

**SCENE SAFETY
GUIDELINES****Criteria:**

- A. This guideline applies to every EMS response, particularly if dispatch information or initial scene size-up suggests:
 1. Violent patient or bystanders.
 2. Weapons involved.
 3. Industrial accident or MVA with potential hazardous materials
 4. Patient(s) contaminated with chemicals

System Requirements:

- A. These guidelines provide general information related to scene safety. These guidelines are not designed to supercede an ambulance service's policy regarding management of personnel safety [as required by EMS Act regulation 28 § 1005.10 (I)], but this general information may augment the service's policy.
- B. These guidelines do not comprehensively cover all possible situations, and EMS practitioner judgment should be used when the ambulance service's policy does not provide specific direction.

Policy:**A. If violence or weapons are anticipated:**

1. EMS personnel should wait for law enforcement officers to secure scene before entry.
2. Avoid entering the scene alone.¹
3. If violence is encountered or threatened, retreat to a safe place if possible and await law enforcement.

B. MVCs, 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). Consider entering scene from uphill/upwind.
 - c. Look for downed electrical wires.
 - d. Call for assistance, as needed.
2. Upon approach of scene, look for place to park vehicle:
 - a. Upwind and uphill of possible fuel spills and hazardous materials.
 - b. Park in a manner that allows for rapid departure.
 - c. Allows for access for fire/rescue and other support vehicles.
3. Safety:
 - a. Consider placement of flares/warning devices.²
 - b. Avoid entering a damaged/disabled vehicle until it is stabilized.
 - c. Do not place your EMS vehicle so that its lights blind oncoming traffic.
 - d. Use all available lights to light up scene on all sides of your vehicle.
 - e. PPE is suggested for all responders entering vehicle or in area immediately around involved vehicle(s).

C. Parked Vehicles (non-crash scenes):

1. Position Ambulance:
 - a. Behind vehicle, if possible, in a manner that allows rapid departure and maximum safety of EMS personnel.
 - b. Turn headlights on high beam and utilize spotlights aimed at rear view mirror.
 - c. Inform the dispatch center, by radio, of the vehicle type, state and number of license plate and number of occupants **prior** to approaching the suspect vehicle.
2. One person approaches vehicle:
 - a. If at night, use a flashlight in the hand that is away from the vehicle and your body.
 - b. Proceed slowly toward the driver's seat; keep your body as close as possible to the vehicle (less of a target). Stay behind the "B" post and use it as cover.³
 - c. Ensure trunk of vehicle is secured; push down on it as you walk by.
 - d. Check for potential weapons and persons in back seat.
 - 1) Never stand directly to the side or in front of the persons in the front seat.
 - e. Never stand directly in front of a vehicle.

3. Patients:
 - a. Attempt to arouse victim by tapping on roof/window.
 - b. Identify yourself as an EMS practitioner.
 - c. Ask what the problem is.
 - d. Don't let patient reach for anything.
 - e. Ask occupants to remain in the vehicle until you tell them to get out.

D. Residence scenes with suspected violent individuals:

1. Approach of scene:
 - a. Attempt to ascertain, via radio communications, whether authorized personnel have declared the scene under control prior to arrival.
 - b. Do not enter environments that have not been determined to be secure or that have been determined unsafe.
 - 1) Consider waiting for police if dispatched for an assault, stabbing, shooting, etc.
 - c. Shut down warning lights and sirens one block or more before reaching destination.
 - d. Park in a manner that allows rapid departure.
 - e. Park 100' prior to or past the residence.
2. Arrival on scene:
 - a. Approach residence on an angle.
 - b. Listen for sounds; screaming, yelling, gun shots.
 - c. Glance through window, if available. Avoid standing directly in front of a window or door.
 - d. Carry portable radio, but keep volume low.
 - e. If you decide to leave, walk backward to vehicle.
3. Position at door:
 - a. Stand on the knob side of door; do not stand in front of door.
 - b. Knock and announce yourself.
 - c. When someone answers door – have him or her lead the way to the patient.
 - d. Open door all the way and look through the door jamb.
4. Entering the residence:
 - a. Scan room for potential weapons.
 - b. Be wary of kitchens (knives, glass, caustic cleaners, etc.).
 - c. Observe for alternative exits.
 - d. Do not let anyone get between you and the door, or back you into a corner.
 - e. Do not let yourself get locked in.
5. Deteriorating situations:
 - a. Leave (with or without patient).
 - b. Walk backwards from the scene and do not turn your back.
 - c. Meet police at an intersection or nearby landmark, not a residence.
 - d. Do not take sides or accuse anyone of anything.

E. Lethal weapons:

1. Secure any weapon that can be used against you or the crew out of the reach of the patient. Weapons should be secured by a law enforcement officer if present.
 - a. Guns should be handed over to a law enforcement officer if possible or placed in a locked space, when available.
 - 1) Place two fingers on the barrel of the gun and place in a secure area.
 - a) Do not unload a gun.
 - 2) Do not move a firearm unless it poses an immediate threat.
 - b. Knives should be placed in a locked place, when available.

Notes:

1. Each responder should carry a portable radio, if available.
 2. Flares should not be used in the vicinity of flammable materials.
 3. Avoid side and rear doors when approaching a van. Vans should be approached from the front right corner.
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INFECTION CONTROL / BODY SUBSTANCE ISOLATION GUIDELINES

Criteria:

- A. These guidelines should be used whenever contact with patient body substances is anticipated and/or when cleaning areas or equipment contaminated with blood or other body fluids.
- B. Your patients may have communicable diseases without you knowing it; therefore, these guidelines should be followed for care of all patients.

System Requirements:

- A. These guidelines provide general information related to body substance isolation and the use of universal precautions. These guidelines are not designed to supercede an ambulance service's infection control policy [as required by EMS Act regulation 28 § 1005.10 (I)], but this general information may augment the service's policy.
- B. These guidelines do not comprehensively cover all possible situations, and EMS practitioner judgment should be used when the ambulance service's infection control policy does not provide specific direction.

Policy:

A. 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:
 - a. Use hot water with soap and wash for 15 seconds before rinsing and drying.
 - 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 EMS practitioner should wash face, neck and any other body surfaces exposed or potentially exposed to splashed body fluids.
5. Use pocket masks with filters/ one-way valves or bag-valve-masks when ventilating a patient.
6. If an EMS practitioner has an exposure to blood or body fluids¹, the practitioner must follow the service's infection control policy and the incident must be immediately reported to the service infection control officer as required. EMS practitioners who have had an exposure² 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 blood or body fluids), as soon as possible after the exposure.
7. Preventing exposure to respiratory diseases:
 - 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)
 - b. HEPA mask (N-95 or better), gowns, goggles and gloves should be worn during patient contact.
 - c. A mask should be placed upon the patient if his/her respiratory condition permits.
 - d. Notify receiving facility of patient's condition so appropriate isolation room can be prepared.
8. Thoroughly clean and disinfect equipment after each use following service guidelines that are consistent with Center for Disease Control recommendations.
9. Place all disposable equipment and contaminated trash in a clearly marked plastic red Biohazard bag and dispose of appropriately.

- a. Contaminated uniforms and clothing should be removed, placed in an appropriately marked red Biohazard bag and laundered / decontaminated.
- b. All needles and sharps must be disposed of in a sharps receptacle unit and disposed of appropriately.

Notes:

1. At-risk exposure is defined as “a percutaneous injury (e.g. needlestick or cut with a sharp object) or contact of mucous membrane or nonintact skin (e.g. exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue or other body fluids that are potentially infectious.” Other “potentially” infectious materials (risk of transmission is unknown) are CSF (cerebral spinal fluid), synovial, pleural, peritoneal, pericardial and amniotic fluid, semen and vaginal secretions. Feces, nasal secretions, saliva, sputum, sweat, tears, urine and vomitus are not considered potentially infectious unless they contain blood.
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**REFUSAL OF TREATMENT / TRANSPORT
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Patient with illness or injury refuses treatment or transport.
- B. Individual with legal authority to make decisions for an ill or injured patient refuses treatment or transport.

Exclusion Criteria:

- A. Individual involved in incident but not injured or ill, See Protocol #112.

System Requirements:

- A. [OPTIONAL] An EMS service or region may require its personnel to complete an EMS Patient Refusal Checklist as part of the PCR for every patient that refuses transport. Regional medical treatment protocol may require contact with medical command physician for all patients refusing treatment and/or transport.

Procedure**A. All patients:**

1. Assess patient using Initial Contact and Patient Care Protocol #201
 - a. If the patient is combative or otherwise poses a potential threat to EMS practitioners, retreat from the immediate area and contact law enforcement.
 - b. Consider ALS if a medical condition may be altering the patient's ability to make medical decisions.
2. Attempt to secure consent to treatment / transport.^{1,2,3,4}
3. Assess the following (use EMS Patient Refusal Checklist if required by region or service):
 - a. Assess patient's ability to make medical decisions and understand consequences (e.g. alert and oriented x 4, GCS=15, no evidence of suicidal ideation/ attempt, no evidence of intoxication with drugs or alcohol, ability to communicate an understanding of the consequences of refusal).
 - b. Assess patient's understanding of risks to refusing treatment/ transport.
 - c. Assess patient for evidence of medical conditions that may affect ability to make decisions (e.g. hypoglycemia, hypoxia, hypotension)
4. If acute illness or injury has altered the patient's ability to make medical decisions and if the patient does not pose a physical threat to the EMS practitioners, the practitioners may treat and transport the patient as per appropriate treatment protocol. Otherwise contact medical command. See Behavioral Disorders/ Agitated Patient (Restraint) protocol #801 if appropriate.
5. Contact medical command if using the EMS Refusal Checklist and any response is completed within a shaded box **or**
if patient assessment reveals at least one of the following:
 - a. EMS practitioner is concerned that the patient may have a serious illness or injury.
 - b. Patient has suicidal ideation, chest pain, shortness of breath, hypoxia, syncope, or evidence of altered mental status from head injury intoxication or other condition.
 - c. Patient does not appear to have the ability to make medical decisions or understand the consequences of those decisions.
 - d. The patient is less than 18 years of age.
 - e. Vital signs are abnormal.

6. If patient is capable of making and understanding the consequences of medical decisions and there is no indication to contact medical command or medical command has authorized the patient to refuse treatment/ transport, then:
 - a. Explain possible consequences of refusing treatment/ transport to the patient ³
 - b. Have patient and witness sign the EMS Refusal Checklist or other refusal form ⁴
 - c. Consider the following:
 - 1) Educate patient/ family to call back if patient worsens or changes mind
 - 2) Have patient/ family contact the patient's physician
 - 3) Offer assistance in arranging alternative transportation
- B. Document. The assessment of the patient and details of discussions must be thoroughly documented on the patient care report (PCR). EMS services may choose to require that practitioners complete the EMS Patient Refusal Checklist that is included in this protocol as part of the PCR for every patient that refuses treatment. In the absence of a completed EMS Patient Refusal Checklist, documentation in the PCR should generally include:
 1. History of event, injury, or illness.
 2. Appropriate patient assessment.
 3. Assessment of patient's ability to make medical decisions and ability to understand the consequences of decisions.
 4. Symptoms and signs indicating the need for treatment/transport.
 5. Information provided to the patient and/or family in attempts to convince the patient to consent to treatment of transport. This may include information concerning the consequences of refusal, alternatives for care that were offered to the patient, and time spent on scene attempting to convince the individual.
 6. Names of family members or friends involved in discussions, when applicable.
 7. Indication that the patient and/or family understands the potential consequences of refusing treatment or transport.
 8. Medical command contact and instructions, when applicable.
 9. Signatures of patient and / or witnesses when possible.

Possible MC Orders:

- A. Medical command physician may request to speak with the patient, family, or friends when possible.
- B. Medical command physician may order EMS personnel to contact law enforcement or mental health agency to facilitate treatment and/ or transport against the patient's will. In this case, the safety of the EMS practitioners is paramount and no attempt should be made to carry out an order to treat or transport if it endangers the EMS practitioners. Contact law enforcement as needed.

Notes:

1. If the patient lacks the capacity to make medical decisions, the EMS practitioner shall comply with the decision of another person who has the capacity to make medical decisions, is reasonably available, and who the EMS practitioner, in good faith, believes to have legal authority to make the decision to consent to or refuse treatment or transport of the patient.
 - a. The EMS practitioner may contact this person by phone.
 - b. This person will often, but not always, be a parent or legal guardian of the patient. The EMS practitioner should ensure that the person understands why the person is being approached and that person's options, and is willing to make the requested treatment or transport decisions for the patient.

