you are taking aspirin on a regular basis.
3. Apply cold to any tender/painful area.
4. If the paramedics/EMTs have recommended, or you feel you should be evaluated for possible stitches, **you should seek medical attention as soon as possible, and within 6 hours of the injury**.
5. Clean the wound and keep it clean. Wash the wound with soap and water 2 - 3 times a day. Do not soak.
6. After washing, you may apply a small amount of an antibiotic ointment such as Bacitracin (available without prescription). Do not apply any ointment if you will be seeking immediate medical attention.
7. Cover the wound with gauze dressing. Band-Aids make the skin wet and increase the chance of infection.
8. Ibuprofen (such as Advil) or acetaminophen (such as Tylenol), if you are not allergic, may be taken as directed for pain or discomfort. Avoid taking aspirin (check with your doctor if you are currently taking aspirin on a regular basis).
9. Contact your doctor if it has been more than five years since your last tetanus shot or if you are uncertain when your last shot was. If needed, a tetanus shot should be given within 24 hours of the injury.
10. **Contact an ambulance again by calling 911 if your condition worsens.**

NON-TRANSPORTATION INFORMATION
FAINTING AND DIZZINESS

You have had a period of unconsciousness or near-unconsciousness. Fainting or dizziness episodes have a number of causes, some of which can be serious. It is very difficult to determine the exact cause without further testing or evaluation by a physician.

You have decided not to be transported by ambulance to a medical facility following an episode of fainting or dizziness. Please contact your doctor to notify him/her of this episode and if any of the following signs or symptoms develop:

- Chest or abdominal pain
- Bleeding anywhere
- Palpitations
- Nausea and vomiting
- Problems walking
- Slow heart rate (less than 60 beats/min)
- Recurrent episodes
- Headache or neck pain
- Problems with your vision
- Numbness or tingling
- Weakness
- Fast heart rate (greater than 100 beats/min)

Actions:

1. If you have not been getting enough food or fluids, eat a good meal and drink plenty of non-alcoholic fluids.
2. If you feel overheated, move to a cool place with fans or air-conditioning.
3. Lay down until you feel better. If you feel faint, elevating your legs may help.
4. Stay with a competent caregiver until your symptoms go away.
5. **Contact an ambulance again by calling 911 if your condition worsens.**

GOOD SAMARITAN INFORMATION
BLOOD OR BODY FLUID EXPOSURE

Blood and body fluids from one person may be capable of transmitting certain diseases to another person. Some of the diseases that are of special concern include human immunodeficiency virus (HIV) infection (which causes AIDS), hepatitis and tetanus.

A person may become exposed to disease if they get blood or body fluids

- into their eyes, mouth, nose or other mucous membrane
- on non-intact skin such as rashes or cuts
- exposed to them by puncture of the skin with a needle or other contaminated object

If you believe that you have been exposed to someone else's blood or body fluids, it is important for you to be promptly evaluated by a doctor. Most exposures will not cause an infection, but it is important to determine the risk of your exposure. There are medications available that can reduce the likelihood that you will become infected if your exposure was significant. The sooner you are evaluated and treated, the more likely a doctor will be able to prevent or reduce the risk of your exposure. **If there is a chance that you have been exposed, you should take the following actions immediately:**

Actions:

1. If you were exposed in your mouth, eyes, nose or other mucous membrane, flush the areas with lots of water as soon as possible. If you were exposed through non-intact skin, wash the area with soap and water as soon as possible.
2. Seek medical attention at a hospital emergency room as soon as possible. Inform the doctor treating you that the patient you were exposed to was transported by ambulance. You will be given instructions for how to follow-up on your test results and the results of the source patient with your own doctor. It will be helpful to the hospital if you know which vaccines (such as tetanus and Hepatitis B) you have had.

