Brookland Fire Protection District First Responder Medical Protocols

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Section 1: General

GENERAL RULES FOR FOLLOWING PROTOCOL

1.1

- These protocols are designed to outline minimal patient treatment procedures. They have been developed to provide guidelines for initiating emergency patient care.
- EMS personnel are defined as any member of a Brookland Fire Protection District who holds a First Responder Certification or higher and is in good standing with the Arkansas Department of Health Services.
- The purpose of these protocols is to allow First Responders to perform patient care under **Standing Orders**. All treatments listed in this document are designated as Standing Orders while being utilized according to the Good Samaritan Law. Medical Control authorization is not required to perform any treatments listed in this protocol.

Protocol Deviation

1.2

- If the attending First Responder deviate from protocol or are unable to perform care as outlined in the specific protocol, documentation should be done in the field report.
  - The documentation should include:
    - Description of the deviation.
    - Reason for the deviation and/or inability to perform the care.
    - Outcome and effect on the patient

Errors

- In the event an error in patient care occurs, written documentation should be immediately filed through the appropriate chain of command to the individual Fire Department's First Responder coordinator.
  - The documentation shall include:
    - Incident Number (If available)
    - Patient's Name
    - Personnel Involved
    - Description of the error
    - Reason for the error
    - The outcome and effects on the patient
  - The documentation will then be forwarded to the Medical Director

Consent for Treatment

1.3

Informed, legal consent to treatment and/or transportation must be obtained by First Responders.

- For the purpose of this protocol consent, an adult patient is defined as any patient at least 18 years of age.
- All adult patients who are in possession of their mental faculties (conscious, alert and oriented to person, place and date) must give First Responders permission for treatment and transportation (verbal consent is sufficient).
- Adult patients who are unconscious may be treated under implied consent.
- Minor patients are unable to give consent except as outlined in Section 6, below. Every effort should be made to obtain legal consent for the treatment of minors from their parent or legal guardian.
    - Minor patients may be treated under implied consent in circumstances which present serious medical conditions, life threats, or have the potential for permanent disability.
    - In situations which involve minors not having a life threatening injury, every reasonable effort to contact the minor's parent or legal guardian should be made to receive consent to treat.
- If a parent cannot be contacted within a reasonable amount of time, the following individuals may give consent, in this order:
    - An adult temporary guardian who is present with the child (i.e. babysitter)
    - A grandparent.
    - An adult brother or sister.
    - An adult aunt or uncle.
- The parent or guardian may leave written authorization for consent to treatment with an educational institution or day care center in which the minor is enrolled. The parent or guardian may also leave written authorization for consent to treatment with an individual.
    - In accordance with *2012 Arkansas Code Title 17, Subtitle 3, Chapter 95, Sub-chapter 1, § 17-95-101 "Good Samaritan"*, First Responders may provide medical treatment under the following circumstances:

- Any health care professional under the laws of the State of Arkansas who in good faith lends emergency care or assistance without compensation at the place of an emergency or accident shall not be liable for any civil damages for acts or omissions performed in good faith so long as any act or omission resulting from the rendering of emergency assistance or services was not grossly negligent or willful misconduct.
- Any person who is not a health care professional who is present at an emergency or accident scene and who:
    - Believes that the life, health, and safety of an injured person or a person who is under imminent threat of danger could be aided by reasonable and accessible emergency procedures under the circumstances existing at the scene thereof; and
    - Proceeds to lend emergency assistance or service in a manner calculated in good faith to lessen or remove the immediate threat to the life, health, or safety of such a person, shall not be held liable in civil damages in any action in this state for any act or omission resulting from the rendering of emergency assistance or services unless the act or omission was not in good faith and was the result of gross negligence or willful misconduct.
- No health care professional who in good faith and without compensation renders voluntary emergency assistance to a participant in a school athletic event or contest at the site thereof or during transportation to a health care facility for an injury suffered in the course of the event or contest shall be liable for any civil damages as a result of any acts or omissions by that health care professional in rendering the emergency care. The immunity granted by this subsection shall not apply in the event of an act or omission constituting gross negligence.
- For the purposes of this section, "health care professional" means a licensed physician, chiropractic physician, dentist, optometric physician, podiatric physician, and any other licensed health care professional.

Patient Refusal

1.4

- Any adult patient who may give consent for treatment under *Protocol 1.3:Consent for Treatment* and who is in possession of his/her mental faculties (conscious, alert and oriented to person, place and date) may refuse treatment and/or transport for him/herself or his/her minor child.

- If a patient desires to refuse treatment/transport against medical advice, first Responders should document the transfer care to the agency which would be transporting the patient for completion of a "Patient Refusal - Against Medical Advice" per that agency's protocols/standards. Documentation on the BFPD First Responder medical report should indicate to which agency and crew member patient care was transferred.

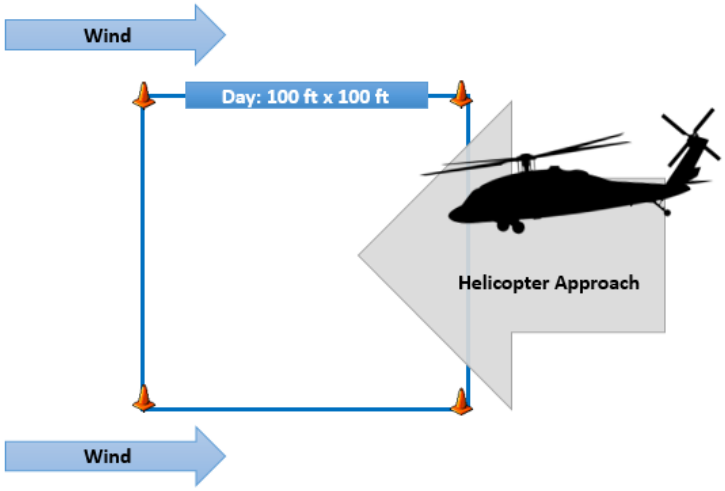
Helicopter Activation

1.5

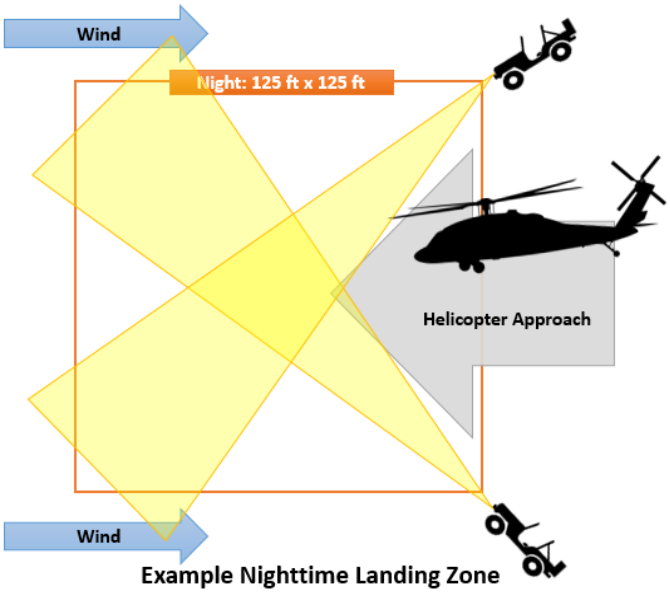
- First Responders may consider helicopter activation for patients when the patient is located in an area which is inaccessible by ground ambulance, or when air transport will significantly reduce the time it takes to deliver the patient to appropriate care. A helicopter may be placed on standby by any responding unit prior to arriving on scene, but may only be canceled by someone on scene who holds the highest level of certification that will be responding on the call.
- Helicopter activation should be considered for the following patients when ground transport time is expected to exceed 30 minutes:
    - Any patient located in an area which is not reasonable accessible by ground ambulance
    - Patients with significant injuries with extrication time exceeding 20 minutes
    - GCS <10
    - Blunt force or penetrating trauma to the abdomen, pelvis, chest, neck or head
    - Blunt force abdominal trauma to a pregnant patient presenting with evidence of internal injury
    - Partial or total amputation of an extremity (excluding single digits)
    - Significant crushing injuries
    - Burns which are 2nd or 3rd degree in nature in which:
        - BSA is >9% or to the hands, feet, face, or perineum
        - Significant electrical, inhalation, or chemical burns are present
    - Near drowning patients presenting with pulmonary edema
    - Ejection from a moving vehicle in which the patient presents with significant injuries
    - Extrication time > 20 minutes from a vehicle or machinery
    - Fall from a height of greater than three times the patient's height
    - Any scalping or de-gloving injury
    - Spinal cord/spinal column injury resulting in paralysis

- Any other situation in which the credentialed provider deems necessary

- Landing Zone Requirements



Example Daytime Landing Zone



Example Nighttime Landing Zone

Scene Safety

1.6

1. This policy provides general information related to scene safety.
2. This policy does not comprehensively cover all possible situations, and First Responders judgment should be used when policy does not provide specific direction.