2. If the patient is 18 years of age or older, has graduated from high school, has married, has been pregnant, or is an emancipated minor, the patient may make the decision to consent to or refuse treatment or transport. A minor is emancipated for the purpose of consenting to medical care if the minor's parents expressly, or implicitly by virtue of their conduct, surrender their right to exercise parental duties as to the care of the minor. If a minor has been married or has borne a child, the minor may make the decision to consent to or refuse treatment or transport of his or her child. If the minor professes to satisfy any of the aforementioned criteria, but does not satisfy the criterion, the EMS practitioner may nevertheless comply with the decision if the EMS practitioner, in good faith, believes the minor.
3. If a patient who has the capacity to make medical decisions refuses to accept recommended treatment or transport, the EMS practitioner should consider talking with a family member or friend of the patient. With the patient's permission, the EMS practitioner should attempt to incorporate this person's input into the patient's reconsideration of his or her decision. These persons may be able to convince the patient to accept the recommended care.
4. For minor patients who appear to lack the capacity or legal authority to make medical decisions:
 - a. If the minor's parent, guardian, or other person who appears to be authorized to make medical decisions for the patient is contacted by phone, the EMS practitioner should have a witness confirm the decision. If the decision is to refuse the recommended treatment or transport, the EMS practitioner should request the witness to sign the refusal checklist or form.
 - b. If a person who appears to have the authority to make medical decisions for the minor cannot be located, and the EMS practitioner believes that an attempt to secure consent would result in delay of treatment which would increase the risk to the minor's life or health, the EMS practitioner shall contact a medical command physician for direction. The physician may direct medical treatment and transport of a minor if an attempt to secure the consent of an authorized person would result in delay of treatment which the physician reasonably believes would increase the risk to the minor's life or health.
 - c. If a person who appears to have authority to make medical decisions for the minor cannot be located, the EMS practitioner believes an attempt to secure consent would result in delay of treatment which would increase the risk to the minor's life or health, and the EMS practitioner is unable to contact a medical command physician for direction, the EMS practitioner may provide medical treatment to and transport a minor patient without securing consent. An EMS practitioner may provide medical treatment to and transport any person who is unable to give consent for any reason, including minority, where there is no other person reasonably available who is legally authorized to refuse or give consent to the medical treatment or transport, providing the EMS practitioner has acted in good faith and without knowledge of facts negating consent.
5. The medical command physician may wish to speak directly to the patient if possible. Speaking with the medical command physician may cause the patient to change his or her mind and consent to treatment or transport.

Performance Parameters:

- A. Compliance with completion of the EMS Patient Refusal checklist for every patient that refuses transport, if required by service or regional policy
- B. Compliance with medical command physician contact when indicated by criteria listed in protocol.

AIR AMBULANCE SAFETY CONSIDERATIONS GUIDELINES

Criteria:

- A. Landing zone operations associated with use of an air ambulance.

System Requirements:

- A. These guidelines provide general information related to safety when interacting with air ambulances. This general information may augment information that is provided by local air ambulance services, but since specific recommendations may differ by aircraft type or other factors it is not meant to supercede such information.

Procedure:

A. Landing Zone (LZ) Recommendations:

1. **Location:**
 - a. Global Positioning Satellite (GPS) systems may assist in providing precise location of LZ.
2. **Size:**
 - a. Depends on size of aircraft, most use 100' x 100'.
 - b. A larger LZ is recommended when higher surroundings and obstacles are present or multiple aircraft are responding.
3. **Slope:**
 - a. Must be relatively level.
4. **Ground cover:**
 - a. Dust can cause "brown out" where dust generated by rotor wash obscures pilot's visualization.
 - b. Snow can cause "white out".
 - c. Both can be planned for and overcome by pilot—be prepared for lots of blowing debris.
 - d. Gravel—rotor wash throws gravel—broken windows, paint damage, eye injuries can occur.
 - e. Other—be aware of anything in and around LZ such as twigs, tents, charts, linen, mattresses, rope, scene tape, garbage cans, turnout gear, rescue and medical equipment.
 - f. Mud—aircraft can sink resulting in structural damage and difficulty taking off.
 - g. Brush--should not be more than 1-2 ft deep, may need to be cut or tramped down.
5. **Obstacles:**
 - a. Antennas, buildings, towers, wires, poles, hills, etc up to a mile from the LZ should be reported to the pilot. Do not assume that they see them.
 - b. Other obstacles in the immediate vicinity of the LZ must be identified and relayed to the aircraft by the LZ Officer--Wires, poles, signs, antennas, trees, fences, geography, ground depressions, livestock, bystanders, apparatus and other vehicles, buildings, grave markers, etc.
6. **Using roadways as LZ:**
 - a. NO vehicular traffic through LZ, including police, fire, and EMS vehicles.
 - b. NO pedestrian traffic.
 - c. PSP and local police maintain authority in decision to close roadways and thoroughfares.

B. Marking the LZ:

1. Mark 4 corners of desired landing spot with a 5th marker on side wind is coming from, so that the pilot can determine wind direction for landing
2. DO NOT POINT WHITE LIGHTS AT THE AIRCRAFT AT ANY TIME!!! (Blinds pilot, ruins night vision.)
3. Flares
 - a. Good at night, can be seen from a great distance.
 - b. Limited use during the day, hard to see from the air.
 - c. Be aware of fire potential caused by rotorwash.
 - d. Be sure to collect after use.
4. Traffic cones

- a. Easy to see in daylight.
 - b. Blown over easily unless weighted.
 - c. Not useful at night unless internally illuminated by very bright light.
5. Strobes **are not useful.**
 6. Vehicles **are not recommended, as they become obstacles.**
 7. Personnel **are not recommended as markers.**
 8. Rotating red, yellow, or blue lights
 - a. Easy to see at night from miles away.
 - b. Pilot may ask for them to be turned off after LZ is identified depending on overall illumination
 9. Miscellaneous:
 - a. Control bystanders to prevent their approach to aircraft and LZ.
 - b. Pilot always has the final say in LZ acceptance.
 - c. Many variables occur even if LZ has been used in the past.

C. Rotor craft safety:

1. All personnel should be outside LZ during landing and take off.
2. Never approach the aircraft unless requested or accompanied by air ambulance crewmember from the air ambulance.
3. Never open doors or operate aircraft mechanisms under routine conditions.
4. Never approach aircraft from front or back—only from the side and only when requested by a crewmember.
5. Tail rotor spins at high rate making it difficult to see and avoid, some are close to the ground (within striking distance to humans).
6. Main rotor systems vary widely—some types come within 4-5 ft of ground.
7. No running near aircraft.
8. No smoking within 100 ft (jet fuel and oxygen present).
9. No vehicles inside LZ.
10. Never approach or depart from an aircraft on a side where the ground is higher than the ground the aircraft is sitting on.
11. All loose objects must be secured before aircraft lands and departs.
12. Close all vehicle doors during landing and take off.
13. An engine company at LZ is not necessary unless required by local protocol.
14. Hot Loading:
 - a. Follow air ambulance crew direction carefully.
 - b. Wear turnout gear if available including eye, head, and ear protection.
 - c. Remove all baseball caps and hats and store safely.
 - d. Approach Aircraft only when accompanied by air ambulance crew.
 - e. After loading the patient, depart aircraft and LZ by the exact path used to enter.
 - f. Never carry anything that is higher than the level of your head (including IV bags.)

**INITIAL PATIENT CONTACT
STATEWIDE BLS PROTOCOL****Criteria:**

- A. All patients.

Exclusion Criteria:

- A. None

Procedure:**A. Scene Size-Up:**

1. Evaluate scene safety – see Protocol # 102.
 - a. If scene is unsafe and cannot be made safe, do not enter.
2. Utilize appropriate Body Substance Isolation / Universal Precautions – see Protocol # 103.
3. Determine Mechanism of injury (MOI) or nature of illness and number of patients.
 - a. Initiate local or regional mass casualty plan if the number of surviving patients exceeds the threshold for initiating such plan (in accordance with applicable regional protocol).
Call for additional BLS/ ALS ambulances if needed.
4. Summon ALS or aeromedical service if indicated and available.

B. All Patients:

1. If trauma MOI, stabilize cervical spine during assessment.
2. Perform initial assessment. (Form a general impression of the patient; determine the chief complaint and/or life threatening problems; determine responsiveness; assess airway and breathing; assess circulation.)¹
3. Assure open airway; proceed with obstructed airway treatment if needed.
4. If breathing is inadequate, ventilate patient as needed.
5. If pulseless, proceed to Cardiac Arrest protocol #331
6. If priority condition exists administer high concentration oxygen, treat immediately, and transport with reassessment and treatment by applicable protocol while enroute to the appropriate medical facility.
 - a. Priority conditions are:
 - 1) Unable to obtain open airway
 - 2) Poor general impression
 - 3) Altered mental status and not following commands
 - 4) Difficulty breathing/ Inadequate ventilation.
 - 5) Hypoperfusion (Shock).
 - 6) Complicated childbirth
 - 7) Chest pain with SBP < 100
 - 8) Uncontrolled bleeding
 - 9) Severe pain, anywhere
 - b. If no priority condition exists, obtain history (SAMPLE & OPQRST) and perform focused physical exam.
7. Treat and transport per applicable protocol(s).

Notes:

1. If assessment of patient justifies ALS or air medical care, summon ALS or air ambulance service if available and not already dispatched. See Indications for ALS Use protocol #210.

OXYGEN ADMINISTRATION STATEWIDE BLS PROTOCOL

Criteria:

- A. Patients presenting with the following conditions:
 1. Shock.
 2. Shortness of breath or respiratory distress.
 3. Inhalation injury/ toxicity (including carbon monoxide exposure, smoke inhalation, chemical inhalation, etc.)
 4. Suspected or known stroke or seizure.
 5. Chest pain.
 6. Suspected or known major trauma.
 7. Acute change in level of consciousness.
 8. Patient whose condition seems serious during initial assessment.
 9. Patient with priority condition on Initial Patient Contact (protocol #201).
 10. Patients who normally receive oxygen as part of their usual medical care.

Exclusion Criteria:

- A. None.

Procedure:

A. All patients:

1. Apply oxygen:
 - a. Administer high concentration oxygen if the patient has a priority condition (as defined in Initial Patient Contact Protocol #201) or as directed by specific treatment protocol for the patient's condition.
 - 1) Patients who require high concentration oxygen per specific protocols should receive oxygen via non-rebreather mask¹, except:
 - 2) If patient will not tolerate oxygen mask, use a nasal cannula at 4-6 liters per minute (lpm).
 - b. Administer oxygen by nasal cannula if high concentration oxygen is not required.
 - c. **[Optional]** If pulse oximetry available, may administer oxygen by nasal cannula if SpO₂ > 95% on cannula. See Pulse Oximetry Protocol #226. Note- this does not apply to patients with suspected carbon monoxide or cyanide exposure. These patients should receive 100% O₂ via NRB mask.²
2. Be prepared to assist ventilations as necessary. If ventilation is required, high concentration oxygen should be given by the ventilatory device.
3. Patients who normally receive oxygen as part of their usual medical care should be kept on their prescribed rate, unless presenting with one of the criteria listed above.

B. Pediatric patients:

1. Use appropriate size facemask or nasal cannula for pediatric patients.
 - a. If the pediatric patient will not tolerate the mask or cannula, use blow-by oxygen via oxygen extension tubing.

Notes:

1. Respiratory efforts may be suppressed by high concentration oxygen in patients with obstructive lung diseases (e.g. COPD), but if the patient has a condition requiring high concentration oxygen, it is more important to maximize oxygenation. Practitioners should reassess the patient for signs of respiratory depression and should be prepared to assist ventilations if needed.
2. See Pulse oximetry protocol #226. Pulse oximetry may only be used by BLS services and personnel that meet DOH pulse oximetry requirements. If used, pulse oximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulse oximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.