Reference Section

NORMAL PEDIATRIC VITAL SIGNS

AGE	Premie	Term	6 mos	1 yr	2-3 yrs
HEART RATE	**140**	**125**	**130**	**120**	**115**
RESPIRATION	**<40**	**40 - 60**	**24 - 36**	**20-30**	**20 – 2 6**
SYSTOLIC BP	**42-60**	**60 +/- 10**	**89 +/- 29**	**96 ± 30**	**99 ± 25**

AGE	4-5 yrs	6-9 yrs	10-12 yrs	>14 yrs
HEART RATE	100	100	75	70
RESPIRATION	20 - 24	12-25	18 – 22	12-18
SYSTOLIC BP	99 ± 20	100 ± 20	112 ± 20	120 ± 20

APGAR SCALE

	0 Points	1 Point	2 Points
HEART RATE	Absent	< 100	> 100
RESPIRATORY EFFORT	Absent	Weak cry	Strong cry
MUSCLE TONE	Flaccid	Some flexion	Active motion
REFLEX IRRITABILITY (stimulate feet)	No response	Some motion	Vigorous cry
COLOR	Blue, pale	Body; pink Ext: blue	Fully pink

- Infants with scores of 7 – 10 usually require supportive care only
- Scores of 4 – 6 indicate moderate depression
- Infants with scores < 4 require aggressive resuscitation

RADIO REPORT FORMAT

Initial contact with Medic Control should include:

- Ambulance service and unit #
- Radio frequency
- Destination
- Estimated time of arrival (ETA)
- Stable or unstable patient

Once Medic Control has acknowledged, report should include:

- Any report on a patient who the provider deems as **stable (see definition below)** and requires minimal interventions, does not requiring a specific transport destination, or specific alert criteria (TTA, Level 1 Trauma, Cath Lab Activation, or Code Grey Activation), the report will include the crew, agency, chief complaint, patient age, patient gender, destination hospital, and ETA. The following will be used to define the stable patient:

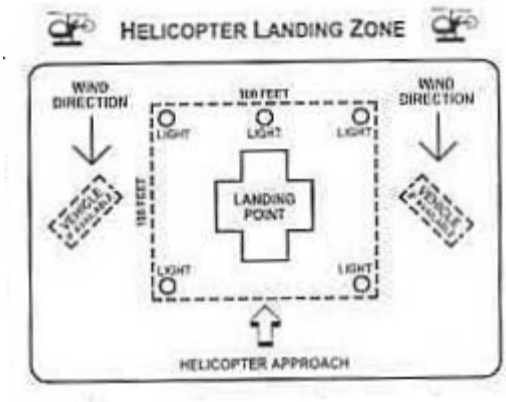
    - Systolic 120-140; Diastolic 80-100
    - Pulse < 110
    - Temp < 103 or > 95
    - SaO2 > 95%
    - No altered mental status
    - Provider impression of the patient

- Patients who are deemed unstable, defined as a patient needing specific interventions or outside of the ranges listed above, the report will be inclusive of the above information and will also include vital signs, response to treatments, and any other pertinent information the crew feels they should include. In these patients, Medic Control may ask for more clarifying information. If the provider is very busy with patient care, the provider should alert Medic Control as early possible so they can alert the receiving hospital in a timely fashion.

Consultation with Medic Control <u>MD</u> is mandatory prior to:

- Non-transport of all pediatric patients <2 yrs. Patients > 2 y.o. can be cleared by MRCC Operator.
- Non-transport of all 3rd trimester OB pts subjected to any trauma
- Non-transport of certain pts who have had a hypoglycemic episode
- Admin. of some meds for child, and adults; see specific guidelines
- Transport of BLS personnel once IV has been established by ALS personnel if BLS personnel have not received training in IVs.

HELICOPTER LANDING ZONE



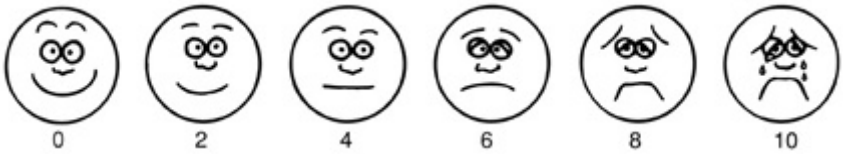
WARNING

PILOTS MUST BE NOTIFIED OF POWER LINES AS THEY ARE INVISIBLE FROM THE AIR!