This applies to every Fire response, particularly if dispatch information or initial scene size-up suggests:

1. Violent patient or bystanders
2. Weapons involved
3. Industrial accident of MVA with potentially hazardous materials
4. Patient(s) contaminated with chemicals

Procedure:

1. If violence or weapons are anticipated:
    a. First Responders should wait for law enforcement officers to secure scene before entry.
    b. Avoid entering the scene alone.
2. If violence is encountered or threatened, retreat to a safe place if possible and await law enforcement.

MVAs, Industrial Accidents, Hazardous Materials situations:

1. General Considerations:
    a. Obtain as much information as possible prior to arrival on the scene.
    b. Look for hazardous materials, placards, labels, spills, and/or containers (spilling or leaking)
    c. Consider entering scene from uphill/upwind
    d. Look for downed electrical wires
    e. Call for assistance, if needed.
2. Upon approach of scene, look for a place to park the vehicle:
    a. Upwind and uphill from possible fuel spills and hazardous materials
    b. Park in a manner that allows for rapid departure
    c. Allow for access for fire rescue and other support vehicles

3. Safety:

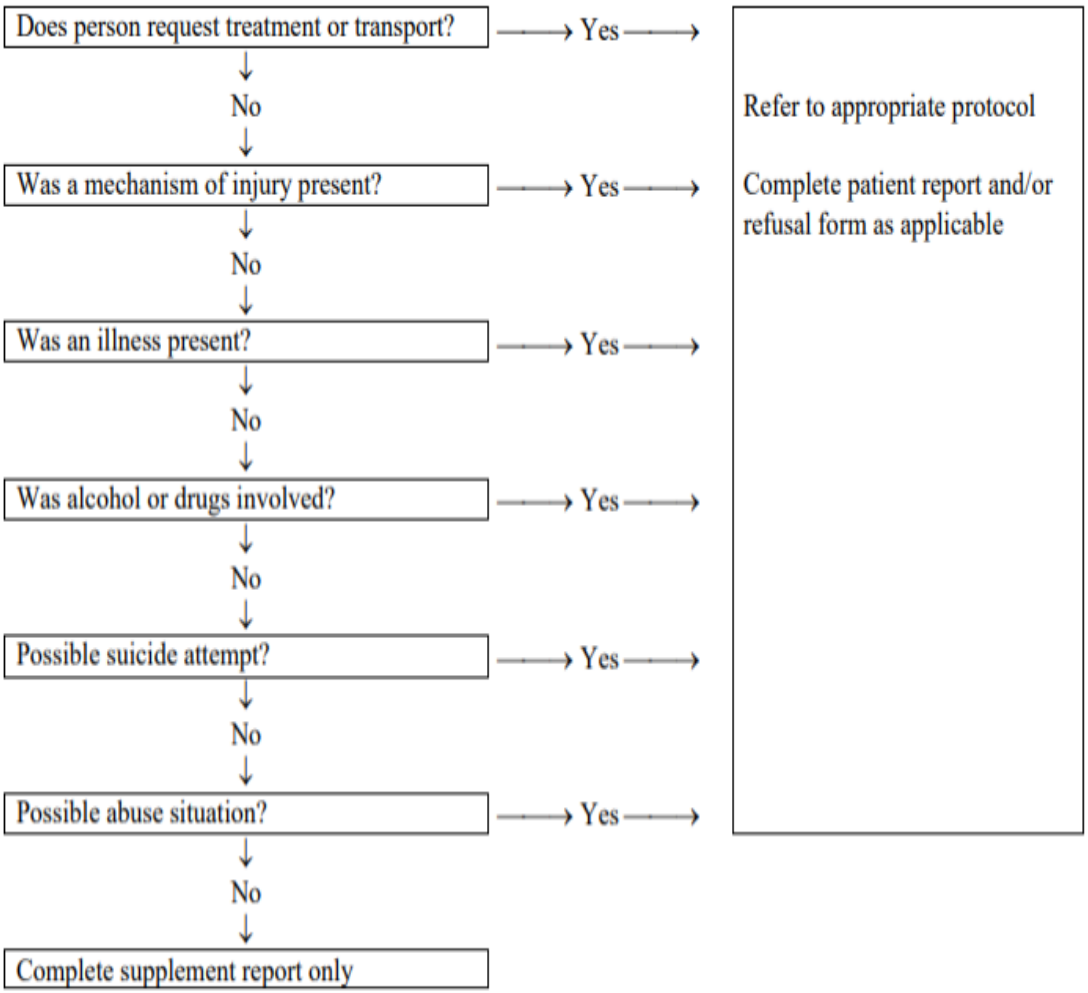
a. Consider placement of flares and other warning devices
b. Avoid entering a damaged or disabled vehicle until it is stabilized
c. Do not place your vehicle so that its lights blind oncoming traffic
d. Use all available lights to illuminate the scene on all sides of your vehicle
e. PPE is suggested for all responders entering vehicle or in area immediately around involved vehicle(s).

All First Responders should wear **ANSI compliant high-visibility reflective outerwear** at scenes along roadways when required by **federal regulation 23 CRF 634**.

No Patient Incidents

1.7

- **Purpose**
  - To give First Responders the criteria needed to decide if a patient was present and a patient report must be completed.



Examples of No Patient calls (with no person at the scene who meets the above criteria):

1. EMS Standby.
2. Fire Standby.
3. PD Standby.
4. Public assist.
5. Patient Gone on Arrival of EMS.

Do Not Resuscitate (DNR) Orders

1.8

- Brookland Fire Protection District will honor the following Orders:
  - Department of State Health Services Out of Hospital Do-Not-Resuscitate Orders.
  - Facility Do-Not-Resuscitate Orders.
  - Physician Do-Not-Resuscitate Orders.
  - Directives to Physicians (Durable Power of Attorney for Health Care and Living Wills).
- **The following care will be initiated if a patient presents with a valid Order (includes TDH OOH-DNR bracelet and/or necklace):**
  - Honor DNR Order: DO NOT ATTEMPT RESUSCITATION if,
    - Patient presents with no pulse.
    - Patient presents with a pulse without respiration (excluding airway obstruction).
  - Do not honor DNR Orders if,
    - Suspicion of suicide, homicide or non-natural cause of death.
    - Patient is pregnant.
  - Provide palliative care if the patient presents with a pulse and spontaneous respirations.
    - Palliative care: Oxygen therapy
- **If there is a dispute on scene or the order is NOT present (includes DSHS OOH-DNR bracelet and/or necklace) and the family and/or bystanders states that there is a DNR order:**
  - Inform the family and/or bystanders that without the order present, life saving measures **Must and will be rendered**.
  - Begin resuscitation.
  - Upon arrival of the responding transporting agency, First Responders shall transfer care to the EMS crew members for referral to that agency's protocols to determine whether resuscitative measure shall be continued.
- **In the event the patient becomes pulseless or apeneic during assessment, providers shall:**

- Honor the DNR unless conditions indicated by Section above are present or,
- Refer to DOS protocol.

- **Documentation**
  - Document presence and type of Order, if possible, attach a copy to the patient report.
  - If transporting a patient with a DNR Order, attempt to keep the Order with the patient.

STATE OF ARKANSAS
EMERGENCY MEDICAL SERVICES
DO NOT RESUSCITATE ORDER

Patient's Full Name: _____

_____ _____
Signature of Patient or Health Care Proxy or Legal Guardian Date

ATTENDING PHYSICIAN'S ORDER

I, the undersigned, state that I am the physician for the patient named above.

I hereby direct any and all qualified Emergency Medical Services personnel, commencing on the effective date noted below, to withhold cardiopulmonary resuscitation (cardiac compression, endotracheal intubation and other advanced airway management, artificial ventilation, defibrillation, administration of cardiac resuscitation medications, and related procedures) from the patient in the event of the patient's cardiac or respiratory arrest. I further direct such personnel to provide to the patient other medical interventions such as intravenous fluids, oxygen, or other therapies deemed necessary to provide comfort care or alleviate pain.