ABUSE & NEGLECT (CHILD and ELDER)
STATEWIDE BLS PROTOCOL

Criteria:

- A. Any victim of suspected child abuse. ¹
1. The following situations may be associated with child abuse:
 - a. Poor nutrition and/or care, including unsanitary or dangerous environment.
 - b. Delay in seeking treatment for obviously significant medical problem.
 - c. Patient, parent, or caregiver give significantly differing histories of injury or illness.
 - d. History of minor trauma in a child with extensive physical injuries.
 - e. Caregiver ascribes blame for serious injuries to a younger sibling or playmate.
 2. Possible physical exam findings associated with such abuse or neglect may include:
 - 1) Injured child less than two years old, especially hot water burns and fractures.
 - 2) Facial, mouth or genital injuries
 - 3) Multiplanar injuries (front and back, right and left).
 - 4) Injuries of different ages (old and new).
 - 5) Comatose child with no clear cause.
 - 6) Critically ill or injured child with no clear cause.
 - 7) Child in cardiac or respiratory arrest with no clear cause.
- B. Any victim of suspected elder abuse
1. The following situations may be associated with elder abuse:
 - a. Implausible explanation of physical findings.
 - b. Delay in seeking care for illness or injury.
 - c. "Doctor shopping," frequent emergency department visits or frequent use of emergency medical services (**NOTE:** This statement must not be mistaken for those persons who have serious illness and legitimate reasons for utilization of acute care medical services.)
 - d. Fear or distancing self from caregiver.
 - e. Caregiver's refusal to leave elder alone.
 2. Possible physical exam findings associated with such abuse or neglect may include:
 - 1) Bruises in unusual areas (inner arm, torso, buttocks, scalp).
 - 2) Patterned or multicolored bruises of different ages, abrasions or burns.
 - 3) Clothing soiled or inappropriate for season.
 - 4) Inadequate care of nails, teeth or skin.
 - 5) Pressure sores (decubitus ulcers)
 - 6) Bruised and/or bleeding genitalia, perineum or anal area.
 - 7) Dehydration, malnutrition or unexpected weight loss.
 - 8) Unsafe or unhygienic living environment.

Exclusion Criteria:

- A. None.

Procedure:**A. All patients:**

1. Treat any injuries / illness according to appropriate protocol.
2. When time permits, perform a visual inspection of the patient's surroundings looking for injury or abuse risk factors that may be associated with the patient's complaints.
3. EMS practitioner- patient/ family interaction:
 - a. **DO NOT** question or accuse the caretaker in cases of possible abuse or neglect.
 - b. **DO NOT** discuss possible abuse or neglect issues with the patient in the presence of the abuser or other family members.
4. Transport, if possible. Protect the individual from additional harm by encouraging transport to receiving facility, even if injuries appear to be minor.
 - a. If transported to receiving facility, report concerns to staff at receiving facility **and** to appropriate agencies as required. (See section A.5.)
 - b. If patient, parent or guardian refuses transport, see Refusal of Treatment/ Transport protocol #111.
 - 1) Contact medical command.

- 2) If the medical command physician agrees, contact the law enforcement authority having jurisdiction or the appropriate county protective services agency.
- 3) **DO NOT** endanger yourself or the EMS crew by inciting a confrontation with family members, relatives or caregivers. If you feel threatened, leave the scene for a safe refuge and immediately contact law enforcement agency having jurisdiction.
5. Report suspicion of abuse or neglect to appropriate authorities as required whether or not the patient was transported.
 - a. **Suspected Child Abuse (minors under 18 years of age):**^{1,2}
 - 1) If an EMS practitioner has reasonable cause to suspect that a child (minor) has been abused or neglected, the practitioner must report the suspected abuse.
 - a) The suspected abuse **must be reported immediately** in verbal form to the PA Child Abuse Hotline (DPW) at 800-932-0313, **AND**
 - b) The suspected abuse **must be reported within 48 hours** in written form to the appropriate county Children and Youth agency by completing a CY-47 form.³
 - b. **Suspected Elder Abuse (individuals 60 years of age or older):**²
 - 1) If an EMS practitioner has reasonable cause to suspect that an individual 60 years of age or older needs protective services, the practitioner may report that information. [“Protective services” are activities, resources and supports to detect, prevent or eliminate abuse, neglect, exploitation, and abandonment.]
 - a) The suspected abuse, neglect or needs **may be reported immediately** in verbal form to the PA Elder Abuse Hotline at 800-490-8505.
 - b) The suspected abuse or concerns may be reported to the local provider of protective services.
 6. Document⁴

Notes:

1. Pennsylvania law requires mandatory reporting by health care practitioners, including EMS practitioners, of any child in whom there is reasonable cause to suspect abuse.
2. **Reporting mechanisms:**
 - a. In addition to the required reporting to the abuse hotline or protective service agency, always report suspicion of child or elder abuse or neglect to the receiving physician.
 - b. Some hospital social service departments may assist EMS practitioners in making the required contacts and reports, but in cases where reporting of suspected abuse is required, it remains the EMS practitioner’s responsibility to assure that these reports have been made.
 - c. The local law enforcement agency must be contacted if the EMS provider believes that the patient is in imminent danger of death or serious injury. They should also be contacted when there is evidence of physical or sexual abuse, since these two forms of abuse constitute assault.
 - d. Knowing whether or not abuse has occurred is sometimes difficult. The DPW hotline call-takers will provide assistance.
3. EMS personnel are also encouraged to make this report to the local Children and Youth Agency immediately by phone.
4. **Documentation considerations:**
 - a. The documentation for an EMS contact with a potential victim of abuse or neglect must be comprehensive and objective in nature.
 - b. Document history of present illness/injury in detail, but avoid taking the patient’s complaints out of context. Note pertinent positives and negatives only as the patient or caregiver answered them, not as the EMS practitioner believes they may exist.
 - c. Document physical findings exactly as they appear, but avoid making statements that cannot be attested to in a court of law (exact age of contusions, exact cause of injury, etc.)
 - d. Document environmental and household findings exactly as they appear, but avoid making generalizations and editorial comments (i.e. “numerous overfilled trash cans,” rather than “the house was a mess”).
 - e. Document which authorities were contacted and when.

**DEAD ON ARRIVAL (DOA)
STATEWIDE BLS PROTOCOL**

Criteria:

- A. Patient presenting with the following
 1. Decomposition.
 2. Rigor mortis (Caution: do not confuse with stiffness due to cold environment)
 3. Dependent lividity.
 4. Decapitation.
 5. Unwitnessed cardiac arrest of traumatic cause.
 6. Traumatic cardiac arrest in entrapped patient with severe injury that is not compatible with life.
 7. Incineration.
 8. Submersion greater than 1 hour.
- B. In cases of mass casualty incidents where the number of seriously injured patients exceeds the personnel and resources to care for them, any patient who is apneic and pulseless may be triaged as DOA.¹

Exclusion Criteria:

- A. Obviously pregnant patient with cardiac arrest after trauma, if cardiac arrest was witnessed by EMS practitioners. These patients should receive resuscitation and immediate transport to the closest receiving facility. See Trauma Patient Destination Protocol #180.
- B. Hypothermia. These patients may be apneic, pulseless, and stiff. Resuscitation should be attempted in hypothermia cases unless body temperature is the same as the surrounding temperature and other signs of death are present (decomposition, lividity, etc...). See hypothermia protocol #681.

Treatment:

- A. **All patients:**
 1. Initial Patient Contact – see Protocol # 201.
 2. Verify pulseless and apneic.
 3. Verify patient meets DOA criteria listed above.
 - a. **If any doubt exists, initiate resuscitation and follow Cardiac Arrest Protocol # 331 and consider medical command contact.**
 - b. If patient meets DOA criteria listed above, ALS should be cancelled.
 4. If the scene is a suspected crime scene, see Crime Scene Preservation Guidelines #919.
 5. In all cases where death has been determined, notify the Coroner or Medical Examiner's office or investigating agency. Follow the direction of the Coroner or Medical Examiner's office/investigating agency regarding custody of the body.

Possible Medical Command Orders:

- A. If CPR was initiated, but the medical command physician is convinced that the efforts will be futile, MC physician may order termination of the resuscitation efforts.

Note:

1. In the case of multiple patients from lightning strike, reverse triage applies, and available resources should be committed to treating the patients with no signs of life unless they meet the other criteria listed above.

Performance Parameters:

- A. Review all cases for documentation of DOA criteria listed above.

**CARDIAC ARREST – GENERAL
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Patient unresponsive, pulseless and apneic/agonal breaths.

Exclusion Criteria:

- A. If patient meets criteria for DOA (e.g. decapitation, decomposition, rigor mortis in warm environment, etc...) then follow DOA protocol # 322
- B. Cardiac arrest due to acute traumatic injury – Follow Multisystem Trauma protocol #602. AED use is not indicated in traumatic cardiac arrest, but this protocol should be followed if there is the possibility of a medical condition causing cardiac arrest prior to a traumatic incident.

System Requirements:

- A. Functioning as an AED service is optional for BLS services, but if the service chooses to provide this function, the service must meet the DOH approved service and personnel training requirements for an AED service.

Treatment:**A. All Patients**

1. Refer to accompanying flowchart.

Possible Medical Command Orders:

- A. Repeat sets of 3-stacked shocks with 1 min of CPR between each set until a “no shock indicated” (VF is no longer present).
- B. In pediatric patients, may order use of adult AED.

Note:

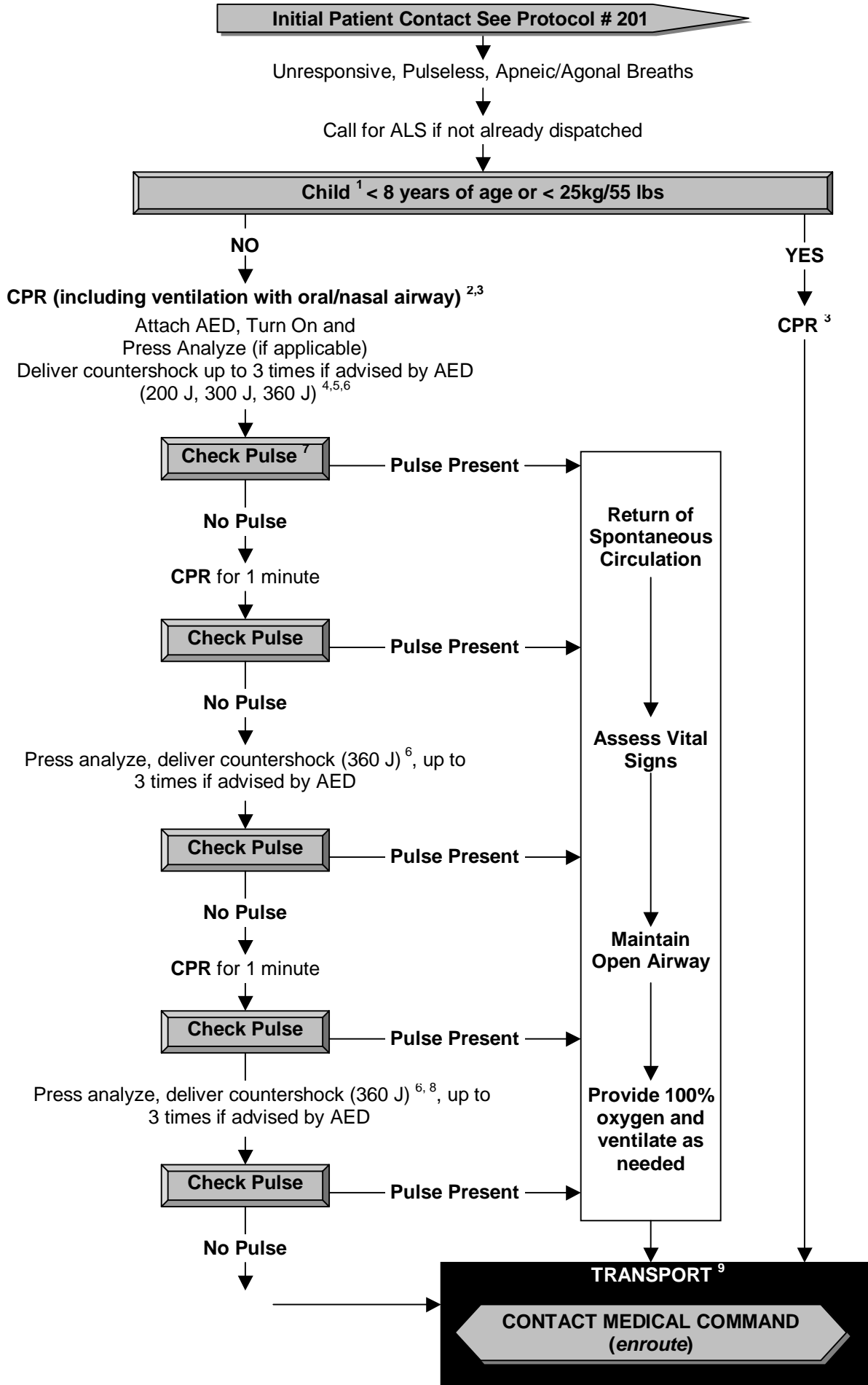
1. **Pediatric Guidelines:** If pediatric AED is immediately available, follow protocol flowchart for adult patients but use pediatric AED. If no pediatric AED is available, initiate CPR and contact medical command. Medical Command Physician may order the use of an adult AED for patients less than 8 years old.
2. The single rescuer with an AED should verify unresponsiveness, open the airway (A), give two ventilations (B), and check the pulse (C), if a cardiac arrest is confirmed, the AED should be attached, and the rescuer should proceed with the protocol.
3. Ventilate the patient with appropriate oral/nasopharyngeal airway using high flow oxygen, as soon as possible, but **Do Not** delay CPR to connect oxygen. Ideal ventilation includes two-person technique and cricoid pressure.
 - a. Before intubation, compression to ventilation ratio is: Adult 15:2; Pediatric 5:1.
 - b. **Avoid overzealous hyperventilation.** After intubation, ventilation rate should be:

1) Adults	>8y/o	10 breaths / min.
2) Child	<1-8 y/o	20 breaths/ min.
3) Infant	< 1 y/o	25 breaths / min.
 - c. If unable to ventilate, proceed to Obstructed Airway maneuvers.
4. Check pulse only after the completion of each group of three shocks or after the AED gives a “no shock indicated” message.
5. If no shock is indicated, check pulse, repeat 1 min of CPR if pulseless, check pulse again, and then re-analyze (if applicable). After three sequential “no shock indicated” messages, repeat “analyze” period every 10 min. Note: some AEDs automatically re-analyze for you.
6. Some biphasic devices may shock at lower energy levels. Equivalent biphasic energy doses must be determined by the service AED medical director using manufacturer recommendations and current literature.
7. Patient with severe hypothermia (if available, core temperature <90° F or 32° C) see Hypothermic Protocol # 681. For hypothermic patients, no more than 3 shocks should be delivered. Further action will be directed by medical command. Begin transport immediately after initial set of three countershocks.
8. If VF persists after three sets (or 9 shocks), contact medical command. If unable to contact medical command, transport patient as soon as possible while continuing CPR.
9. During transport, reanalyze rhythm about every 10 minutes, and deliver sets of 3 additional shocks if advised.
 - a. The vehicle and all patient movement should stop before reanalyzing the rhythm.
 - b. Practitioners must be familiar with the AED used by their service. AEDs that automatically analyze every minute should be temporarily disabled during patient movement and transport, since the motion of transport may lead to inappropriate shocks. In many machines, this can be accomplished by disconnecting the electrodes

from the machine. Avoid turning the AED off, since this may reset all of the data collection within the device.

Performance Parameters:

- A. System review of percentage of cardiac arrests that are dispatched as cardiac arrests or as the highest category by the dispatch center's EMD classification system. Review for percentage that were offered and received EMD pre-arrival instructions in CPR.
- B. Review of number of cardiac arrest patients that received bystander CPR. [Benchmark may be set with the goal of increasing community CPR classes to improve this percentage.]
- C. System review of time from dispatch to arrival on scene of initial responder with access to AED. [Possible benchmark of response of 5 minutes or less to 90% of cardiac arrests.]
- D. Review all cardiac arrests for rate of return of spontaneous circulation (ROSC) and survival to hospital discharge using the Utstein criteria.
- E. Review percentage of cardiac arrest patients that have access to an AED if ALS ambulance does not routinely arrive within 5 minutes.



ALLERGIC REACTION / ANAPHYLAXIS STATEWIDE BLS PROTOCOL

Criteria:

- A. Severe Allergic Reaction: A patient with the following symptoms of severe allergic reaction or anaphylaxis after suspected exposure to an allergen:
 - 1. Symptoms of severe allergic reaction include:
 - a. Difficulty breathing and wheezing.
 - b. Swollen tongue and lips or difficulty swallowing.
 - c. Hypotension.
 - 2. Common allergens that may lead to allergic reactions include
 - a. Bee/ Wasp/ Hornet stings
 - b. Medications (e.g. antibiotics)
 - c. Foods (e.g. peanuts, seafood)
- B. Moderate Allergic Reaction: A patient with a moderate allergic reaction may have:
 - 1. Mild shortness of breath with wheezing
 - 2. Extensive hives and itching
 - 3. Mild tongue/ lip swelling without difficulty swallowing of shortness of breath.

Exclusion Criteria:

- A. Mild allergic reaction isolated to minor hives without any of the criteria listed above.¹

System Requirements:

- A. Only an EMT that has completed the epinephrine patient-assisted auto-injector module through the EMT curriculum or continuing education may administer patient-assisted epinephrine by auto-injector.
- B. [Optional] BLS services may carry epinephrine auto-injectors for administration by the service's EMTs.
 - 1. These services must comply with additional Department of Health epinephrine auto-injector requirements personnel training requirements before the service is permitted to stock and carry epinephrine auto-injectors.
 - 2. These services must carry 2 adult and 2 pediatric dose epinephrine autoinjectors that are stored and maintained in a manner consistent with Department requirements.

Treatment:

- A. **All patients treated by BLS services that DO NOT carry epinephrine autoinjectors (i.e. patient-assisted epinephrine):**
 - 1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210.
 - 2. Administer oxygen. (High concentration if difficulty breathing or signs of shock)
 - 3. Determine the severity of the patient's symptoms.
 - a. For severe symptoms listed above:
 - 1) If the patient has a prescribed epinephrine auto-injector, assist² with the administration of single unit dose of epinephrine via auto injector.^{3,4,5,6,7} [EMT ONLY]
 - a) **Adult dose 0.3 mg (e.g. EpiPen)**
 - b) **Pediatric dose 0.15 mg (e.g. EpiPen Junior)**
 - 2) Monitor vital signs and reassess patient.
 - 3) Contact medical command.
 - b. For moderate symptoms listed above:
 - 1) Contact medical command if the patient has a prescribed epinephrine auto-injector.
 - 4. Monitor vital signs and reassess patient.
 - 5. Monitor pulsoximetry, [OPTIONAL].⁸
 - 6. Transport.
- B. **All patients treated by EMTs functioning with BLS services that are approved to carry epinephrine autoinjectors (i.e. primary administration of epinephrine) [OPTIONAL]:**

1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210.
2. Administer high concentration oxygen.
3. Determine severity of patient's symptoms
 - a. For severe symptoms listed above:
 - 1) Administer a single unit dose of epinephrine via auto injector.^{4,5,7}
 - a) **Adult dose 0.3 mg (e.g. EpiPen)**
 - b) **Pediatric dose 0.15 mg (e.g. EpiPen Junior)**
 - 2) Monitor vital signs and reassess patient
 - 3) Contact Medical Command.
 - b. For moderate symptoms listed above, Contact Medical Command and follow directions of medical command physician.
4. Monitor vital signs and reassess patient.
5. Monitor pulsoximetry, [OPTIONAL].⁸
6. Transport.
7. Contact Medical Command if condition worsens.

Possible Medical Command Orders:

- A. If patient has a second epinephrine auto-injector, medical command physician may order EMT to assist patient with the administration of a second dose of epinephrine.
- B. If BLS service carries epinephrine auto-injector, medical command physician may order administration of epinephrine.

Notes:

1. Patients with mild allergic reactions should be reassessed for the development of more severe symptoms.
2. The EMT may need to administer the medication rather than assist if the patient has a decreased level of consciousness.
3. Assure that the available auto-injector was prescribed for the patient and is not expired.
4. Side effects of epinephrine are rare. They include:

Increased heart rate	Vomiting
Excitability	Nausea
Chest Pain	Headache
Dizziness	Anxiousness
Pallor	
5. Use caution in patients over 55 years old. Contact Medical Command if patient does not have severe symptoms as defined above or if unsure whether this is an allergic reaction.
6. If the patient does not have a prescribed epinephrine auto injector, but there is a bystander available with an auto injector, contact medical command.
7. Dispose of the injector in a biohazard container.
8. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.

Performance Parameters:

- A. Review every case of EMT administered or assisted epinephrine auto-injector use for documentation of symptoms defined in protocol.
- B. Review every case of EMT administered or assisted epinephrine auto-injector for the appropriate contact with medical command as required by the protocol.
- C. Consider benchmark of on scene time < 10 minutes.

**RESPIRATORY DISTRESS/RESPIRATORY FAILURE
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Shortness of breath or difficulty breathing.
 - 1. Conditions which produce SOB from bronchoconstriction that may respond to bronchodilators. These conditions generally are associated with wheezing.
 - a. COPD (emphysema, chronic bronchitis)
 - b. Asthma
 - c. Allergic reaction
 - d. Respiratory infections (pneumonia, acute bronchitis)
 - 2. Conditions which produce SOB without bronchoconstriction that **do not** respond to bronchodilators. These conditions usually are not associated with wheezing.
 - a. CHF
 - b. Pulmonary embolism

Exclusion Criteria:

- A. None.

System Requirements:

- A. Only an EMT that has completed the bronchodilator module through the EMT curriculum or continuing education may assist the patient with administration of a bronchodilator.

Treatment:**A. All patients:**

- 1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210
- 2. If allergic reaction is suspected and patient meets criteria, proceed with Allergic Reaction / Anaphylaxis protocol #411.

B. Pediatric patients:

- 3. Pediatric patients – if child is sitting in a tripod position with excessive drooling this may be epiglottitis, **transport immediately and apply high flow oxygen but avoid agitating child**. Do not lay the patient flat and do not attempt to visualize the throat.

B. All patients:

- 3. Apply high concentration oxygen. If necessary, assist respirations with a bag-valve-mask , but avoid overzealous hyperventilation.
- 4. Monitor pulsoximetry¹ [OPTIONAL]
- 5. Assist patient with his/ her bronchodilator inhaler [EMT ONLY] for conditions associated with wheezing ^{2,3,4}
 - a. Must be a “short-acting” rapid onset, bronchodilator ^{5,6}
- 6. Transport and reassess enroute.
- 7. Contact medical command if EMT is unclear whether the patient’s inhaler is a “short-acting” bronchodilator or if EMT has assisted with bronchodilator inhaler administration.⁷

Possible Medical Command Orders:

- A. May order additional doses of patient’s bronchodilator.

Notes:

- 1. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
- 2. An EMT may assist with the medication **ONE TIME ONLY** prior to contacting Medical Command. Any subsequent administration requires direction from a medical command physician.
- 3. Bronchodilator inhaler must be prescribed for the patient, and EMS must identify and administer the prescribed dose (“one” or “two” inhalations) for the specific patient.
- 4. If unsure of the appropriate action, the EMT should contact Medical Command for further direction.

- The following are commonly prescribed short-acting, rapid-onset, beta-2 agonist inhalants that the EMT may assist with administration:

Brand Name	Generic Name
Alupent	Metaproterenol Sulfate
Brethaire	Terbutaline Sulfate
Bronkometer	Isoetharine Mesylate
Combivent	Albuterol and Ipratropium
Duo-medihaler	Isoproterenol Hydrochloride/Phenylephedrine Combo
Isuprel Mistometer	Isoproterenol Hydrochloride
Maxair	Pirbuterol Acetate
Medihaler-Iso	Isoproterenol Sulfate
Metaprel	Metaproterenol
Proventil	Albuterol
Tornalate	Biotolterol Mesylate
Ventolin	Albuterol

- The following are drugs that **SHOULD NOT** be used:

Long-acting, Delayed-Onset, Bronchodilators	
Brand Name	Generic Name
Serevent	Salmeterol Xinafoate
Corticosteroids	
Brand Name	Generic Name
Aero-bid	Flunisolide
Azmacort	Triamcinolone Acetonide
Beclovent	Beclomethasone Dipropionate
Decadron Respihaler	Dexamethasone Sodium Phosphate
Dexacort Respihaler	Dexamethasone Sodium Phosphate
Flovent	Fluticasone Propionate
Vanceril	Beclomethasone Dipropionate
Anticholinergics	
Brand Name	Generic Name
Atrovent	Ipratropium Bromide
Non-Steroidal Anti-inflammatories	
Brand Name	Generic Name
Intal	Cromolyn Sodium
Tilade	Nedocromil Sodium
Over-the-counter Drugs	
Brand Name	Generic Name
Primatene Mist	Epinephrine

- If unable to contact medical command, may repeat previous dose of bronchodilator inhaler 20 minutes after initial dose.

Performance Parameters:

- A. Review every case of EMT assisted bronchodilator inhaler administration for documentation for appropriate indication, appropriate medication, and appropriate contact with medical command.
- B. Consider benchmark of on scene time < 15 minutes if ALS not on scene.