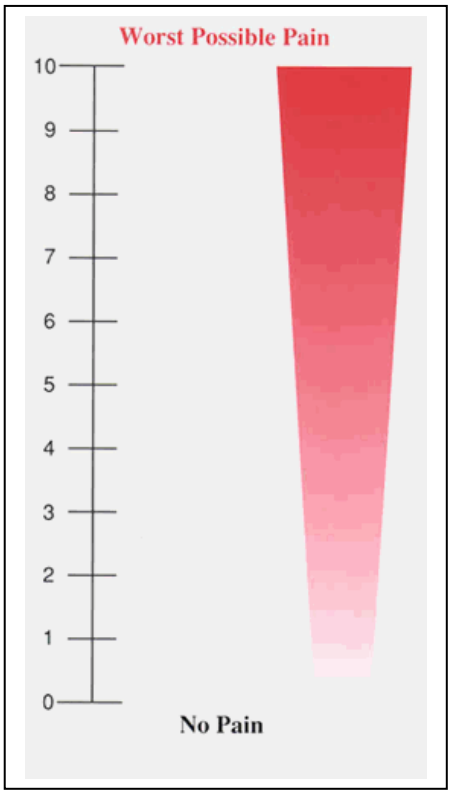
Illuminate night landing areas. Headlights should be directed into the wind and on to the landing area. Approach and departure path should be clear of trees, power lines and loose debris.

PAIN SCALES:

Wong-Baker FACES Pain Rating Scale



From www.umich.edu/pain/apainmgt.htm



CINCINNATI PREHOSPITAL STROKE SCALE

Patient: _____ **Date:** _____
Time: _____

EMS Agency: _____

Facial Droop (Patient shows teeth or smiles.)
_____ **Normal:** Both sides of the face move equally.
_____ **Abnormal:** Right side of the face does not move as well as the left.
_____ **Abnormal:** Left side of the face does not move as well as the right.

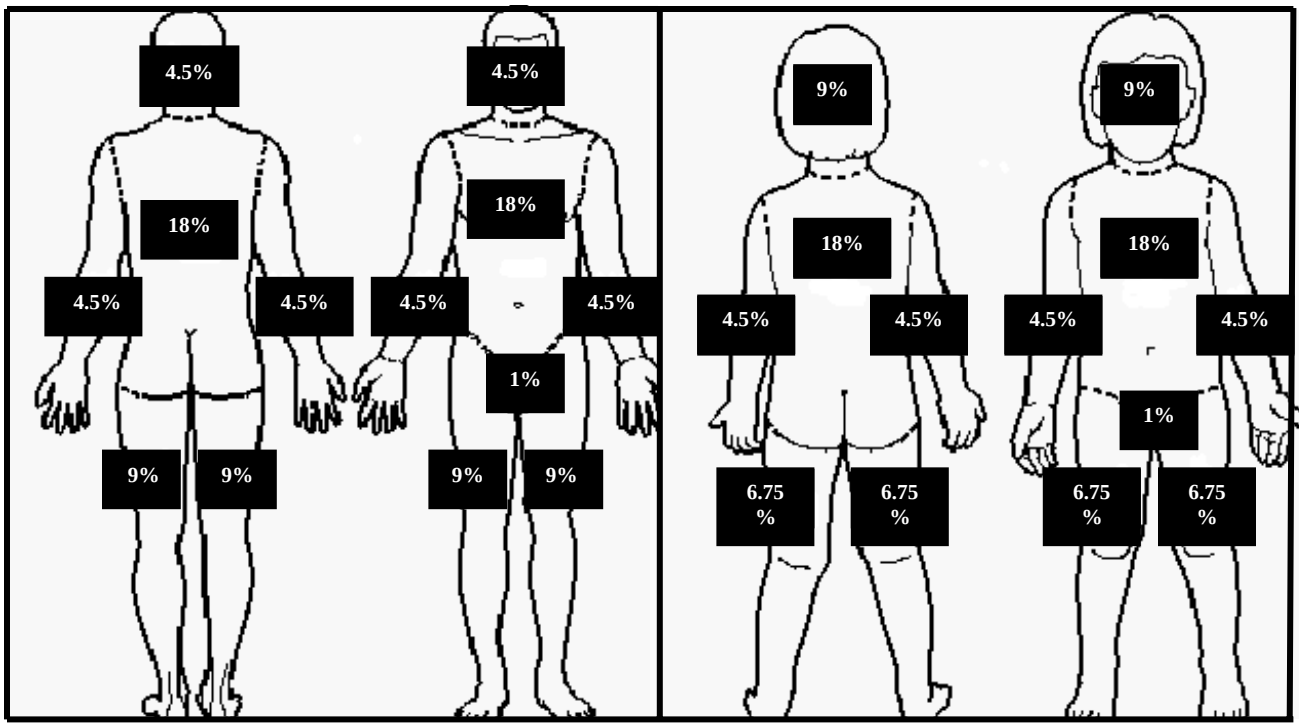
Arm Drift (Patient closes their eyes and extends both arms straight out for 10 seconds.)
_____ **Normal:** Both arms move the same, or both arms do not move at all.
_____ **Abnormal:** Right arm either does not move, or drifts down compared to the left.
_____ **Abnormal:** Left arm either does not move, or drifts down compared to the right.