_____ _____
Signature of Attending Physician Physician's Telephone number (emergency #)

_____ _____
Physician's Printed/Typed Name Date Order Written

Death on Scene (DOS)

1.9

- In the case of a clinically dead patient, it is the responsibility of the on scene EMS personnel to determine whether or not resuscitative efforts should be started. That determination should be based on the extent of the injury and the length of down time.
  - Definition of clinical death (DOS).
    - Visible head or chest trauma clearly incompatible with life.
    - Decapitation.
    - Rigor mortis.
    - Dependent lividity.
    - Decomposition.
    - Absence of breathing and pulse in a mass casualty incident.
  - Body should not be disturbed or moved without authorization by appropriate agency.
  - Contact dispatch and request law enforcement and Justice of the Peace as soon as possible.
  - The EMS personnel are required to document the absence of vital signs and any evidence of death.
  - If possible, document patient history.
  - Limit the number of personnel in the area until the scene is released to law enforcement.
  - At least one medical person should remain on the scene to relay pertinent information to law enforcement and Justice of the Peace.

Suspected Abuse

1.10

- When treating any patient suffering from injuries and/or illnesses suspected as abuse, EMS personnel shall:
  - As with all patients, conduct the patient assessment and continue with patient care.
  - Be sure to use extreme tact and professionalism when dealing with this situation. **DO NOT** let your emotions enter the situation when dealing with the relatives or acquaintances of the individual.
  - Notify law enforcement as soon as possible.
  - Be alert to any evidence that might be found. Be cautious and do not destroy any evidence.
  - Upon arrival of ambulance, inform EMS personnel of your concerns and findings of the situation. Use a confidential environment to relay this information.
  - At the completion of the call, fully document all aspects of the incident, including the relaying of your concerns to the ambulance crew and the notification of law enforcement.
  - All personnel witnessing signs of suspected abuse shall document objective facts of the circumstances for reporting to the appropriate agency as soon as possible following the incident. The Fire Chief of the agency which responded to the incident shall be notified to coordinate the reporting of the facts to the proper agency for investigation.

Abandoned Children

1.11

- Under Arkansas law, any medical provider or law enforcement agency shall, without a court order, take possession of a child who is 30 days old or younger if the child is left with or voluntarily delivered to the medical provider or law enforcement agency by the child's parent who does not express an intent to return for the child. A medical provider or law enforcement agency that takes possession of a child shall perform any act necessary to protect the physical health and safety of the child. Upon delivery of the child, the law enforcement officer or an appropriate hospital employee shall take the child into protective custody for 72 hours and immediately notify the Division of Children and Family Services of the Department of Human Services. **A medical provider or law enforcement agency shall incur no civil or criminal liability for any good faith acts or omissions performed pursuant to this section.** (Reference: Ann. Code §§ 9-34-202; 9-34-203 & Ann. Code § 9-34-202)
- **Procedure:**
  - Assess and treat the child in accordance with protocols.
  - Notify law enforcement and call for an ambulance for transport to a medical facility.

Self-Protection

1.12

- Guidelines for EMS personnel to protect themselves from physical danger by a violent person with or without a weapon:
  - In all cases, where the threat of physical harm is probable (i.e., domestic violence, hostage situations, psychiatric patients and any situation where there may be weapons on the scene), First Responders should request law enforcement assistance before arrival on scene. Medical personnel should not enter the area until law enforcement reports that the scene is secure. At no time should EMS personnel or First Responders attempt to manage the situation without aid. Primary emphasis in such situations should be the safety of the crew
  - If First Responders are threatened with bodily harm, they should make every effort to avoid confrontation and leave the area immediately. Law enforcement assistance should be requested as soon as possible.
  - In situations where personal injury seems imminent, personnel may use any measure reasonable and prudent to protect themselves from injury or death. Law enforcement assistance should be requested as soon as possible.

Concealed Weapons

1.13

Concealed Weapons on Patients

- If a patient is found to be carrying a concealed weapon and the patient is to be transported, the following procedure will be followed:
  - Notify law enforcement and turn the weapon over to a law enforcement officer to secure the weapon.
  - If law enforcement is not available in a reasonable time before the ambulance transports, First Responders may:
    - Secure the weapon in an outside compartment on an apparatus, have law enforcement meet the apparatus at the scene, and turn the weapon over to a law enforcement officer.
    - Turn the weapon over to the transporting ambulance crew for securing per that agency's policy.

Non-Credentialed Personnel

1.14

- Personnel who are not credentialed under these protocols may be used for assistance with the following guidelines:
  - Volunteer fire department personnel who are not EMR certified may respond to assist the ambulance crew as manpower for performing CPR, lifting patients, moving patients and assisting with supplies. Whenever possible, non-certified personnel shall not be the first to arrive on a scene.
  - Individuals who are personally known by credentialed providers to be medically certified (EMT, Paramedics) may be used to assist with BLS treatments outlined in this protocol at the discretion and under the direction of credentialed providers operating under this protocol.
  - Any individual on scene identifying him/herself as medically trained who is not personally known to the provider to be medically certified may be utilized to assist with limited patient care as reasonably necessary given scene conditions at the discretion and under the direction of credentialed providers operating under this protocol.

Patient Reports

1.15

- **Patient Reports**
  - A patient report will be completed by the First Responder when patient contact is initiated by the First Responder prior to the arrival of the ambulance or a refusal is obtained by the First Responder. If the ambulance arrives on scene before or at the same time as the First Responder and the patient is to be transported, the patient is in the care of the ambulance crew, and First Responders are not required to complete a patient care report. The First Responder shall still complete a NFIRS report per the individual VFD's policy.
- **Confidentiality**
  - All patient reports are considered confidential. All information pertaining to the identification of a patient will not be discussed outside of the realm of patient care, QI/QA and billing. Under no circumstance is patient information to be released outside of the circumstances listed above unless the patient (or parent/guardian of a minor) has expressed their desire to release information in writing or upon subpoena.
- **Verbal reports to transporting crew**
  - The ambulance will be notified by radio or phone that a patient is being prepared for transport. The verbal report will include all relevant and pertinent information including nature of illness/injury, vital signs, patient history, and care rendered.
  - Upon arrival of the ambulance, a verbal report will also be given to the attending paramedic to whom patient care will be transferred. The verbal report will include all relevant and pertinent information including nature of illness/injury, vital signs, patient history, and care rendered.
- **Written Reports to transporting crew**
  - The patient data sheet will be completed as soon as possible after patient contact. A copy of the patient data sheet shall be provided to the responding ambulance crew when the transfer of care is completed. A written report will be forwarded to the transporting agency upon request as outlined in the First Responder Agreement.

Inventory List

1.16

- The list represents the minimum BLS equipment and supplies to be carried by EMS personnel when responding to calls as a First Responder.

Item	Quantity
1" Tape	1
4" Roller bandage	3
4x4's	10
Adaptics	2
Band-aids	5
Bite stick	1
BP Cuff Adult	1
Sterile, Dry, Burn Sheet	1
BVM – Adult/or pocket mask w one-way valve	1
Pocket Mask	1
Antiseptic, Waterless Cleaner	1
EMT Shears	1
Gloves (to fit the first responder)	10 pair
Multi-trauma pad	1
Airway Adjunct: OPA or NPA Set (Size 0 – 6)	1
Oval Eye Pads	3
Pen Light	1
Protective Gowns	1
Protocol Book	1
Rescue/Foil Blankets	1
Small Bio-Hazard trash bags	2
Stethoscopes	1
Surgipads	2
Triangular Bandages	3
Oxygen	1
Pedi non re-breather mask	1
Adult Nasal Cannula	1
Adult Non re-breather Mask	1
Sterile Water	1

Section 2: Procedures

Universal Precautions

2.1

Procedure: All patients

1. Wear gloves on all calls where contact with blood or body fluid (including wound drainage, urine, vomit, feces, diarrhea, saliva, nasal discharge) is anticipated or when handling items or equipment that may be contaminated with blood or other body fluids.
2. Wash your hands often and after every call. Wash hands even after using gloves:
    - 1.2.a. Use hot water with soap and wash for 15 seconds before rinsing and drying.
    - 1.2.b. If water is not available, use alcohol or a hand-cleaning germicide.
3. Keep all open cuts and abrasions covered with adhesive bandages that repel liquids (e.g. cover with commercial occlusive dressings or medical gloves)
4. Use goggles or glasses when spraying or splashing of body fluids is possible. (e.g. spitting or arterial bleed). As soon as possible, the First Responder should wash face, neck and any other body surfaces exposed or potentially exposed to splashed body fluids.
5. If a First Responder has an exposure to blood or body fluids, the practitioner must follow the Infection Control Policy (Appendix A) and the incident must be immediately reported to the agency infection control officer as required. First Responders who have had an exposure should be evaluated as soon as possible, since antiviral prophylactic treatment that decreases the chance of HIV infection must be initiated within hours to be most effective. In most cases, it is best to be evaluated at a medical facility, preferably the facility that treated the patient (donor of the body fluids), as soon as possible after the exposure.
6. Preventing exposure to respiratory diseases:
    - 1.6.a. Respiratory precautions should be used when caring for any patient with a known or suspected infectious disease that is transmitted by respiratory droplets. (E.g. tuberculosis, influenza, or SARS)
    - 1.6.b. HEPA mask (N-95 or better), gowns, goggles and gloves should be worn during patient contact.
    - 1.6.c. A mask should be placed upon the patient if his/her respiratory condition permits.
7. Thoroughly clean and disinfect equipment after each use following Center for Disease Control recommendations. (Appendix H)
8. Place all disposable equipment and contaminated trash in a clearly marked plastic red biohazard bag and dispose of appropriately. Contaminated clothing should be removed, placed in an appropriately marked red biohazard bag and laundered/decontaminated.