Criteria:

- A. Chest pain of possible cardiac origin. May include:
 - 1. Retrosternal chest heaviness/pressure/pain
 - 2. Radiation of pain to neck, arms or jaw
 - 3. Associated SOB, nausea/vomiting or sweating
 - 4. Possibly worsened by exertion
 - 5. Patient over 30 y/o
 - 6. Patient with history of recent cocaine use

Exclusion Criteria:

- A. Chest pain, probably not cardiac origin.
 - 1. May include:
 - a. Pleuritic chest pain- worsens with deep breath or bending/turning.
 - b. Patient less than 30 y/o
 - 2. If associated with shortness of breath, follow Respiratory Distress protocol #421

System Requirements:

- A. Only an EMT that has completed the nitroglycerin module of the curriculum or continuing education may assist with NTG administration.

Treatment:**A. All patients:**

- 1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210
- 2. Apply oxygen (High concentration if patient also has difficulty breathing or hypoperfusion)
- 3. Monitor pulsoximetry¹ [OPTIONAL]
- 4. Assist patient with his/her prescribed nitroglycerin based upon the following:^{2,3,4,5} [EMT ONLY]
 - a. Suspected cardiac origin as outlined above.
 - b. **WARNING:** Do not give nitroglycerin if you are aware that a patient takes a medication for erectile dysfunction. These medications include Viagra (sildenafil), Levitra (vardenafil), Cialis (tadalafil), or other similar medications.
 - c. Patient is currently experiencing chest pain or discomfort.
 - d. Blood pressure is > 100 systolic.
- 5. Transport
- 6. Monitor vital signs and reassess.
- 7. Contact medical command if EMT has assisted with nitroglycerin. ⁶

Possible Medical Command Orders:

- A. Medical command may order additional doses of nitroglycerin.

Notes:

- 1. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
- 2. An EMT may assist with the medication **ONE TIME ONLY** prior to contacting Medical Command. Any subsequent administration requires direction from a medical command physician.
- 3. Nitroglycerin must be prescribed for the patient, and EMS must identify and administer the prescribed dose (sublingual “tablet” or “spray”).
- 4. Nitroglycerin should not be given to a child.

5. If unsure of the appropriate action, the EMT should contact Medical Command for further direction.
 6. If unable to contact medical command, may repeat nitroglycerin one time 5 minutes after initial dose as long as systolic blood pressure is > 100 prior to second dose.
-

Performance Parameters:

- A. For every case of assisting with nitroglycerin, assure documentation of history consistent with cardiac chest pain, assure documentation of vital signs before and after nitroglycerin, assure appropriate contact with medical command.
- B. Consider benchmark of on scene time < 15 minutes if ALS not on scene.

MULTISYSTEM TRAUMA OR TRAUMATIC SHOCK STATEWIDE BLS PROTOCOL

Criteria:

- A. Patients with acute traumatic injuries that meet Category 1 or Category 2 trauma triage criteria – see Trauma Triage Criteria protocol #180.
- B. Patient with symptoms of shock/hypoperfusion related to a traumatic injury.

Exclusion Criteria:

- A. Hypotension not related to trauma.

Treatment:

A. Patients in cardiac arrest due to trauma:

1. Initial Patient Contact – see Protocol #201.
 - a. If medical cardiac arrest may have preceded the traumatic event, follow Cardiac Arrest Protocol #331. Otherwise, AED use is not indicated.
 - b. Initiate CPR with cervical spine stabilization if:
 - 1) Cardiac arrest occurs in the presence of EMS personnel, or
 - 2) Victim of penetrating trauma had signs of life within 15 minutes of arrival of EMS personnel,
 - 3) Otherwise follow DOA protocol #322.
2. Additional treatments prior to transport should be limited to:
 - a. Rapid extrication with spinal immobilization
 - b. Assurance of adequate airway and adequate ventilation
3. Destination:
 - a. Transport immediately if patient can arrive at the closest hospital in ≤ 15 minutes.¹
 - b. Contact medical command for possible field termination of resuscitation if patient remains in cardiac arrest after initial resuscitation and cannot arrive at the closest receiving facility within 15 minutes.
 - c. Air medical transport of patients in cardiac arrest is generally not indicated, unless hypothermia is the primary cause of the cardiac arrest.

B. All other patients:

1. Initial Patient Contact – see Protocol # 201.
 - a. C-spine stabilization.
 - b. Consider call for ALS if available, but should not delay patient transport. See Indications for ALS Use protocol #210.
 - c. Consider request for air ambulance- if applicable per Air Ambulance Use protocol #191.
 - d. Consider rapid extrication.²
2. Control external bleeding.
3. Administer high concentration oxygen.
4. Spinal immobilization as appropriate – See Spinal Cord Injury Protocol # 651.
5. Treat specific injuries:
 - a. Also follow injury specific trauma protocols if applicable for head injury, impaled object, amputation, or burns.
 - b. If sucking chest wound, cover wound with occlusive dressing sealed on 3 sides. Release dressing if worsened shortness of breath.
 - c. If intestinal evisceration, cover intestines with a sterile dressing moistened with sterile saline or water; cover the area with an occlusive material (aluminum foil or plastic wrap). Cover the area with a towel or blanket to keep it warm. **DO NOT PUSH VISCERA BACK INTO ABDOMEN.**³ Transport with knees slightly flexed if possible.
6. Consider Trendelenberg position (foot of stretcher elevated approximately 6 inches) if:
 - a. Patient has hypotension, and
 - b. There are no chest injuries, no head injuries, no shortness of breath, and position does not cause shortness of breath.
7. Maintain body temperature.⁴

8. If suspected pelvic fracture, apply MAST (if available) for splinting – See MAST Suit Use Protocol # 253.
 - a. Traction splinting is preferred for isolated femur fractures.
 - b. Padded board splints or other similar devices are preferred for isolated tibia/fibula fractures, but if tibia/fibula fractures are associated with suspected pelvis fractures, MAST may be used for splinting.
9. Transport the patient ASAP as per trauma patient destination protocol – See Protocol #180.
10. Monitor pulsoximetry [OPTIONAL].⁵
11. Monitor vital signs and reassess.

Possible Medical Command Orders:

- A. Medical command may order inflation of MAST suit.

Notes:

1. Patients in cardiac arrest who have penetrating trauma or are in third trimester (>24 weeks) of pregnancy should be taken to the closest trauma center if time to arrival at the closest trauma center is 15 minutes or less. Otherwise, patient should be transported to the closest hospital.
2. Rapid extrication may be appropriate in the following circumstances: danger of explosion (including potential secondary explosion at a terrorism incident); rapidly rising water; danger of structural collapse; hostile environments (e.g. riots); patient position prevents access to another patient that meets criteria for rapid extrication; shock; inability to establish an airway, adequately ventilate a patient, or control bleeding in entrapped position; or cardiac arrest.
3. In wilderness / delayed transport situations with prolonged evacuation time (at least several hours), examine the bowel for visible perforation or fecal odor. If no perforation is suspected, irrigate the eviscerated intestine with saline and gently try to replace in abdomen.
4. If patient is cold, use blankets and possibly hot packs at armpits and groin to prevent additional heat loss.
5. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.

Performance Parameters:

- A. Documentation of reason for any on scene time interval over 10 minutes.
- B. Percentage of calls, without entrapment, with on scene time interval \leq 10 minutes. Possible benchmark for on scene time for non-entrapped patients = 10 minutes.
- C. Documentation of applicable trauma triage criteria.

HEAD INJURY STATEWIDE BLS PROTOCOL

Criteria:

- A. Head injury and altered mental status (GCS <15).

Exclusion Criteria:

- A. Head injury, but alert and oriented with Glasgow Coma Scale = 15.

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210
 - b. If patient does not follow commands (motor GCS \leq 5) , consider call for air ambulance.
See Trauma Destination protocol #180.
2. Immobilize cervical spine.¹
3. Assure a patent airway.
4. Administer high concentration oxygen. Assure adequate ventilation. Assist ventilation, if necessary. **AVOID OVERZEALOUS HYPERVENTILATION.**
 - a. If unresponsive to pain or extensor posturing to pain or pupils are unequal or non-reactive, hyperventilate at 20 bpm for an adult, 30 bpm for a child, or 35 bpm for an infant.²
 - b. Otherwise ventilate at 10 bpm for an adult, 20 bpm for a child or 25 bpm for an infant).
5. Also follow Multisystem Trauma/ Shock Protocol # 602, if applicable.
6. Place sterile dressing over soft tissue injury sites as time permits:
 - a. Do not apply pressure to open or depressed skull fracture.
 - b. Treat eye injuries appropriately.
7. Transport according to Trauma Patient Destination protocol #180.³
8. Monitor pulsoximetry [OPTIONAL], but all patients with GCS \leq 13 should continue to receive high concentration oxygen.⁴
9. Monitor vital signs and reassess.

Notes:

1. Avoid any straps or constriction across the neck since this may increase intracranial pressure.
2. Unresponsiveness or extensor posturing to painful stimulus correspond to GCS motor score of 1 or 2.
3. Patients who do not follow commands (GCS motor score \leq 5) should be transported to a trauma center. Patients with GCS of 14 or 15 do not need to be transported to a trauma center unless other criteria exist for transport to a trauma center.
4. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.

Performance Parameters:

- A. Review for compliance with trauma patient destination protocol for all patients who do not follow commands (motor GCS \leq 5).

IMPALED OBJECT STATEWIDE BLS PROTOCOL

Criteria:

- A. Patient with an impaled object.

Exclusion Criteria:

- A. None.

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
2. Follow Multisystem Trauma/ Traumatic Shock protocol #602, if applicable.
3. Treat special conditions as follows:
 - a. If the impaled object is in the cheek and bleeding profusely or obstructing the airway:
 - 1) Remove object if this can easily be done.
 - 2) Maintain open airway.
 - 3) Control bleeding and dress wound.
 - b. If the impaled object is in the eye:
 - 1) Stabilize object with sterile dressing, place cup over eye and secure.
 - 2) Cover unaffected eye.
 - c. If the impaled object is not in the cheek or eye:
 - 1) Stabilize object with bulk dressing and secure.
 - 2) Do not remove object.
 - d. If patient is impaled on stationary or fixed object:
 - 1) If possible, carefully sever object.
 - 2) Secure object with bulky dressing.
 - 3) Check for exit wound and treat accordingly.
 - 4) Attempt to transport object with patient.
4. Do not remove the object unless it occludes or endangers the airway or prohibits the performance of adequate CPR. If unsure of appropriateness of removing object, contact Medical Command.¹
5. Control bleeding and place sterile bulky dressings over the wound and around the object to stabilize it in place. Secure dressings in place with bandages and tape.
6. Immobilize the injury as appropriate.
7. Transport.

Possible Medical Command Orders:

- A. In some instances in addition to those permitted above, medical command may order removal of the impaled object.

Notes:

1. In wilderness/ delayed transport situations, removal of the object may be appropriate to facilitate transport or wound irrigation.

AMPUTATION STATEWIDE BLS PROTOCOL

Criteria:

- A. Patient with amputation of a digit or limb.

Exclusion Criteria:

- A. None

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if signs of hypovolemic shock or if patient is entrapped. See Indications for ALS Use protocol #210
2. Control bleeding.
3. Also follow Multi-system Trauma/ Traumatic Shock protocol # 602 unless amputation only involves fingers/ toes.
4. Place sterile dressing over open soft tissue injury sites.
5. Retrieve avulsed or amputated part:¹
 - a. Wrap avulsed part in gauze soaked with sterile saline.
 - b. Place part in sealed plastic bag.
 - c. Keep part cool. Place the sealed bag in a second bag containing ice water. Rotate the part often during transport. **Do not place amputated part directly on ice.**
 - d. For amputation of limbs, wrap the part in a clean moistened towel or other like material and place it in a large plastic bag and keep it cool.
 - e. Do not place the part directly on ice.
6. Transport to appropriate facility.²

Notes:

1. If priority condition exists, do not delay transport to search for missing part. Additional emergency personnel may remain at scene to retrieve part. Ideally EMS personnel should prepare any amputated part, as described above, before transport to patient's location.
2. See Trauma Patient Destination protocol # 180. Call medical command as needed for guidance.

Performance Parameters:

- A. Review on scene time for all cases of amputation above the wrist or ankle. Consider benchmark of on scene time ≤ 10 minutes for patients that are not entrapped.