Speech (Patient repeats "The sky is blue in Cincinnati." or other sentence.)
_____ **Normal:** The patient says the correct words with no slurring of words.
_____ **Abnormal:** The patient slurs words, says the wrong words, or is unable to speak.

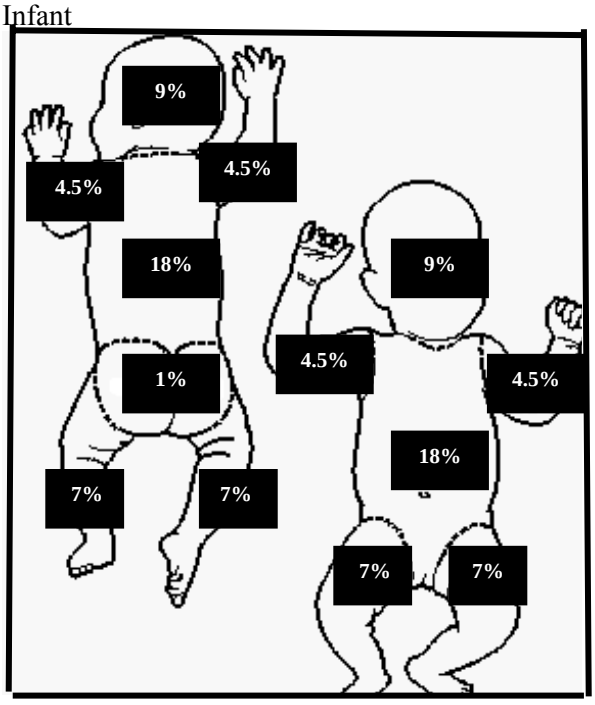
BURN CHART

(Note: only 2° & 3° burns are counted)

Adult **Child**



Infant



PARKLAND FORMULA*
(IV fluids for first 8 hours)

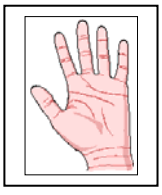
$$\frac{\text{\% Burn Area x Pt Wt. in Kg}}{4} = \text{cc/hr}$$

Example: 20% TBSA; patient weight - 70 kg:

$$\frac{20 \times 70}{4} = \frac{1400}{4} = 350 \text{ cc/hr NS}$$

This formula does not apply to patients in shock. The patient in shock needs more aggressive IV fluid replacement.

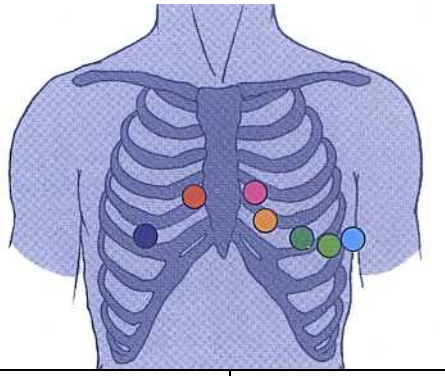
THE PATIENT'S PALM EQUALS APPROXIMATELY 1% OF THEIR TOTAL BODY SURFACE AREA.