Initial Protocol for ALL Patients

2.2

Scene Size-Up:

A. As you approach the scene assure safety for yourself, your crew, co-responders, the patient and bystanders.
B. Establish and follow Incident Command System when indicated.

BSI (Body Substance Isolation):

A. Prior to patient assessment, employ precautions to prevent contact with potentially infectious body fluids or hazardous materials.
B. Wear appropriate protective gear to protect eyes, mucous membranes and skin.
C. Wear other appropriate specialized protective gear when the potential exists for contact with biological and hazardous materials.

Initial Assessment: Perform initially on every patient to form a general impression of needs and priorities

A. Assess patient's mental status.
    1. Maintain manual spinal immobilization if indicated until a definitive determination is made regarding the indications for spinal restriction.
B. Assess the patient's airway status.
    1. Responsive Patients: Generally assumed to have an open airway. Assess for any unusual strictures that may need to be addressed i.e. foreign object.
    2. Unresponsive patient:
        a. Stabilize/Immobilize the cervical spine and perform the jaw thrust maneuver as indicated in those patients with unknown nature of illness/injury or known/suspected trauma.
        b. Open airway using head tilt/chin lift as necessary for patients with no traumatic involvement.
C. Assess the patient's breathing/ventilation status using the following techniques:
    1. General appearance
    2. Skin color
    3. Depth and rate of respirations
    4. Lung sounds
    5. Retractions, accessory muscle use
    6. Pulse Oximetry as indicated (see *Oxygenation, Ventilation, and Pulse Oximetry Policy)*
D. Oxygenation and Ventilation as indicated (see *Oxygenation, Ventilation, and Pulse Oximetry Policy)*
E. Assess circulation.
    1. Assess for adequate signs of perfusion and begin CPR if indicated
    2. Check for major bleeding and control if found.
    3. Check adequate perfusion by evaluating skin color and temperature.
    4. Capillary refill is more reliable as an indicator of perfusion adequacy in pediatric patients than in the adult population.

AED

2.3

- An *Automated External Defibrillator* (AED) delivers a predetermined energy setting with a pre-determined biphasic shock. To ensure that the electrical therapy (shock) delivered by the AED is optimized, it is important to ensure that a minimum of 2 minutes (3 cycles of compressions/respirations) have been provided prior to defibrillating the patient.
- **Indications:**
  - Pulseless, apneic patient >8 years of age or 55 lbs. (25kg) when utilizing the adult pads
  - Pulseless, apneic patient <8 years of age or <55lbs. (25kg) when utilizing the child/infant pads
- **Contraindications for shock:**
  - Consciousness
  - Effective breathing
  - Presence of a pulse
- **Precautions:**
  - The preferred placement of pediatric pads is the anterior-posterior placement (front and back) for children/Infants with small torsos. (Anterior electrode to the left of the sternum centered as close as possible to the point of maximum cardiac impulse, place the posterior electrode to the left of the spinal column directly behind the anterior electrode.
  - The adult placement is anterior-anterior, (right anterior chest and the other on the left lower chest wall, lead II configuration), as shown on the package and the pads which are placed on the patient.
- **Procedures:**
  - Confirm airway, breathing and lack of circulation.
  - Attach pads appropriate for the patient (adult or pediatric)
  - Turn on AED by pressing the “ON” button
  - Provide compressions for two minutes if EMS providers did not witness arrest. If witnessed arrest, proceed to next step WHILE performing

compressions.

- Connect therapy pads and allow the AED to analyze. Do not touch patient during analyze mode.
- If a shock is indicated by the AED, verbalize “CLEAR” and ensure no one is touching the patient.
- Press the “SHOCK” button to deliver a shock if indicated.
- Continue to follow prompts as provided by the AED

Cardiopulmonary Resuscitation (CPR)

2.4

- The most important aspect of CPR under the current guidelines is good chest compressions. Everyone gets excited and in a hurry to secure the airway, but current research shows that **continuous, uninterrupted chest compressions** are the key to giving your patient the best chance of survival. Securing an airway should be a second priority if it can be done without interrupting chest compressions in the initial minutes; otherwise continue chest compressions until an AED/defibrillator arrives and can be attached. Good CPR, including adequate depth, rate, and chest recoil is critical to the survival of cardiac arrest. It is important that the patient be on a hard surface, such as the ground or a backboard for compressions to be the most effective. CPR should be performed for a minimum of 2 minutes before performing any other therapy following any interruption of chest compression lasting more than 5 seconds.

Patient Restraint

2.5

- **Indications:**
  1. Any patient who may harm him/herself, first responders, bystanders, or crewmembers may be restrained by EMS providers as reasonably necessary to prevent injury to the patient or crew. Whenever practical, law enforcement personnel should be utilized to restrain the patient if it becomes necessary. Physical restraint should only be used by EMS personnel as a last resort when other methods have failed, and when law enforcement assistance is not immediately available.
  2. Any physical restraint that is performed by EMS personnel must be in a humane manner and used only as a last resort. Other means to prevent injury to the patient or crew must be attempted first including reality orientation, distraction techniques, or other less restrictive therapeutic means.
  3. For the purposes of this protocol, any patient who presents a significant danger to him/herself or others on scene may be physically restrained by EMS personnel as necessary.

- **When patient restraint becomes necessary, the following procedures shall be used:**
  1. When at all possible, use techniques which will not cause injury to the patient.
  2. Use the minimum amount of force necessary to secure restraints.
  3. If not already on scene, request law enforcement assistance as soon as possible.
  4. If a patient is restrained by law enforcement personnel with handcuffs or other devices EMS personnel cannot remove, a law enforcement officer must be present until the patient is released from such devices.
  5. Ensure that there are sufficient personnel available to physically restrain the patient safely
  6. Caution should be used to not restrict the respiratory efforts of the patient.
  7. Restrain the patient in a lateral or supine position. Avoid restraining the patient in the prone position.
  8. Pulse and other measures to assure distal circulation will be checked frequently following the application of restraints.
  9. At the termination of the call, fully document all pertinent details including signatures of witnesses if possible. Documentation should include the reason for the use of restraints, the type of restraints used, and the time restraints were placed. Remember, a restrained patient is totally dependent on the First Responders for their safety. The patient must always be under constant observation by the First Responders.

Hemostatic Agent

2.6

Hemostatic Agents (Quik-Clot®, HemCon®) may be used by the provider to control bleeding which is not controllable through first-line methods of hemorrhage control (direct pressure, limb elevation, tourniquet application). If the provider deems it necessary to utilize such an agent, is it NOT necessary to utilize first-line methods to attempt to control hemorrhaging before utilizing a hemostatic agent.

Guidelines:

- The provider should be able to quickly determine if hemorrhaging is likely to be controllable by a hemostatic agent. If hemorrhaging is deemed to be controllable by hemostatic agent, apply hemostatic agent per manufacturer's recommendations. **If hemorrhaging is deemed too severe to be controlled by a hemostatic agent, refer to Tourniquet Application protocol.**

Tourniquet Application

2.7

The ability of pre-hospital providers to rapidly stop life-threatening bleeding is one of the keys for survival of the trauma patient. In the event that a provider believes that bleeding is too severe to be controlled by conventional methods (direct pressure, limb elevation, pressure points), providers may utilize a commercially-manufactured OR improvised tourniquet device to control bleeding. **If the provider deems it necessary to use a tourniquet, it is NOT necessary to utilize first-line methods to attempt to control hemorrhaging before utilizing a tourniquet.**

In the case of an amputation with uncontrolled bleeding, a tourniquet should be applied immediately.