BURN STATEWIDE BLS PROTOCOL

Criteria:

- A. Thermal injury from exposure to intense heat
- B. Injury from electrical shock or lightning strike
- C. Skin injury from chemical exposure

Exclusion Criteria:

- A. None

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
 - a. When dealing with hazards associated with burns (e.g. fire, electricity, chemicals) appropriate PPE must be worn and individuals with appropriate training should deal with these hazards.
 - b. When triaging multiple patients with lightning injury, initial resources should be committed to individuals that have no sign of life (i.e. “reverse triage”) rather than individuals who have vital signs.
 - c. Stop the burning process with water or saline. Caution- use care to avoid hypothermia.
 - d. Immobilize C-spine, if indicated – See Cervical Spine Immobilization Protocol # 261.
 - e. Consider call for ALS or air medical transport as appropriate. See Indications for ALS Use protocol #210.
2. Assure open airway and assist ventilations as needed.¹
3. Administer high concentration oxygen if:²
 - a. Coughing or short of breath.
 - b. Exposure to smoke in a confined space.
 - c. Facial burns
 - d. Burn area greater than 15% BSA.
4. Remove all clothing, jewelry and any debris from involved area. Cut around clothing that is stuck to wound.
5. Treat special conditions as follows:
 - a. Semi-solids (tar, etc.):
 - 1) Flush with cool water.
 - b. Chemical burn:
 - 1) Liquid substance- Irrigate with copious amounts of room temperature water. Do not contaminate uninjured areas while flushing.
 - 2) Dry substances- With gloves and appropriate PPE, brush remaining powder from skin and clothing, then irrigate with copious amounts of water.³
 - c. Electrical:
 - 1) Dress entrance and exit wounds and other injuries.
6. Care of burned skin:
 - a. Wrap burned areas with dry sterile burn sheets or cover with sterile dressings.
 - b. Maintain body temperature.
 - c. Estimate the extent of the burn using the Rule of Nines (See appendix).
7. Transport to the closest appropriate medical facility, as follows:
 - a. If unable to maintain airway or unable to ventilate or patient has symptoms of shortness of breath / cough or inhalation injury suspected (for example burned nasal hairs or carbonaceous sputum) or if unable to control profuse bleeding, transport to closest hospital immediately.
 - b. If patient has associated trauma and meets trauma triage criteria, transport per Trauma Patient Destination Protocol # 180.
 - c. Transport to a burn center if:
 - 1) The patient has burns to more than 15% BSA or burns to the face or hands, and
 - 2) The patient does not meet trauma triage criteria, and
 - 3) The difference between estimated transport time to the closest receiving facility and the burn center is 20 minutes or less.
 - d. If patient meets none of the above, transport to closest hospital.
 - e. Contact medical command if unsure of most appropriate destination.
8. Monitor vital signs and reassess

Possible Medical Command Orders:

- A. Medical command may order moistening of dressings with saline or the use of gel impregnated burn dressings.

Notes:

1. Caution- patients who have inhaled hot gases or have burns about the face or who have symptoms of shortness of breath or cough can deteriorate rapidly.
2. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
3. Note- some substances, like dry lime will cause a heat-producing reaction when mixed with water. Copious water should be available before beginning to irrigate.

Performance Parameters:

- A. Compliance with trauma patient destination protocol and burn center destination as defined above.
- B. Evaluate on scene times for non-entrapped burn victims. Victims that meet criteria for high concentration of oxygen should be transported rapidly. Possible benchmark for on scene time for unentrapped victims = 10 minutes.

HYPOTHERMIA / COLD INJURY/FROSTBITE STATEWIDE BLS PROTOCOL

Criteria:

- A. Generalized cooling that significantly reduces the body temperature. Conditions that increase the risk of developing hypothermia include trauma, burns, alcoholism, malnutrition, diabetes, hypothyroidism, certain medications (especially psychiatric and sedating medications), and infancy or elderly age.
- B. If temperature reading is available, body temperature < 95° F (35° C).
- C. Note that hypothermia is severe if core body temperature is < 90° F (32° C).
- D. Frostbite generally affects feet, hands, ears, and/or face. Skin initially appears reddened, then mottled, bluish, white and/or gray. This is painful initially then becomes numb.

Exclusion Criteria:

- A. DOA, including the following- See DOA protocol # 322.
 1. Submersion for >1 hour.
 2. Body tissue/chest wall frozen solid.
 3. Body temperature same as surrounding temperature and other signs of death (lividity/rigor).

Treatment:

A. All patients:

1. Initial Patient Contact – see Protocol # 201.
 - a. Assess pulse for 45 seconds.¹
 - b. Consider call for ALS if available. See Indications for ALS Use protocol #210.
 - c. Consider air ambulance if severe hypothermia and transport time to hospital capable of rapid bypass (extracorporeal) rewarming is more than 30 minutes.
2. Apply oxygen (High concentration if altered mental status).^{2,3}

B. Systemic Hypothermia:

3. Handle patient gently and avoid excessive or rough movement of the patient.
4. Place the patient in a warm, draft free environment.
5. Remove wet clothing and cover with warm blankets.
6. **If the patient does not follow commands or is not shivering:**
 - a. If respirations and pulse are absent, start CPR.^{1,4} It is possible that the patient is still alive.
 - b. Transport **IMMEDIATELY** ^{5,6,7}, continuing CPR as necessary.
 - c. Contact Medical Command.
7. **If the patient is conscious and shivering:**
 - a. Rewarm the patient slowly:
 - 1) Place heat packs on the patient's groin, lateral chest or axilla and neck. Do not place heat packs directly against skin- wrap in towel.
 - 2) If the patient is alert, administer warm non-caffeinated beverages (if available) by mouth slowly.⁸
8. Transport⁶
9. Perform ongoing assessment.

C. Frost bite:

3. Keep patient warm while exposing affected part.
4. Apply loose sterile dressing to affected part.
5. **DO NOT:**
 - a. Rub effected part or break blisters.
 - b. Expose part to dry heat.
 - c. Immerse part in snow or hot water.⁹
 - d. Allow affected part to thaw if it may refreeze before transport is completed.
6. **DO:**
 - a. Transport, keeping patient warm.
 - b. Perform ongoing assessment.

Possible Medical Command Orders:

- A. Medical command physician may order transport to a facility capable of rewarming the patient by cardiac bypass.

Notes:

1. **Vital signs should be taken for a longer time than usual, so that a very slow pulse or respiratory rate is not missed. Assess pulse for 45 seconds. If a pulse or respirations are detected, do not perform CPR.**
2. Use warmed humidified oxygen if available.
3. Services that use optional pulseoximetry monitors should not use them in hypothermic patients since pulseoximeters are unreliable in this situation.
4. In suspected severe hypothermia (core temperature, if available, is below 90° F) and an AED is advising shock, shock no more than 3 times. If there is still no pulse, continue CPR and transport to an appropriate facility.
5. If cardiac arrest or does not follow commands, transport to trauma center following Trauma Triage Protocol # 180. Transport to center capable of extracorporeal rewarming (cardiac bypass) if this adds no more than 20 minutes to transport time to closest appropriate trauma destination hospital. Contact medical command at destination facility as soon as possible to provide maximum time for staff to prepare to receive the patient.
6. If the patient has severe hypothermia and vertical evacuation is required, transport the patient in a level position when possible. Transporting vertically with the head up has been associated with seizures and death.
7. In submersion or cardiac arrest, hypothermia is protective. Do not attempt to rewarm the patient during transport to a facility that is capable of rapid extracorporeal rewarming.
8. **DO NOT** permit fluids by mouth if patient also has severe traumatic injuries or abdominal pain.
9. In wilderness / delayed transport situations, rewarming the frostbitten area in warm water may be appropriate if transport is delayed significantly. The area should not be rewarmed unless it can be completely rewarmed and then protected from additional cold injury.

Performance Parameters:

- A.

HEAT EMERGENCY STATEWIDE BLS PROTOCOL

Criteria:

- A. **Heat Stroke**¹ – Patients should be treated as heat stroke if they have all of the following:
1. Exposure to hot environment, and
 2. Hot skin, and
 3. Altered mental status
- B. **Heat Exhaustion** - Patient presents with dizziness, nausea, headache, tachycardia and mild hypotension. No mental status changes. Temperature is less than 103^o F. Rapid recovery generally follows saline administration.

Exclusion Criteria:

- A. None.

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.

B. Heat Stroke:

2. Consider call for ALS if available. See Indications for ALS Use protocol #210.
3. Remove the patient from the heat source, if possible.
4. Administer oxygen.²
5. Remove excess clothing:
6. ***If skin is hot to touch and patient has altered mental status, treat as life threatening emergency:***
 - a. Cool the patient quickly by dousing with water/ applying wet towels and applying ice (e.g. packing in ice or applying cold packs at the neck, axilla (armpits) and groin.³)
 - b. If shivering begins, slow cooling process.
 - c. Do not give anything by mouth.
 - d. Transport immediately.
 - e. Perform ongoing assessment.

C. Heat Exhaustion:

2. Remove the patient from the heat source.
3. Administer oxygen.²
4. Remove excess clothing.
 - a. Apply cool compresses.
 - b. Allow oral intake of cool fluids (ideally commercial sport/rehydration drinks) if the patient is alert and oriented and without nausea.⁴
 - c. Transport.
 - d. Perform ongoing assessment.

Notes:

1. Patient's thermoregulatory mechanisms break down completely. Body temperature is elevated to extreme levels, which results in multi-system tissue damage including altered mental status. Heat stroke often affects elderly patients with underlying medical disorders. Patients usually have dry skin; however, up to 50% of patients with exertional heat stroke may exhibit persistent sweating. Therefore, patients with heat stroke may be sweating.
2. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of

oxygen. Record SpO₂ after administration of oxygen. If pulseoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.

3. **Do not delay transport if these cooling modalities are not immediately available.**
4. Do not permit the patient to drink if altered mental status or abdominal pain.

**NEAR DROWNING AND DIVING INJURY
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Submersion leading to respiratory symptoms

Exclusion Criteria:

- A. Patients in cardiac arrest – See Cardiac Arrest Protocol # 331.
B. Patients with confirmed submersion for more than 1 hour – See DOA Protocol # 322.

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if symptoms of shortness of breath. See Indications for ALS Use protocol #210
 - b. Consider air transport if altered LOC. See Air Ambulance Use protocol #190.
2. If diving accident is possible, stabilize cervical spine and follow Cervical Spine Immobilization protocol # 261.¹
3. Maintain airway
4. Apply oxygen (High concentration if respiratory distress or altered level of consciousness).
 - a. Assist ventilations and suction if secretions block the airway.
 - b. Obtain pulse oximetry reading [OPTIONAL].²
5. Consider hypothermia. If present – See Hypothermia Protocol # 681.
 - a. Handle the patient gently and carefully³.
6. Transport immediately.^{4,5}
7. Monitor vital signs and reassess.

Notes:

1. Diving injuries must be considered for any patient found ill or injured in any body of water or immediately removed from a body of water.
 2. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
 3. Rough handling may cause the hypothermic patient to develop a fatal arrhythmia.
 4. If SCUBA incident with rapid ascent, transport on the left side of the body with the head down.
 5. Since respiratory problems may be delayed, all patients should be transported. Contact medical command if patient refuses transport.
-

SUSPECTED STROKE STATEWIDE BLS PROTOCOL

Criteria:

- A. Patients may have the following clinical symptom(s):
 - 1. Altered level of consciousness
 - 2. Impaired speech
 - 3. Unilateral weakness / hemiparesis
 - 4. Facial asymmetry / droop
 - 5. Headache
 - 6. Poor coordination or balance
 - 7. Partial loss of peripheral vision
 - 8. Vertigo

Exclusion Criteria:

- A. Consider hypoglycemia, trauma, and other etiologies of stroke symptoms, and follow applicable protocol if appropriate.

Treatment:**A. All patients:**

- 1. Initial Patient Contact – see Protocol # 201.
 - a. If history of diabetes and signs of hypoglycemia, consider the possibility of hypoglycemia.
 - b. Consider call for ALS if altered level of consciousness. See Indications for ALS Use protocol #210
- 2. Maintain open airway.
 - a. Use an oral or nasal airway as appropriate.
- 3. Apply oxygen (High concentration if altered mental status)
- 4. Monitor pulsoximetry [Optional].¹
- 5. Obtain patient history, (i.e. OPQRST) and examine patient.
 - a. Exact time of symptom onset is extremely important.²
 - b. Assess Cincinnati Stroke Scale³
- 6. If stroke indicated by the Cincinnati Stroke Scale **AND** patient can be delivered to the receiving facility within 3 hours of symptom onset⁴, then
 - a. Package patient and transport ASAP.
 - b. Contact medical command and receiving facility as soon as possible.⁵
- 7. Transport with the head and shoulders elevated 15-30° if possible.

Possible Medical Command Orders:

- A. Medical command may divert patient to local hospital that is the most prepared to care for acute stroke patients.