12 Lead ECG

SYSTEMATIC APPROACH

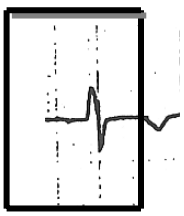
1) **RATE, RHYTHM, R TO R**
2) **PLACE ELECTRODES**



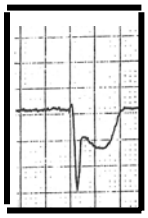
V_1 = 4th ICS right of sternum	**V_4R-V_6R =** Same positioning as V_4-V_6 only **RIGHT** side
V2 = 4th ICS left of sternum	**LIMB LEADS:**
V3 = Between V2 and V4	**Right Arm (RA)** = Right forearm
V4 = 5th ICS at left midclavicular line	**Right Leg (RL)** = Right calf
V5 = Level with V4 at left anterior axillary line	**Left Arm (LA)** = Left forearm
V6 = Level with V4 at left midaxillary line	**Left Leg (LL)** = Left calf

3) **FIND INJURY PATTERNS**

ST Elevation

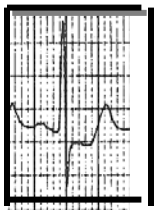


Flipped T



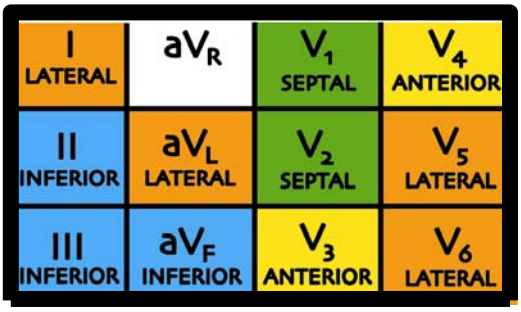
ST Depression

Q-wave



Posterior in V_1-V_2

4) **IDENTIFY LOCATION**



5) ARE THERE RECIPROCAL CHANGES?

Location	Arterial Supply	Injury / Ischemia changes in:	Reciprocal
Septal	LAD	$V_1 - V_2$	None
Anterior	LCA/LAD	V_3-V_4	LI, III, & AV_F
Inferior	RCA	II, III, AV_F	l, AV_L
Lateral	Circumflex	l, AV_L, V_5, V_6	V_1-V_3
Right Ventricle	RCA	V_4R, V_5R, V_6R	V_2-V_4
Posterior	RCA/Circumflex	None	V_1-V_2

6) IF INFERIOR MI-IS IT RIGHT SIDED?

Right Side MI:

A. Inferior MI on standard 12-Lead ECG
B. ST ↑ > in lead III than in II
C. ST ↑ in V_1 (could go through V_6)
D. ST ↓ in V_2 (less than ½ ↑ in AVF)
E. ST ↑ in V_4R –V_6R

7) **IF INFERIOR MI- IS IT POSTERIOR?**

Posterior MI:

A. Inferior MI on Standard 12-Lead ECG
B. Tall & wide R-wave in V_1 & V_2
C. ST↓ with upright T wave in V_1 & V_2

COMMONLY PRESCRIBED MEDICATIONS

(UPPER CASE = brand name; lower case = generic name)