Guidelines:

- **Combat Application (CAT-T®) Tourniquet**
  - Expose the extremity by removing clothing near the injury
  - Position the device directly over exposed skin at least 5 cm proximal to the injury
  - Route the self-adhering band around the extremity.
  - Pass the band through the outside slit of the buckle
  - Pull the self-adhering band tight
  - Twist the rod until bright red bleeding stops.
  - Check for a pulse distal to the extremity; if a pulse is present, continue to tighten the tourniquet until the pulse disappears.
  - Lock the rod in place with the clip
  - Record the date/time of application and relay this information to the transporting EMS crew.
- **Improvised Tourniquet**
  - Unwrap a triangle bandage, and roll it lengthwise
  - Tie the bandage around the affected extremity with a half-hitch
  - Place a long, thick rod or stick, or the cutting end of a pair of trauma shears on top of the knot; this is known as the “windlass”
  - Tie a second half-hitch on top of the windlass
  - Twist the windlass until the bright red bleeding stops
  - Check for a pulse distal to the extremity; if a pulse is present, continue to tighten the tourniquet until the pulse disappears.
  - Tape or tie the windlass in place such that it cannot be accidentally dislodged
  - Record the date/time of application and relay this information to the transporting EMS crew.

Oxygen Administration

2.8

Some systems consider oxygen to be a medication. Since is it relatively available to the public, oxygen is not considered a medication under these protocols. Oxygen may be administered by the provider in this system to any patient per protocol.

Oxygenation, Ventilation, and Pulse Oximetry

2.9

Introduction:
Oxygen administration methods are left to the discretion of the EMT. Thorough evaluation of the patient should identify the need for supplementary oxygen and assisted ventilation. Oximetry should be used on any patient who is receiving supplemental oxygen or whose presenting illness, injury, or planned interventions may precipitate inadequate ventilation or hypoxia.

OXYGEN ADMINISTRATION

A. Any patient who presents with signs or symptoms of inadequate oxygenation should receive supplementary oxygen using a delivery device and amount that will compensate for the deficit or demand. S/S include but are not limited to:
    1. Pallor, cyanosis, or diaphoresis
    2. Complaints of difficulty breathing or air hunger
    3. Combativeness or Altered Mental Status
    4. Neuromuscular Failure

Ventilation for Apnea and Respiratory Inadequacy

A. Administer high-flow oxygen via Bag-Valve-Mask
B. Recommended ventilation rates for patients with a pulse:
    1. Adult – 12 breaths per minute (1 ventilation every five seconds)
    2. Child – 20 breaths per minute (1 ventilation every three seconds)
    3. Infant – 20 breaths per minute (1 ventilation every three seconds)
    4. Premature Infant – 1 ventilation every two (2) seconds
C. Recommended ventilation rates for patient with no pulse:
    1. Adult – 10 breaths per minute
    2. Child – no more than 20 breaths per minute
D. Hyperventilation has been shown to decrease survivability in cardiac arrest and low perfusion states. Studies have shown that most healthcare providers easily lose track of manual ventilation rates and almost always employ rates that are too fast. It is important that providers monitor ventilation rates with diligence.

Pulse Oximetry

A. Oximetry is to be utilized anytime the EMT determines that oximetry is appropriate as:
    1. A diagnostic adjunct to a complete set of vital signs in a patient with perfusion.
    2. A trending tool to determine improvement or deterioration of ventilation and perfusion.
B. Oximetry should be used prior to and after assisted ventilation of the perfusing patient.

Procedure

A. Select appropriate site and apply a clean cutaneous sensor. Avoid applying distal to orthopedic injuries or a blood pressure cuff.
B. Verify that the indicated pulse rate coincides with the palpated pulse.
C. Document O2 saturation at least every 10 minutes or with any change in clinical condition.
D. Document O2 saturation before, during and after procedures that impact ventilation and oxygenation or perfusion (airway management, etc.)

Precautions

A. Oximetry should never be used alone when deciding to withhold supplemental oxygen to any patient. Conversely, a low pulse oximetry reading often indicates inadequate oxygenation when clinical signs and symptoms are not yet obvious.
B. Inaccurate oximetry values may be observed in a variety of situations including: patient movement, hypothermia, abnormal hemoglobin, hypovolemia, carbon monoxide poisoning, smoke inhalation, and methemoglobinemia.
C. Any patient who should receive supplemental oxygen should continue to be given oxygen regardless of adequate SpO2 readings.

Spinal Motion Restriction

2.10

Spinal motion restriction may be performed at the provider's discretion on any patient with a mechanism of injury which suggests a possible spinal injury. Patients with a significant mechanism of injury and a complaint that includes neck pain, back pain, numbness, tingling, or other neurological symptom should have spinal motion restriction performed, unless the provider deems that doing so would hinder the ability to administer care or further harm the patient. A "significant mechanism of injury" includes, but is not limited to:

- Falls of greater than 3 times the patient's height
- High-speed motor vehicle collisions
- Rollover accidents
- Auto-versus-pedestrian/motorcycle/bicycle accidents

When performing spinal motion restriction, the following guidelines should be followed:

- Initiate manual spinal stabilization by holding the patient's head and instructing the patient not to move his/her head
- Place an appropriately-sized cervical collar on the patient
- When placing the patient on a backboard, roll the patient as a unit, with the provider at the patient's head directing the effort

Section 3: Assessment Tools

Diagnostic Tests

3.1

All diagnostic tests listed below are assessment tools which may be used at the discretion of any provider when the equipment is available.

Blood pressure determination
Blood pressure determination should be the primary method of determining perfusion status for most patients. Patients on whom blood pressure is obtained should have at least one set of vital signs including the blood pressure documented during patient contact. Blood pressure should be checked following the administration of all medications. While blood pressure is an excellent tool to evaluate an adult patient's perfusion status, it is less useful in pediatric patients.

Pulse oximetry
Pulse oximetry is an assessment tool to assess the patient's oxygenation before and after oxygen administration. It should not be used to replace good judgment or determine whether or not the patient requires oxygen. Regardless of the pulse oximetry reading obtained, oxygen should not be withheld from any patient presenting with signs or symptoms which indicate the need for oxygen, especially patients exhibiting cardiac or respiratory complications or altered mental status. Pulse oximetry readings can be altered by carbon monoxide poisoning, decreased blood pressure, cold extremities, and the inability of the sensor to take an accurate measurement such as when the patient is wearing fingernail polish.

Temperature determination
Temperature may be obtained on any patient deemed necessary by the provider, with primary emphasis on patients suffering from environmental emergencies, elderly patients with altered mental status, and pediatric seizures. It is preferable to obtain an oral temperature by placing the tip of the thermometer under the patient's tongue, although an axillary temperature may be obtained by placing the tip of the thermometer in the patient's armpit with the patient's arms to his/her side. The method used to obtain the temperature should be documented regardless of which one is used.

General Patient Assessment

3.2

General guidelines for the assessment of all patients

Scene size-up/assessment

- Body substance isolation (BSI)
- Scene safety
- Mechanism of injury/Nature of illness
- Number of Patients (call for help as needed)
- Personnel safety

Initial Patient Assessment

- Rapid initial assessment to identify life threatening medical or traumatic emergencies
- Evaluate the patient's chief complaint and general impression to determine the presence of any life threatening injuries
- Central nervous system evaluation to include:
  - Level of consciousness and mental status
  - Sensory response
  - Motor response
- Airway / breathing evaluation to include:
  - Presence or absence of breathing efforts
  - Rate of respirations
  - Depth of respirations
  - Regularity of respirations
  - Auscultation of breath sounds
- Circulatory evaluation to include:
  - Presence or absence of pulse
  - Rate of pulse
  - Strength of pulse
  - Regularity of pulse

Patient Assessment

- Reassess the chief complaint
- Perform a detailed physical exam or a focused physical exam as indicated by the patient's condition. A detailed physical exam should include is a complete head to toe survey with emphasis on the body system affected by the chief complaint.
- Assess vital signs.
  - Respirations (rate, quality, rhythm)
  - Pulse (rate, quality, rhythm)
  - Blood pressure and/or capillary refill
  - All patients evaluated by Brazos County EMS personnel shall have a minimum of one set of vital signs recorded as time and patient condition allows (it is the intent of this protocol that a set of vital signs be obtained on all patients). Any seriously injured or ill

patient shall have vital signs recorded at 5-10 minute intervals.
- Assess SAMPLE History.