Notes:

- 1. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
- 2. Attempt to identify the precise time of the onset of the patient's first symptoms. The time of onset is extremely important information, and patient care may be different if patient can be delivered to a receiving hospital capable of treating acute strokes within 3 hours from onset

- of symptoms. If the patient awoke with their symptoms, then the symptom onset is not considered to be < 3 hours.
3. Cincinnati Prehospital Stroke Scale. If any of the following is abnormal and new for the patient, he/she may have an acute stroke:
 - a. Facial Droop (patient smiles or shows teeth) - abnormal if one side of the face does not move as well as the other.
 - b. Arm Drift (patient holds arms straight out in front of him/her and closes eyes) – abnormal if one arm drifts down compared with the other.
 - c. Speech (patient attempts to say “The sky is blue in Cincinnati.”) – abnormal if patient slurs words, uses inappropriate words, or can’t speak.
 4. In rural areas, if patient can be delivered by air (but not by ground) to receiving facility within 3 hours of symptom onset, consider contact with medical command for assistance in deciding upon the utility of air medical transport.
 5. Report time of symptom onset and abnormal findings from Cincinnati Prehospital Stroke Scale to medical command physician.
-

Performance Parameters:

- A. Review on scene time for all cases of suspected stroke with time of symptom onset less than 3 hours from time of EMS arrival. Consider benchmark of on scene time \leq 10 minutes.

EMERGENCY CHILDBIRTH STATEWIDE BLS PROTOCOL

Criteria:

- A. Pregnancy with signs of imminent delivery including crowning, mother with urge for bowel movement, frequent contractions < every 2 minutes, or worsening of perineal discomfort.

Exclusion Criteria:

- A. None

Treatment:**A. All patients:**

1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210.
2. Prepare for delivery if crowning or if contractions < every 2 minutes and patient feels need to push
 - a. Position patient for delivery
 - b. Bring OB kit to patient
 - c. Prepare for delivery in a place where the infant will be warm
3. Administer oxygen.
4. Monitor vital signs frequently
 - a. If hypotensive, place patient in left lateral recumbent position or manually push uterus to patient's left.

B. Normal delivery and Newborn Care:

1. Assist with vaginal delivery of infant¹
 - a. Check for cord around neck, if present:
 - 1) Attempt to gently slip cord over head. If cord is tight,
 - 2) Clamp in two places (approximately 2" apart)² and cut between clamps.
2. Suction infant's oropharynx and then nasopharynx.²
3. Note time of delivery.
4. Keep infant warm and dry.
5. Stimulate infant.
6. Clamp and cut cord 4 finger widths (4-6 inches) from infant.
7. Assess and record APGAR scores at 1 and 5 minutes after delivery.
8. Deliver and preserve placenta (**DO NOT** pull on cord or placenta).³
9. Monitor vital signs and reassess
10. Transport

C. Complicated delivery: (mother with unstable vital signs, arm or leg presentation, prolapsed umbilical cord, or breech delivery)

1. Prepare for immediate emergent transport.
2. Handle delivery based upon complications, as follows:
 - a. If breech delivery, attempt to gently deliver head, but **DO NOT** pull on infant. If head does not deliver easily, placed gloved fingers into the vagina and provide a space between the vaginal wall and the infant's mouth/nose.
 - b. If prolapsed cord, elevate the mother's pelvis (may elevate pelvis with pillows or place mother in knee/chest position) place gloved hand into vagina and gently push infant's head up into uterus to prevent compression of cord.
 - c. If limb (single arm or leg) presentation, transport immediately and emergently.
 - d. If head delivers but shoulders do not:
 - 1) Push mother's knees up to her shoulders.
 - 2) Have another practitioner apply abdominal pressure above the pubic bone.
 - 3) Attempt to gently deliver shoulders.
3. Transport immediately and emergently, if suggested maneuvers are not successful.
4. Contact receiving hospital and medical command while enroute to allow time for facility to prepare for patient care.
5. Monitor vital signs and reassess.

APGAR SCORING CHART			
Clinical Signs	Zero	One	Two
A = Appearance (Color)	Blue, pale	Body pink, Extremities blue	All pink
P = Pulse (Heart Rate)	Absent	<100	>100
G = Grimace (Irritability) ¹	No response	Grimace or weak cry	Cough/ sneeze or withdraws foot and cries
A = Activity (Muscle Tone)	Limp	Some flexion of arms and/or legs	Well flexed
R = Respiratory effort	Absent	Slow respirations	Strong cry

¹Response to catheter in nostril (tested after pharynx is cleared) or finger snap against sole of foot.

Possible Medical Command Orders:

A.

Notes:

1. On scene time may be delayed up to 20 minutes while awaiting infant delivery if:
 - a. Patient has signs of crowning or urge to push/ frequent contractions < every 2 minutes.
 - b. Infant is not expected to be premature (i.e. delivery is within 3 weeks of due date or 37 weeks estimated gestational age)
 - c. Delivery is not complicated by prolapsed cord, limb presentation, breech birth, or failure to progress (i.e. head has delivered but shoulders do not deliver)
2. Initial suctioning may be done as soon as head delivers.
3. If mother and infant are stable, transport may be delayed for up to 20 minutes for delivery of placenta.

Performance Parameters:

1. Review documentation of assessment for imminent delivery.
2. Review for documentation of neonatal assessment using APGAR scores.

**PSYCHIATRIC DISORDERS / AGITATED BEHAVIOR
STATEWIDE BLS PROTOCOL**

Criteria:

A. Patient with a psychiatric or behavioral disorder who is at imminent risk of self-injury or is a threat to others.

Or

B. Patient with a medical condition causing agitation and possibly violent behavior. Examples of these conditions are:

1. Alcohol or drug (e.g. PCP, methamphetamine, cocaine) intoxications
2. Hypoglycemia
3. Stroke
4. Drug overdose
5. Post-ictal after seizure
6. Head trauma

Exclusion Criteria:

A. None

Treatment:**A. All patients:**

1. If violence or weapons are anticipated, consider waiting for law enforcement to secure the scene. **Do not block patient's exit** – See Scene Safety Protocol # 102.
2. Initial Patient Contact – see Protocol # 201.
 - a. Call for law enforcement, if available, if patient is violent
 - b. Call for ALS, if available, if patient has altered LOC or is agitated. See Indications for ALS Use protocol #210
3. Assess for possible underlying medical conditions such as hypoglycemia, drug overdose, trauma, hypoxia, or post-ictal from seizure.
 - a. If present, use the applicable protocol.
4. Attempt to establish a rapport with the patient.¹
5. If patient is a potential threat to him/herself or others and restraint can be accomplished safely by personnel on scene, the patient may be restrained (see procedure below) and transported against his/her will
 - a. Restrain the patient in the following situations:
 - 1) Law enforcement personnel order restraint and transport
 - 2) Mental health delegate on scene has initiated involuntary commitment papers (i.e. 302)
 - 3) Medical command physician orders restraint and transport
 - 4) The patient is a direct threat to EMS personnel and must be restrained to avoid injury.
 - 5) The patient exhibits suicidal thoughts or actions.
 - b. If adequate personnel are not immediately available to restrain the patient, EMS personnel shall remain in a safe proximity to the scene and shall notify law enforcement or local mental health agency of the patient's location and actions.
6. If the patient struggles violently against the restraints,
 - a. Call for ALS if available²
 - b. Administer high concentration oxygen via NRB mask.

7. Contact medical command for an order to restrain and transport the patient against his/her will, if not done previously.
8. Transport
 - a. Restraints during transport should restrict the patient enough to reasonably prevent escape from the vehicle or harm to EMS personnel.
 - b. EMS personnel must be with a patient at all times if the individual was restrained using this protocol.
9. Monitor vital signs and reassess
 - a. Reassess and document neurovascular function of restrained extremities.

Procedure for patients that require physical restraint:**A. All Patients:**

1. Use the minimum amount of restraint necessary to safely accomplish patient care and transportation with regard to the patient's dignity.
2. Assure that adequate personnel are present and that police assistance has arrived, if available, before attempts to restrain patient.
3. Call for ALS, if available, if patient continues to struggle against restraint.²
4. Restrain all 4 extremities with patient supine on stretcher.^{3,4,5,6}
5. Use soft restraints to prevent the patient from injuring him or herself or others.⁷
 - a. If the handcuffs or law enforcement devices are used to restrain the patient, a law enforcement officer should accompany the patient in the ambulance
 - b. It is preferable that a law enforcement officer follows the ambulance in a patrol car to the receiving facility if physical restraint is necessary.
6. Do not place restraints in a manner that may interfere with evaluation and treatment of the patient or in any way that may compromise patient's respiratory effort.⁸
7. If the patient is spitting,⁹ may cover his/her face with a surgical mask or with a NRB mask with high flow oxygen.
8. Evaluate circulation to the extremities frequently.
9. Thoroughly document reasons for restraining the patient, the restraint method used, and results of frequent reassessment.

Possible Medical Command Orders:

- A. Medical command may order restraint and transport of a patient against his/her will.

Notes:

1. Verbal techniques include:
 - A. Direct empathetic and calm voice.
 - B. Present clear limits and options.
 - C. Respect personal space.
 - D. Avoid direct eye contact.
 - E. Non-confrontational posture.
2. There is a risk of serious complications or death if patient continues to struggle violently against restraints. Sedation by ALS personnel may be indicated in some circumstances as directed by ALS protocols or by order from medical command physician.
3. Initial "take down" may be done in a prone position to decrease the patient's visual field and ability to bite, punch, and kick. After the individual is controlled, he/she should be restrained to the stretcher or other transport device in the supine position.
4. **DO NOT restrain patient in a hog-tied or prone position.**
5. **DO NOT** sandwich patient between devices, such as long boards or Reeve's stretchers, for transport. Avoid restraint to unpadded devices like back boards.
6. A stretcher strap that fits snugly just above the knees is effective in decreasing the patient's ability to kick.
7. Padded or leather wrist or ankle straps are appropriate. Handcuffs and plastic ties are not considered soft restraints.
8. Never apply restraints near the patient's neck or apply restraints or pressure in a fashion that restricts the patient's respiratory effort.
9. Never cover a patient's mouth or nose except with a surgical mask or a NRB mask with high flow oxygen. A NRB mask with high flow oxygen may be used to prevent spitting in a patient that also

may have hypoxia or another medical condition causing his/her agitation, but a NRB mask should never be used to prevent spitting without also administering high flow oxygen through the mask..

Performance Parameters:

- A. Review for documentation of reason for restraint and restraint method used. Consider reviewing every call when physical restraint is used.
- B. Hospital-operated services may have additional JCAHO requirements for documentation.
- C. Review for documentation of frequent reassessment of vital signs, cardiopulmonary status, and neurovascular status of restrained extremities. Consider benchmark of documenting these items at least every 15 minutes.

**POISONING/TOXIN EXPOSURE (INGESTION/INHALATION/ABSORPTION/INJECTION)
STATEWIDE BLS PROTOCOL**

Criteria:

1. Patient who has accidentally or purposefully been exposed to toxic substances. Including:
 - a) Ingested toxins
 - a. For example pills, capsules, medications, recreational drugs, poisonous plants, strong acids or alkali household or industrial compounds
 - b) Inhaled toxins
 - a. For example carbon monoxide and other toxic gases
 - c) Absorbed toxins
 - a. For example substances on skin or splashed into eyes
 - d) Injected toxins
 - a. For example snake bites or substances injected through the skin

Exclusion Criteria:

1. None

Treatment:**1. All patients:**

- a) Initial Patient Contact – see Protocol # 201.
 - a. **WARNING: EMS personnel must not enter confined spaces with potential toxic gases (e.g. manure pits, silos, spaces with carbon monoxide, spaces with industrial gases) unless personnel have proper training and PPE.**
 - b. If toxic exposure/ overdose is the result of intentional behavior- also see Behavioral Emergency/ Patient Restraint protocol #801.
- b) Maintain adequate airway.
- c) Administer high concentration oxygen, if altered level of consciousness, shortness of breath, abnormal respiratory rate, or patient coughing.
- d) [OPTIONAL] Monitor pulseoximetry.¹
- e) Consider call for ALS if available, particularly for decreased LOC. See Indications for ALS Use protocol #210.
- f) Determine:
 - a. What – identify specific toxin and amount, if possible.
 - 1) If possible, safely transport source of toxin (e.g. prescription pill bottles) with patient to receiving facility.
 - 2) EMS services should not transport dangerous items (e.g. toxic chemicals that are not sealed in their original containers, live snakes, etc....)
 - b. When – identify time of exposure, if possible.
 - c. Why – identify reason for exposure, if possible.
 - d. Where – identify environmental site issues (e.g. exposure in a confined space or carbon monoxide present).
- g) Do not give anything by mouth to a patient with an altered level of consciousness or an unconscious patient.²
- h) Treat specific toxins based upon the appropriate category:
 - a. **Ingested Toxins.** Treat all exposures as follows:
 - 1) **DO NOT INDUCE VOMITING.**
 - 2) Poison Control Center or Medical Command for possible order for activated charcoal.^{3,4,5}
 - b. **Inhaled Toxins.** Treat all symptomatic (e.g. SOB, cough, headache, decreased LOC) patients as follows:
 - 1) Only personnel with proper training and wearing proper PPE should enter environments that may have toxic gases.
 - 2) Remove patient from environment.
 - 3) Ventilate, if needed.
 - 4) Administer 100% oxygen.