Generic	Brand	Use
Acetaminophen;Butalbital; Caffeine	Americet	Analgesics non-narcotic
Acetaminophen; Codeine	Tylenol with Codeine	Analgesics narcotic
Acetaminophen; Hydrocodone	Anexsia	Analgesics narcotic
Acetaminophen; Oxycodone	Endocet;Percocet-0/325	Analgesics narcotic
Acetaminophen; Oxycodone	Oxycocet	Analgesics narcotic
Acetaminophen;Propoxyphene-N	Darvocet A500	Analgesics Narcotic
Acetaminophen; Tramadol	Ultracet	Analgesics, non-narcotic
Acyclovir	Zovirax;Zovirax Topical	Antivirals,Herpes genitalis
Albuterol Aerosol	Proventil; Ventolin; Volmax; Vospire	Adrenergic agonists; Bronchodilators
Albuterol; Ipratropium	Combivent	Anticholinergics; Bronchodilators
Alendronate	Fosamax	Bisphosphonates,Osteoporosis
Allopurinol	Aloprim; Zyloprim	Antigout agents
Alprazolam	Xanax	Anxiety disorder
Amitriptyline	Elavil; Vanatrip	Depression
Amlodipine	Norvasc	Hypertension, Angina
Amlodipine; Benazepril	Lotrel	Hypertension
Amoxicillin	Amoxicot	Antibiotics, penicillins
Amoxicillin	Trimox	Antibiotics, penicillins
Amoxicillin	Amoxicot	Antibiotics, penicillins
Amoxicillin;Potassium Clavulanate	Augmentin	Anitbiotics, penicillins
Amphetamine; Dextroamphetamine	Adderall	Adrenergic agonists; Amphetamines;
Aspirin; Enteric-Coated	Entaprin	Analgesics, non-narcotic; Antipyretics
Atenolol	Tenormin	Antiadrenergics, beta blocking, HTN
Atomoxetine	Strattera	ADHD
Atorvastatin	Lipitor	Antihyperlipidemics
Azithromycin	Zithromax, Z-Pak	Antibiotics
Benazepril	Benazepril Hydrochloride	Antihypertension
Benzonatate	Tessalon	Cough
Bisoprolol; Hydrochlorothiazide	Ziac	Hypertension
Budesonide Nasal	Rhinocort	Rhinitis, allergic; Asthma
Buproprion Sustained-Release	Wellbutrin	Depression; Smoking cessation
Buspirone HCl	BuSpar	Anxiety disorder
Captopril	Capoten	Hypertension, Heart failure
Carisoprodol	Soma	Pain, musculoskeletal
Carvediol	Coreg	Hypertension, Heart failure
Cefdinir	Omnicef	Infection
Cefprozil	Cefzil	Infection
Celecoxib	Celebrex	Arthritis, osteoarthritis; Pain
Cephalexin	Keflex	Infection
Cetirizine	Zyrtec	Rhinitis, allergic; Urticaria
Chlorpheniramine Maleate; Hydrocodone	S-T Forte 2	Cough; Common cold

Ciprofloxacin	Cipro	Pneumonia; Infection
Ciprofloxacin HCl	Cipro	Pneumonia; Infection
Citalopram	Celexa	Depression
Clarithromycin Extended-Release	Biaxin	Pneumonia; Infection
Clindamycin Systemic	Cleocin HCl	Pneumonia; Acne vulgaris
Clonazepam	Klonopin	Seizures, absence; Panic disorder
Clonidine	Catapres	Hypertension; Pain, cancer
Clopidogrel	Plavix	Stroke; Myocardial infarction
Clotrimazole; Betamethasone	Lotrisone	Antifungals
Codeine; Promethazine	Codeine	Cough; Common cold
Cyclobenzaprine	Flexeril	Pain, musculoskeletal
Desloratadine	Clarinex	Rhinitis, allergic
Desogestrel; Ethinyl Estradiol	Apri	Contraception
Diazepam	Valium	Anxiety disorder
Diclofenac Sodium	Cataflam	Arthritis, osteoarthritis
Digoxin	Lanoxin	Heart failure; Fibrillation, atrial
Diltiazem CD	Cardizem	Hypertension
Divalproex Sodium	Depakote	Seizures
Donepezil	Aricept	Alzheimer's disease
Doxazosin	Cardura	Hypertension
Doxycycline	Adoxa	Acne vulgaris; Infection
Drospirenone; Ethinyl Estradiol	Yasmin	Contraception
Enalapril	Vasotec	Hypertension; Heart failure
Escitalopram	Lexapro	Depression
Esomeprazole	Nexium	Ulcer; Esophagitis
Estradiol Oral	Alora; Climara	Carcinoma, breast; Menopause
Estrogens; Conjugated	Cenestin	Menopause; Carcinoma, prostate
Estrogens;conjugated; Medroxyprogesterone	Premphase; Prempro	Menopause
Ethinyl Estradiol; Levonorgestrel	Alesse; Aviane	Contraception
Ethinyl Estradiol; Norelgestromin	Ortho Evra	Contraception
Ethinyl Estradiol; Norgestimate	Mononessa	Acne vulgaris; Contraception
Ezetimibe	Zetia	Hypercholesterolemia
Famotidine	Pepcid	Ulcer
Fenofibrate	Lipidil Supra	Hypercholesterolemia
Fentanyl Transdermal	Actiq	Anesthesia
Ferrous Sulfate	N/A	Anemia
Fexofenadine	Allegra	Rhinitis, allergic
Fluconazole	Diflucan	Candidiasis; Meningitis
Fluoxetine	Prozac	Panic disorder; Depression
Fluticasone	Flonase; Flovent	Rhinitis, allergic; Asthma
Fluticasone; Salmeterol	Advair Diskus	Asthma; COPD
Folic Acid	N/A	Anemia
Fosinopril	Monopril	Hypertension
Furosemide Oral	Lasix	Hypertension
Gabapentin	Neurontin	Seizures
Gemfibrozil	Lopid	Hypercholesterolemia
Glimepiride	Amaryl	Diabetes mellitus
Glipizide	Glucotrol	Diabetes mellitus
Glyburide	DiaBeta; Glycron	Diabetes mellitus