Additional Assessment

- Additional assessments which may be indicated by the patient's condition when equipment is available.
  - Pulse oximetry
  - Temperature determination

Results of all assessments shall be documented in the patient report

Glasgow Coma Scale: Adult

3.3

Condition	*Variable*	*Score*
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	No Response	1
Best Verbal Response	Oriented	5
	Confused	4
	Inappropriate Words	3
	Incomprehensible Words	2
	No Response	1
Best Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdrawal	4
	Flexion (Decorticate Rigidity)	3
	Extension (Decerebrate Rigidity)	2
	No Response	1

Revised Trauma Score: Adult

3.4

Revised Trauma Score: Adult		
Condition	***Variable***	***Score***
Respiratory Rate (Breaths/min)	10 - 24	4
	23 - 35	3
	=> 36	2
	1-9	1
	0	0
Systolic BP	> 89	4
	70 - 89	3
	50 - 69	2
	1 - 49	1
	0	0
Glasgow Coma Scale Score Conversion	13 - 15	4
	9 - 12	3
	6 - 8	2
	4 - 5	1
	< 4	0

Glasgow Coma Scale: Pediatrics

3.5

Glasgow Coma Score: Pediatric				
Condition	***Variable Age >1***		***Variable Age <1***	***Score***
Eye Opening	Spontaneous		Spontaneous	4
	To Voice		To Voice	3
	To Pain		To Pain	2
	No Response		No Response	1
Motor Response	Obeys Commands		Obeys Commands	6
	Localizes Pain		Localizes Pain	5
	Withdrawal		Withdrawal	4
	Flexion (Decorticate Rigidity)		Flexion (Decorticate Rigidity)	3
	Extension (Decerebrate Rigidity)		Extension (Decerebrate Rigidity)	2
	No Response		No Response	1
Condition	***Age >5 years***	***Age 2 - 5 years***	***Age 0 - 23 months***	***Score***
Verbal Response	Oriented	Appropriate Words and Phrases	Smiles, Coos, Cries Appropriately	5
	Confused	Inappropriate Words	Cries	4
	Inappropriate Words	Cries and/or Screams	Inappropriate Crying and/or Screaming	3
	Incomprehensible Words	Grunts	Grunts	2
	No Response	No Response	No Response	1

Trauma Score: Pediatric & APGAR Score

3.6

Pediatric Trauma Score			
	Score		
Assessment	**+ 2**	**+ 1**	**- 1**
Weight	> 44 lb (> 20 kg)	22 - 44 lb (10-20 kg)	< 22 lb (< 10 kg)
Airway	Normal	Oral Airway Nasal Airway	Intubated Tracheostomy Invasive
Blood Pressure	Pulse at Wrist > 90 mmHg	Carotid or Femoral Pulse 50 - 90 mmHg	No Palpable Pulse < 50 mmHg
Level of Consciousness	Completely Awake	Obtunded or any Decreased level of consciousness	Comatose
Open Wound	None	Minor	Major or Penetrating
Fractures	None	Closed Fracture	Open or Multiple Fractures

APGAR Score			
Sign	**0**	**1**	**2**
Appearance	Blue, Pale	Body Pink, Extremities Blue	Completely Pink
Pulse Rate	Absent	Below 100	Above 100
Grimace	No Response	Grimaces	Cries
Activity	Limp	Some Flexion	Active Motion
Respiratory	Absent	Slow and Irregular	Strong Cry

Section 4: Treatments

Abdominal Pain

4.1

1. Administer oxygen, if appropriate
2. If traumatic cause is suspected, **see Abdominal Injuries (4.2)**
3. Do **not** allow the patient to eat or drink
4. Assess for shock and treat, if appropriate, **see Shock**
5. Place patient in a position of comfort

Abdominal Injuries

4.2

1. Monitor the airway
2. Administer oxygen
3. Monitor breathing for adequacy
4. Control external bleeding
5. Assess for shock and treat, if appropriate **see Shock**

Altered Mental Status

4.3

When possible, the provider should attempt to determine the reason for altered mental status. If a reason for the altered mental status can be identified which is covered by another protocol, refer to that protocol for more specific treatments.

Consider spinal immobilization

- Administer oxygen, if indicated
- Assess vital signs
- If patient cannot protect his/her own airway, ventilate with airway adjunct and BVM at a rate of 12-15 breaths per minute
- • If patient cannot protect his/her own airway, and gag reflex is not present, consider Blind Insertion Airway Device

Allergic Reaction

4.4

The provider should attempt to determine the cause of the allergic reaction, if possible. If it is possible to remove the patient from the cause of the allergic reaction, the provider should attempt to do so. Common causes of allergic reactions include latex, peanuts, shellfish, and insect bites/stings.

General Care:

- Assess responsiveness, including ABC's
- Administer high-flow oxygen
- If patient's respirations are insufficient, assist ventilations with BVM at a rate of 12-15 breaths per minute
- If no gag reflex is present, insert airway adjunct
    - If patient accepts airway adjunct, consider **Blind-Insertion Airway Device**
- Assess vital signs
- Place patient in position of comfort
- Pulse oximetry, if available

Animal Bite/Sting

4.5

General Care:

- Assess responsiveness, including ABC's
- Administer oxygen, if indicated
- Place patient in position of comfort
- If signs of allergic reaction are present, refer to Allergic Reaction protocol
- Pulse oximetry, if available
- Control bleeding and dress wounds as necessary

If venomous animal bite/sting:

- Attempt to identify the animal which bit/stung the patient
- Remove tight clothing and jewelry
- Splint limb and place in a dependent position below the level of the heart.
- Assess distal pulse, motor, and sensory functions before and after splinting

Cardiac Arrest

4.6

The survival rates of out-of-hospital cardiac arrest are very low. The patient's best chance of survival and returning to a normal life are centered on the performance of high-quality CPR and early defibrillation.

General Care:

- Assess responsiveness, with ABC's
- Initiate or continue CPR, with emphasis on chest compressions
- Place patient is on the ground, a backboard, or other hard surface
- If available, connect an AED and follow instructions of the AED
- Ventilate the patient with airway adjunct and BVM at a rate of 12-15 breaths per minute
- If available, utilize **Blind-Insertion Airway Device**, while minimizing interruptions in chest compressions
- If available, utilize pulse oximetry to evaluate the effectiveness of CPR

Chest Pain

4.7

Providers treating patients experiencing chest pain should operate under the assumption that the patient is experiencing a cardiac event until proven otherwise.

General Care:

- Assess responsiveness, with ABC's
- Administer high-flow oxygen
- Assess vital signs
- Place patient in position of comfort
- Pulse oximetry, if available

Chest Injuries

4.8

1. Monitor the airway
2. Observe spinal injury precautions, if appropriate
3. Administer oxygen
   - *Do not use a demand valve resuscitator due to the possibility of causing severe, life-threatening complications*
4. Monitor breathing for adequacy
5. Control external bleeding
6. For Special Considerations, see below
7. Assess for shock and treat, if appropriate
   - *Decreased breath sounds and muffles heart sounds indicate life-threatening chest injuries. The patient should be transported immediately!*

SPECIAL CONSIDERATIONS

OPEN CHEST WOUND

1. Place an occlusive dressing over the wound and tape on three sides
2. If the patient's condition worsens, remove the occlusive dressing and have the patient fully exhale. Replace and re-tape the occlusive dressing on three sides after exhalation, and request Advanced Life Support intercept if available
3. **Closed Chest Wound**

If the patient's condition worsens, request Advanced Life Support assistance

FLAIL CHEST

1. Apply bulky dressing to the flail segment
2. If the patient's condition worsens, request Advanced Life Support assistance

IMPALED OBJECTS

1. Do **not** remove the object
2. Support and secure the object with bulky dressings

Diabetic Emergencies

4.9

Diabetic emergencies can be classified as hypoglycemia (low blood sugar) or hyperglycemia (high blood sugar). Either can be equally harmful, although in the short term, hypoglycemic patients are easier to identify and treat. The classic signs of low blood sugar include pale skin, sweating, and confusion/altered mental status.

General Care:

- *Emotionally disturbed patients must be presumed to have an underlying medical or traumatic condition causing an altered mental status*
- *Assess such patients for an underlying medical or traumatic condition causing an altered mental status and treat as necessary*

1. Assess the situation for potential or actual danger
   - *All suicidal or violent threats or gestures must be taken seriously*
2. If an underlying medical or traumatic condition causing an altered mental status is not apparent; the patient is fully conscious, alert, and able to communicate; and an emotional disturbance is suspected. See emotionally disturbed patient (X.X)
3. Monitor the airway
4. Observe the spinal injury precautions
5. Administer Oxygen
6. If a low blood sugar level is noted and the patient is conscious, is able to swallow, and is able to drink without assistance, administer glucose orally
   - *Do not give oral solutions to unconscious or patients with head injuries*
7. Request Advanced Life Support assistance
8. Assess and monitor the Glasgow Coma score. Do **not** delay transport

Emotionally Disturbed Patient

4.10

Note: Emotionally disturbed patients must be presumed to have an underlying medical or traumatic condition causing an altered mental status.