Glyburide; Metformin	Glucovance	Diabetes mellitus
Human Insulin Isophane	Humulin R	Diabetes mellitus
Hydrochlorothiazide	Aquazide H	Hypertension
Hydroxyzine	Atarax; Hyzine	Anxiety; Urticaria
Ibuprofen	Advil; Motrin	Arthritis, osteoarthritis
Insulin Glargine	N/A	Diabetes mellitus
Insulin Lispro	Humalog	Diabetes mellitus
Irbesartan	Avapro	Hypertension
Isosorbide Mononitrate	Imdur	Angina pectoris
Lansoprazole	Prevacid	Ulcer; Esophagitis
Latanoprost	Xalatan	Glaucoma
Levofloxacin	Levaquin	Pneumonia
Levothyroxine	Eltroxin	Carcinoma
Lisinopril	Prinivil; Zestril	Hypertension
Lisinopril; Hydrochlorothiazide	Prinzide	Hypertension
Lorazepam	Ativan	Anxiety disorder
Losartan	Cozaar	Hypertension
Losartan; Hydrochlorothiazide	Hyzaar	Hypertension
Lovastatin	Altocor	Hypercholesterolemia
Meclizine HCl	Antivert	Motion sickness; Vertigo
Medroxyprogesterone Tablets	Depo-Provera	Carcinoma, renal; Contraception
Metaxalone	Skelaxin	Pain
Metformin	Glucophage	Diabetes mellitus
Methylphenidate	Ritalin	ADHD; ADD
Methylprednisolone Tablets	Solu-Medrol	Corticosteroids
Metoclopramide	Reglan	GERD; Acid reflux
Metoprolol Succinate	Lopressor	Hypertension; MI
Metronidazole Tablets	Flagyl	Pneumonia; Infection, bone
Minocycline	Arestin	Acne vulgaris; Infection
Mometasone Nasal	Nasonex	Rhinitis
Montelukast	Singulair	Rhinitis; Asthma
Mupirocin	Bactroban	Impetigo
Naproxen	Aflaxen;Anaprox	Arthritis, osteoarthritis; Pain
Nifedipine Extended-Release	Procardia	Hypertension; Angina
Nitrofurantoin	Macrobid	Infection, urinary tract
Nortriptyline	Aventyl Cl; Pamelor	Depression
Olanzapine	Zyprexa	Schizophrenia; Bipolar; Mania
Olopatadine	Patanol	Conjunctivitis
Omeprazole	Prilosec	Ulcer
Oxybutynin Chloride Extend-Release	Ditropan	Dysuria
Oxycodone	OxyContin	Pain
Pantoprazole	Protonix	Esophagitis
Paroxetine	Paxil	Anxiety
Penicillin VK		Infection
Phenazopyridine HCl	Eridium	Dysuria
Phenytoin Sodium Extended	Dilantin	Seizures
Pimecrolimus	Elidel	Dermatitis
Pioglitazone	Actos	Diabetes mellitus
Polyethylene Glycol 3350	N/A	Constipation

Potassium Chloride	Cena K	Hypokalemia
Pravastatin	Pravachol	Stroke; Hypercholesterolemia
Prednisone Oral	Deltasone	Arthritis
Promethazine Tablets	Adgan	Rhinitis
Propranolol HCl	Inderal	Hypertension
Quetiapine	Seroquel	Schizophrenia
Quinapril	Accupril	Hypertension
Rabeprazole	Aciphex	Ulcer; Esophagitis
Raloxifene	Evista	Osteoporosis
Ramipril	Altace	Hypertension; CHF
Ranitidine HCl	Zantac	Ulcer; Esophagitis
Risedronate	Actonel	Paget's disease
Risperidone	Risperdal	Schizophrenia; Bipolar; Mania
Rofecoxib	Vioxx	Arthritis, osteoarthritis
Rosiglitazone	Avandia	Diabetes mellitus
Sertraline	Zoloft	Panic disorder; Depression
Sildenafil	Viagra	Erectile dysfunction
Simvastatin	Zocor	Stroke; Hypercholesterolemia
Spironolactone	Aldactone	Hypertension
Sumatriptan Oral	Imitrex	Migraine
Tamsulosin	Flomax	Hyperplasia, benign prostatic
Temazepam	Restoril	Insomnia
Terazosin	Hytrin	Hypertension
Tizanidine HCl	Zanaflex	Spasticity
Tolterodine long-acting	Detrol	Incontinence
Topiramate	Topamax	Seizures
Tramadol	Ultram	Pain
Trazodone HCl	Desyrel	Depression
Triamcinolone Acetonide Nasal	Aristocort A	Rhinitis
Triamterene; Hydrochlorothiazide	Dyazide	Hypertension
Trimethoprim/Sulfa	Bactrim	UTI; Ear Infection
Valacyclovir	Valtrex	Herpes genitalis
Valdecoxib	Bextra	osteoarthritis
Valsartan	Diovan	Hypertension; CHF
Venlafaxine Extended-Release	Effexor	Anxiety disorder; Depression
Verapamil Sustained-Release	Calan	Arrhythmia, ventricular; HTN
Warfarin	Coumadin	Embolism, pulmonary; Arrhythmia
Zolpidem	Ambien	Insomnia

IMPORTANT PHONE NUMBERS:

Amery Ambulance		(715) 268-8698
Amery Hospital		(715) 268-7151
Baldwin Hospital		(715) 684-3311
Baldwin Ambulance		(715) 684-3188
CISD (Metro Region Team)		(612) 347-5710
Children's Home Crisis Nursery:		(651) 646-4033
Clear Lake Ambulance		(715) 263-2804
East Metro MRCC:		(651) 254-2990
DHFS EMS		(608) 267-9777
Ellsworth Ambulance		(715) 273-4879
Elmwood Ambulance		(715) 639-2339
Glenwood City Ambulance		(715) 265-4157
EMSRB:		(612) 627-6000
Fairview Lakes Region ER:		(651) 982-7300
HCMC ER:		(612) 347-3132
Holy Family Hospital (New Richmond)		(715) 246-2101
Hudson Hospital		(715) 386-9321
Lakeview EMS (Stillwater)		(651) 430-4620
Lakeview ER:		(651) 430-4554
Life Link III:	(651) 778-0416,	(800) 328-1377
New Richmond Amb & Rescue		(715) 246-7700
North Land Ambulance (Frederic/Luck)		(715) 472-2388
NREMT:		(614) 888-4484
Osceola Ambulance		(715) 294-3911
Osceola Hospital		(715) 294-2116
Peirce County Dispatch		(715) 273-5051
Polk County Dispatch		(715) 485-8300
Poison Control:		(800) 222-1222
Prescott Ambulance		(715) 262-3775
Ramsey County Coroner:		(651) 224-7627
Regions Hospital ER:		(651) 254-3307
River Falls Ambulance		(715) 425-0370
River Falls Hospital		(715) 425-6155
Regina ER:		(651) 480-4310
Spring Valley Ambulance		(715) 778-4452
St. Croix County Dispatch		(715) 386-4701
St. Croix EMS Ambulance (Hudson)		(715) 386-4778
St. Croix Falls Hospital		(715) 483-3261
St. Croix Valley EMS (St. Croix Falls Ambulance)		(715) 483-3261
St. Joe's ER:		(651) 232-3348
St. John's ER:		(651) 232-7348
St. Paul Children's ER:		(651) 220-6911
St. Paul Domestic Abuse Hotline:		(651) 645-2824
State Duty Officer:	(651) 649-5451,	(800) 422-0798
Unity Area Ambulance (Milltown)		(715) 825-4444

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