Assess such patients for an underlying medical or traumatic condition causing an altered mental status and treat as necessary.

Assess the situation for potential or actual danger and establish a safe zone, if necessary

- *All suicidal or violent threats or gestures must be taken seriously*

1. If an underlying medical or traumatic condition causing an altered mental status is not apparent, the patient is fully conscious, alert, and able to communicate, and an emotional disturbance is suspected, proceed as follows:
    a. Open communications with the patient
    b. Attempt to determine the cause of the immediate crisis
    c. Attempt to obtain a past medical history
    d. Document the exact nature of the problem, including the patient's own words
    e. If, in the judgment of the EMT, the patient requires and is refusing treatment and the patient's judgment may be impaired, contact Medical Control.

- *Only use the amount of force required to effectively restrain the patent may be used*

Environmental Emergencies

4.11

Environmental emergencies may present in either warm or cold weather, and extreme temperatures are NOT necessary to cause an environmental emergency.

When dealing with cold exposure, extended exposure to relatively mild temperatures may result in hypothermia, especially in the very young or very old.

When dealing with heat emergencies, high exertion in moderately warm temperatures with high humidity may result in a heat emergency. The key difference between heat exhaustion and heat stroke is that in heat exhaustion, sweating is still present and the patient has normal mental status, while heat stroke is defined as the presence of altered mental status. Heat stroke must be must be treated rapidly.

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen, if indicated
- Assess vital signs
- Place patient in position of comfort
- If cold exposure:
    - Remove patient from cool environment/move to a warm environment if possible
    - If clothing is wet and replacement clothing or blankets are available, remove wet clothing
    - Cover the patient with blankets to ensure no additional heat is lost
- If heat exposure:
    - Remove patient from warm environment if possible
    - If altered mental status is not present, initiate passive cooling by removing clothing and cooling the patient with fans, cool mist and/or wet towels
    - If altered mental status is present, initiate active cooling by removing clothing by removing clothing, cooling the patient with fans, and applying ice packs to the groin, armpits, and neck

General Medical

4.12

Patients with complaints which are not readily identifiable or which do not fit under any other protocol may be treated under this protocol.

General Care:

- Assess responsiveness, with ABC's
- Consider spinal precautions if indicated
- Administer oxygen if indicated
- Assess vital signs
- Place patient in position of comfort
- Refer to appropriate protocol if other complaints or symptoms are identified

Heat/Cold Related Emergencies

4.13

HEAT RELATED EMERGENCIES

1. Cool the environment or move the patient to a cooler environment.
2. Remove excessive clothing.
3. Administer oxygen.
4. Restrict physical activity.
5. Assess for shock and treat, if appropriate
6. For Special Considerations, see below.
7. Transport.

SPECIAL CONSIDERATIONS

HEAT CRAMPS

Provide water by mouth.

HEAT EXHAUSTION

Provide water by mouth if the patient is conscious, has a gag reflex, and is able to drink without assistance.

HEAT STROKE or EXERTIONAL HEAT ILLNESS

1. Monitor the airway.
2. Cool the patient rapidly.
3. Remove clothing and equipment.
4. Cool athlete immediately by:
    a. Immersing athlete in tub of cold water with ice or ice bags or, if tub is not available,
    b. Place ice bags or ice over as much of the body as possible, cover body with cold towels (replace towels frequently), fan body, or spray with cold water.
5. Monitor ABCs, monitor temperature (core temperature if available) and CNS

6. Cease aggressive cooling when core temperature reaches approximately 101-102º F. Continue to monitor

   - *When observing athletes, look for other signs and symptoms that may indicate they are suffering from exertional heat stroke:*
     - Rectal temperature greater than 104º F (40º C).
     - Irrational behavior, irritability, emotional instability.
     - Altered consciousness, coma.
     - Disorientation or dizziness.
     - Headache.
     - Confusion or just look "out of it".
     - Nausea or vomiting
     - Diarrhea
     - Muscle cramps, loss of muscle function/balance, inability to walk
     - Collapse, staggering, or sluggish feeling.
     - Profuse sweating
     - Decreasing performance or weakness.
     - Dehydration, dry mouth, or thirst.
     - Rapid pulse, low blood pressure, or quick breathing.
     - Other outside factors may include:
       - They are out of shape or obese.
       - It is a hot and humid day.
       - Practice is near the start of the season, and near the end of practice.
       - It is the first day in full pads and equipment.

COLD-RELATED EMERGENCIES

1. Warm the environment or move the patient to a warmer environment.
2. Prevent further loss of body heat.
3. Do **not** allow the patient to smoke or drink either alcohol or caffeinated beverages.
4. For Special Considerations, see below.

SPECIAL CONSIDERATIONS

FROSTNIP, FROSTBITE, FREEZING (Local)

1. Remove clothing from the affected area.
2. Wrap the area in dry, bulky dressings.
3. Do **not** rub the area or rupture blisters.

HYPOTHERMIA (General)

1. Monitor the airway.
2. Begin Basic Cardiac Life Support procedures, if appropriate
   - *Hypothermic patients remain viable for a longer period of time. Therefore, CPR should be initiated on all pulseless and apneic hypothermic patients.*
3. Administer oxygen.
4. Monitor breathing for adequacy.
5. Gently remove any wet clothing.
6. Wrap the patient in dry blankets.
   - *Avoid rough handling of the hypothermic patient so as to reduce the risk of inducing cardiac arrest*
7. If the patient is conscious, is able to swallow, and is able to drink without assistance, give warm liquids slowly by mouth.
8. If the patient has an altered mental status, request Advance Life Support assistance, if available.

Obstructive Airway

4.14

1. If the patient is conscious and can breathe, cough, speak or cry, encourage coughing
2. If the patient is unconscious or cannot breathe, cough, speak or cry:
    a. Perform obstructed airway clearing procedures in accordance with most recent AHA guidelines.
    b. Request Advanced Life Support assistance if available
3. Continue obstructed airway procedures on route to the hospital until the foreign body is dislodged
    - *The patient must be taken to the hospital for evaluation even if the airway is cleared*

4. If airway obstruction is relieved:
    a. Monitor the airway
    b. Begin Basic Cardiac Life Support procedures
    c. Administer oxygen
    d. Monitor breathing for adequacy

OB Emergencies

4.15

Any pregnant female with non-traumatic abdominal pain should be evaluated. The following pieces of information are important to obtain: Prenatal care, last menstrual period, due date, any recent illnesses or unusual events, prior pregnancies (if so, how many and if any complications), any sensation to push or move bowels, has water broken (if so, when), any contractions or other pains?

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen, if indicated
- Assess vital signs
- Place patient in position of comfort

Emergency Childbirth

- Prepare mother for delivery by placing her supine with legs elevated and knees separated
- Carefully assist newborn from birth canal in its natural progression.
- Apply gentle pressure to the newborn's head to prevent delivery too rapidly and perineal trauma
- After the head emerges, suction the child's airway – mouth first, then nose
- Gently guide the head downward to assist the upper shoulder to deliver
- Gently guide the head upward to assist the lower shoulder to deliver
- Once newborn is delivered, hold the child at close to the same vertical level as the vagina, clamp the cord at 6" and 8" from the navel and cut the cord between the clamps.

Prolapsed Cord/Limb Presentation

- Do not attempt to push cord back in.
- Insert two gloved fingers into the vagina, raise the presenting part of the fetus off the cord and check for cord pulse
- Push baby's head away to keep pressure off cord
- Place mother in knee-chest position.
- Keep pressure off the cord and keep cord moist with sterile saline.

Breach Birth

- Imminent delivery, assist mother in holding legs in flexed position. As infant delivers, support legs, but do not pull.
- Allow entire body to deliver in this manner. As the head passes the pubis, gentle upward traction until mouth appears over the perineum.
- If the head does not deliver, and spontaneous breathing begins, place a gloved hand in the vagina with the palm toward the infants face. Form a "V" on either side of the infant's nose pushing the vaginal wall away from the infants face.

Post-childbirth care

- Suction mouth first, then the nose
- Note the time of delivery, dry and wrap the newborn to preserve body temperature
- Perform an APGAR assessment at 1 and 5 minutes post delivery

- If the placenta delivers, ensure it is transported to the hospital with the mother and newborn

Vaginal Bleeding

- Pre-delivery bleeding should be documented with the gestation time and the presence or absence of pain
- Post-delivery bleeding should be controlled with uterine massage or encouraging the baby to breast feed

Overdose/Poisoning

4.16

Don't become a victim! Ensure the environment is safe prior to approaching the scene!

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen, if indicated
- If patient cannot protect his/her own airway:
  - Ventilate with airway adjunct and BVM at a rate of 12-15 breaths per minute
  - If gag reflex is not present, consider Blind-Insertion Airway Device
- Assess vital signs
- Place patient in position of comfort
- Refer to appropriate protocol if other complaints or symptoms are identified

Specific Care:

- If patient is contaminated with dry chemical, brush off
- If patient is contaminated with a liquid chemical, flush with copious amounts of water
- Consider contacting Poison Control (800-222-1222) for specific instructions
- Look for/bring any pill bottles or medications in the vicinity of the patient

Respiratory Distress

4.17

All patients experiencing respiratory distress should receive supplemental oxygen as appropriate for the amount of distress.

General Care:

- Assess responsiveness, with ABC's
- Administer high-flow oxygen
- Assess vital signs
- Place patient in position of comfort
- Refer to appropriate protocol if other complaints or symptoms are identified
- If respiratory distress is due to an allergic reaction, refer to **Allergic Reaction** protocol
- If respiratory distress is due to suspected cardiac ischemia, refer to **Chest Pain** protocol

Seizures

4.18

All first time seizures, or seizures associated with a fever must be evaluated by a physician. Active seizure witnessed by EMS and lasting 5 minutes, OR status epileptics (repetitive seizures without regaining consciousness) are considered a life-threatening emergency and should be treated as such.

Assessment of a seizure patient should include the presence of fever, a history of seizures, the duration of seizure, the activity during the seizure (localized or full-body), more than one seizure, any medications being taken, recent trauma (particularly to the head), unusual recent stress.

The patient may be post-ictal and may be unresponsive or have disorientation and combativeness for a period of time after a seizure.

General Care:

- Assess responsiveness, with ABC's
- Administer high-flow oxygen
- Assess vital signs
- Place patient in position of comfort
- Do not attempt to restrain the patient unless required for provider safety
- Remove objects from the immediate vicinity of the patient to prevent injury

Shock: Non-Trauma

4.19

"Shock" is defined as a reduced blood flow to the tissues of the body, and can be caused by a loss of blood or fluid, anaphylaxis, decreased cardiac output, sepsis, or a neurological disorder. Regardless of the cause, in the BLS pre-hospital environment, the treatment is the same.

Shock can be often be identified by low blood pressure, cool/pale/clammy skin, and altered mental status.

General Care:

- Assess responsiveness, with ABC's
- Administer high-flow oxygen
- Assess vital signs
- If systolic blood pressure is less than 90 and spinal injury is not suspected, place patient in Trendelenburg position by elevating the feet 6-12"
- Prevent heat loss by covering the patient
- If evidence of anaphylaxis reaction is present, refer to **Allergic Reaction** protocol

Stroke/CVA

4.20

A stroke is caused by the lack of blood flow to a particular part of the brain, and may be caused either by a clot in a blood vessel in the brain, or a blood vessel bleeding into the brain. Either case can be life-threatening, and should be identified as quickly as possible; the earlier a stroke is identified, the better chance the patient has of recovery.

Three of the most common signs of a stroke are facial droop, slurred speech, arm drift

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen at 3 LPM via nasal cannula
- Assess vital signs
- If ground transport time is expected to exceed 45 minutes, consult with responding ambulance crew and consider air transport

Trauma: General Guidelines

4.21

Administer oxygen as appropriate for patient condition. In the case of a traumatic injury with major bleeding, high-flow oxygen is indicated, but it is not required for minor injuries without associated difficulty breathing.

Apply airway procedures as appropriate for patient condition. In patients with airway and/or breathing compromise, consider managing the airway with an appropriate airway adjunct and BVM. Maintaining circulation and airway are important to the success of patient management.

Spinal motion restriction should be evaluated using the **Spinal Motion Restriction** protocol. If the patient requires immobilization, the provider should provide this with a backboard and cervical collar along with webbing, tape, straps, or other mechanism for securing the patient. A complete patient assessment either focused or a "head to toe" should be performed on all patients as time and situation allows.

For critical patients with entrapment or in a situation where ground transport time is expected to exceed 45 minutes, consider air ambulance activation.

Uncontrolled external bleeding or amputation requires application of a tourniquet. Once applied, no not remove the tourniquet.

Amputations

4.22

Early helicopter activation should be considered for all patients who experience a traumatic amputation or degloving injury to give the patient the best chance at re-attachment of the limb.

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen as necessary
- Control bleeding with **Tourniquet Application**
- Consider spinal motion restriction
- Assess vital signs
- Place patient in position of comfort
- If possible, wrap amputated part in a clean, dry dressing, and place on ice; use caution to ensure tissue doesn't come into direct contact with ice

Burns

4.23

Early helicopter activation should be considered for all patients with 2nd or 3rd degree burns which meet the following criteria:

- Hands, feet, face, or genitals
- Encircling the chest
- More than 20% of the body

General Care:

- Assess responsiveness, with ABC's
- Administer oxygen as necessary
- Assess vital signs
- Stop the burning process and remove the patient from the source of the injury, if safe to do so.
- Dress wounds:
  - 2 nd or 3 rd degree < 10% BSA use **wet** sterile dressing
  - 2 nd or 3 rd degree > 10% BSA use **dry** sterile dressing
- Remove any items that may cut off circulation with swelling. Do not remove items that have bonded with skin; cut from around these areas.
- Cover the patient to maintain body heat

Electrical Burns:

- Identify potential entry and exit wounds

Chemical Burns:

- Brush off dry chemical and flush with copious amounts of water
- Flush other chemicals with copious amounts of water
- Eyes should be flushed for a minimum of 20 minutes.

1. "Rule of Nines" (see Figure 1)

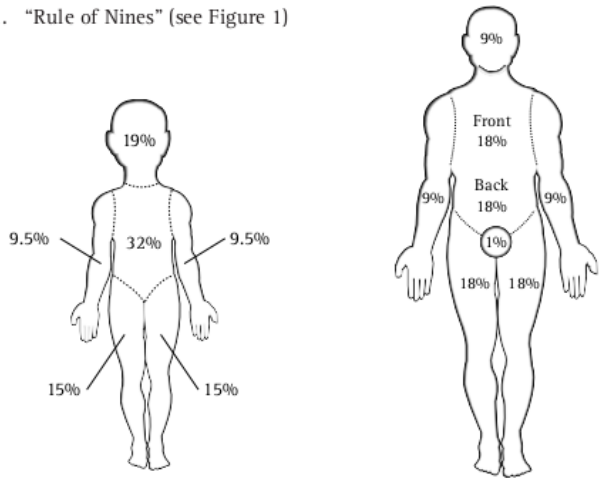


Figure 1. Rule of Nines

Eye Injuries

4.24

Any injury to the eye, other than burns, should be treated under this protocol.

General Care:

- Assess responsiveness, with ABC's
- Apply oxygen as necessary
- Assess vital signs
- Place patient in position of comfort

Specific Care:

- Open eye injury: cover both eyes
- Chemical burns: flush continuously with water or normal saline
- Impaled object: stabilize object in place and cover both eyes

Musculoskeletal Injuries

4.25

General Care:

- Assess responsiveness, with ABC's
- Apply oxygen as necessary
- Assess vital signs
- Place patient in position of comfort

Specific Care:

- Assess pulse, motor, and sensation distal to the injury
- Do not attempt to reduce dislocations
- Splint injured extremities in the position found or position of comfort
- An ice pack may be applied to reduce swelling

Submersion Injuries/Near Drowning

4.26

Drowning is defined as death secondary to submersion; near drowning is defined as a submersion accident with the recovery of vital signs and survival greater than 24 hours after the incident. Additional factors in drowning or near drowning patient are trauma secondary to surface impacts, spinal cord injuries, orthopedic and tissue injuries, etc. Survival is based on early access and aggressive management of these patients. Helicopter activation should be considered in near-drowning patients.

General Care:

- Assess responsiveness, with ABC's
- Initiate or continue CPR if indicated
- Administer high-flow oxygen
- Ventilate the patient with airway adjunct and BVM at a rate of 12-15 breaths per minute if indicated
- If available, utilize **Blind-Insertion Airway Device**, while minimizing interruptions in chest compressions
- If available, utilize pulse oximetry to evaluate the effectiveness of CPR

Appendix

Appendix H

Equipment Cleaning

General:

Brookland Fire Protection District will maintain equipment in a clean and updated operational manner to prevent the spread of contaminants and ensure the proper use of such.

Procedure:

All non-disposable equipment will be wiped down and cleaned with an antimicrobial solution after each patient use, including personal stethoscopes. All disposable equipment will be replaced after each patient use. Utilize manufacturer guidelines and suggestions for cleaning of all bio-medical equipment and report any unusual findings, faults or damage of equipment to your supervisor