- a) **WARNING: Pulsoximetry monitors give false readings in patients that have been exposed to carbon monoxide or cyanide, and these devices should never be used in these patients.**
- c. **For Absorbed Toxins:**
 - 1) Remove contaminated clothing.
 - 2) Flush affected area copiously:
 - a) Liquid substance- Irrigate with copious amounts of room temperature water. Do not contaminate uninjured areas while flushing.
 - b) Dry substances- With gloves and appropriate PPE, brush remaining powder from skin and clothing, then irrigate with copious amounts of water.
 - c) Eyes- Flush affected eyes continuously with water or saline if eye exposure.
- d. **For Injected Poisons/ Snakebite:**
 - 1) Identify type of snake or other animal (e.g. scorpion), if safe and possible. If identity of a snake is not known, all victims of snakebite should be treated as if the snake is poisonous. Do not delay transport while attempting to capture or kill a snake.
 - 2) Calm patient.
 - 3) Administer high-flow oxygen, if respiratory symptoms are present.
 - 4) Remove jewelry and tight clothing.
 - 5) Consider immobilizing the involved body part. If extremity involved, keep the extremity below the level of the patient's heart.
 - 6) Keep the patient as still as possible to reduce the circulation of the venom. Carry patient for transport, if possible.
 - 7) Apply constricting band proximal to bite if patient is hypotensive.
 - 8) **DO NOT APPLY ICE.**
- i) Transport.
- j) Monitor vital signs and reassess.
- k) Contact Medical Command or Poison Control Center³ if additional direction is needed.

Possible Medical Command Orders:

1. Administration of activated charcoal may be ordered^{4,5}:
 - a) **Adults:** 25 - 50 gm orally of pre-mixed activated charcoal.
 - b) **Children:** 1 gm/ kg orally or approximately 12.5 - 25 gm orally of pre-mixed activated charcoal.

Notes:

1. See Pulsoximetry protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%. Pulsoximetry is not accurate in patients with suspected exposure to carbon monoxide or cyanide and shall not be used in these situations.
2. Contact Poison Control Center or Medical Command before administering anything by mouth.
3. National **Poison Control Center telephone number is 800-222-1222**. EMS personnel must follow instructions from Poison Control Center unless the orders are superceded by orders from a medical command physician. These instructions must be documented on the PCR.
4. Activated charcoal may only be given by order of medical command or poison control.
5. Contraindications to charcoal:
 - a) Patient unable to swallow/protect airway.
 - b) Seizures.
 - c) Hydrocarbons ingestion (e.g. turpentine)
 - d) Caustic substance ingestion (e.g. liquid drain cleaner or milk pipe cleaner)
6. Note- some substances, like dry lime will cause a heat-producing reaction when mixed with water. Copious water should be available before beginning to irrigate.

Performance Parameters:

1. Review for documentation of orders received from Poison Control Centers or Medical Command.

- d. The EMS personnel must be able to identify the on-scene medical command physician as an individual who is associated with the service to provide on-scene medical command.
2. If a medical command physician who is not associated with the ambulance service arrives on-scene and offers assistance, follow the procedure related to bystander physician on scene (Procedure section A).

TRANSPORTATION OF SERVICE ANIMALS GUIDELINES

Purpose:

The purpose of this policy is to provide guidance to EMS personnel who encounter individuals who are assisted by service animals, including guide dogs for the visually impaired and other types of service animals. However, because of the nature of the services we provide it can sometimes be difficult to accommodate a patient and a service animal in an ambulance.

EMS personnel should be guided by this policy in determining whether service animals should be transported with the individual in the ambulance or wheelchair van, or whether alternate methods of transporting the service animal should be utilized.

Criteria:

- A. Any call involving a patient with service animals.

Exclusion Criteria:

- A. None.

Policy**A. All Patients with Service Animals:**

1. Service animals, for example, guide dogs utilized by visually impaired persons, shall be permitted to accompany the patient in the ambulance or wheelchair van unless the presence of the service animal will disrupt emergency or urgent patient care or there is some basis for the crew members to believe that the safety of the crew, the patient or others would be compromised by the presence of the service animal in the ambulance or wheelchair van
2. EMS personnel should assess the level of care required to provide competent medical attention to the patient.
3. When the presence of a service animal in the ambulance might interfere with patient care, jeopardize the safety of the crew, the patient or others, or cause damage to the ambulance or equipment, personnel should make other arrangements for simultaneous transport of the service animal to the receiving facility. Unless emergency conditions dictate otherwise, absolutely every effort must be made to reunite the patient with the service animal at the time of the patient's arrival at the receiving facility or other destination.
4. Acceptable alternative methods of transporting a service animal to the receiving facility include, but are not necessarily limited to, family members, friends or neighbors of the patient, or a law enforcement official. Attempt to obtain and document the consent of the patient for transport of the service animal by such person. If no such individuals are available, contact the service base or PSAP and request that additional manpower respond to transport the service animal.
5. Personnel should document on the patient care report instances where the patient utilizes a service animal, and should document on the patient care report whether or not the service animal was transported with the patient. If the service animal is not transported with the patient, a separate incident report should be maintained by the ambulance service describing the reasons that the service animal was not transported with the patient.

Notes:

1. EMS services in PA provide quality services to all individuals regardless of race, color, national origin, sex, disability, or creed, and comply with all applicable state and Federal laws regarding discrimination and access to public accommodations.

CRIME SCENE PRESERVATION GUIDELINES

Criteria:

- A. Any EMS encounter with a location that is the suspected or potential scene of a crime.

Exclusion Criteria:

- A. The safety of the EMS personnel is of paramount importance, and these guidelines do not come before the principles outlined in the Scene Safety Guideline # 102.
- B. These guidelines provide general information related to crime scene preservation. These guidelines are not designed to supercede an ambulance service's policy; however this general information may augment a service's policy.
- C. These guidelines do not comprehensively cover all possible situations, and EMS practitioner judgment should be used when the ambulance service's policy does not provide specific direction.

Procedure

- A. **Provide life saving measures:** ^{1, 2}
 1. Avoid cutting through holes in clothing that were created by bullets or knives.
 2. Retain all clothing, place in a paper bag.
 3. When transporting a patient who may be dying, ascertain name and/or description of assailant, if possible.
- B. **Consider wearing gloves for all patient care and other activities within the crime scene.**
- C. **In cases of obvious death, DO NOT move the body:**
 1. Leave the scene the same way you entered.
 2. Leave the scene in the same condition as when you entered.
 3. Do not allow anyone to enter the scene until police arrive.
- D. **Notify the investigating law enforcement officer of any alteration of the crime scene by EMS personnel including:**
 1. Any movement of furniture, tables, etc., by providers.
 2. The original position of the items.
 3. If you turned on lights.
 4. What you touched, moved, etc.
- E. **At an outdoor crime scene, do not disturb shoe prints; tire marks, shell casings, etc.**
 1. Limit movement at the crime scene.
 2. Attempt to keep others out of the area.
- F. **Firearms/Weapons:**
 1. Do not move a firearm (loaded or unloaded) unless it poses a potential immediate threat.
 2. Secure any weapon that can be used against you or the crew out of the reach of the patient and bystanders.
 - a. Guns should be handed over to a law enforcement officer if possible or placed in a locked space, when available.
 - 1) Place two fingers on the barrel of the gun and place in a secure area.
 - 2) Do not unload a gun.
 - b. Knives should be placed in a locked place, when available.
 3. When a firearm has been involved in an incident, do not clean or wipe a patient's hands. Consider covering a patient's hands with a paper bag during treatment/transport.
- G. **Listen for conversations overheard at the crime scene. Report any conversations to law enforcement officials.**

Notes:

1. Your first duty is to provide emergency medical care at the scene of an illness/injury.
2. Certain measures can be taken to assist law enforcement personnel in preserving a crime scene without jeopardy to the patient.

**INDWELLING INTRAVENOUS CATHETERS / DEVICES
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Patients that have an “Indwelling intravenous catheter without medication running.”¹
1. Includes any capped catheter that is inserted into a patient’s vein or artery including, but not limited to, saline/heparin locks, Broviac catheters, Hickman catheters, PICC lines, Mediports and arterio-venous dialysis catheters
- Or
- B. Patients that have a “Medication running that is part of the patient’s normal treatment plan:”
1. This includes medications and devices that the patient or his/her family has been taught to use and either have been managing by themselves or will manage by themselves at the transport destination. These devices or medications may require infrequent maintenance, but do not require regular nursing assessment or patient monitoring related to the medication that is being administered. Examples include, but are not limited to, transportation of a patient with an analgesic pump to home, rehabilitation, or nursing home.

Exclusion Criteria:

- A. More temporary intravenous medications like crystalloid fluids, antibiotics, intravenous drip medications that require frequent monitoring and maintenance, or intravenous pumps that are not part of the patient’s long-term care plan. These excluded medications are usually initiated before inter-facility or tertiary care transfer rather than before transfer to home, rehabilitation or nursing home care.

Procedure

- A. **All Patients:** BLS personnel may transport patients who meet the criteria of this protocol. If the patient has other symptoms or signs that warrant ALS care, then call for ALS if available.
- B. **Potential complications.** Handle as specified:
1. **Bleeding at insertion point:**
 - a. Apply direct, manual pressure using body fluid precautions and request assistance from ALS, if not controlled.
 2. **Leaking of fluids/medications:**
 - a. Clamp fluid line if possible and contact medical command.
 3. **Dislodged catheter:**
 - a. If no bleeding is present, tape securely in place and return to hospital² or health care facility that can provide a replacement line. (Please note: it is normal for some mid-line and PICC catheters to extend several centimeters outside the skin.)
 4. **Pump malfunction:**
 - a. Patients and/or family members, who have received proper education and training, should be allowed to troubleshoot alarms. Otherwise, request assistance from ALS or return to facility for intervention². Contact medical command for direction on disabling the pump until intervention is provided.
 5. **Infiltration or extravasation (leaking of fluid or blood into tissues characterized by pain and swelling at injection site):**
 - a. If possible, stop the infusion and return to the hospital² or health care facility for evaluation and replacement of line. Request assistance from ALS as needed. Apply cold pack to infusion site.
 6. **Suspected medication overdose or adverse medication reaction:**
 - a. Contact medical command or request assistance from ALS, if indicated.
 7. **Inadvertent puncture or transection of line:**
 - a. Immediately clamp patient end of fractured line and cover with sterile dressing to prevent air embolus and reduce infection risk. Request assistance from ALS, if indicated, and return to facility² for removal and/or replacement.

Notes:

1. Definitions:

- a. **Saline or heparin lock:** a short peripheral catheter (1-2”) usually present in the hand or forearm intended for intermittent infusions. A small length of tubing may or may not be present between the hub of the catheter and the locking cap. Saline or heparin flushes are used to maintain patency.
 - b. **Midline catheter:** Midline catheters are 3 to 8-inch peripheral catheters that are becoming an increasingly popular alternative to both short peripheral and Central Venous Catheters (CVC's). Midline catheters are inserted via the antecubital fossa into peripheral veins (such as the proximal basilic or cephalic veins, or distal subclavian vein; they do not enter central veins. Midline catheters are composed of either silicone or a polyurethane-elastomer hydrogel. **PICC catheters:** Peripherally inserted CVCs (PICCs) provide an alternative to subclavian or jugular vein catheterization and are inserted into the superior vena cava by way of the cephalic and basilar veins of the antecubital space.
 - c. **Surgically implanted central catheters:** including Hickman, Broviac, Groshong, and Quinton, commonly are used to provide vascular access to patients requiring prolonged IV therapy (e.g., chemotherapy, home infusion therapy, hemodialysis). In contrast to percutaneously inserted CVCs, these catheters have a tunneled portion exiting the skin and a Dacron cuff just inside the exit site that helps hold them in place. Skin sutures may or may not be present.
2. If closer to the planned destination health care facility, contact medical command for assistance in determining the best destination for the patient.
-

ABREVIATIONS: The following abbreviations are acceptable for use on the PaPCR.

EMS regions may publish an additional list of abbreviations that identify specific receiving facilities, EMS services, and other emergency agencies pertinent to that region.

@	at	BP	blood pressure
\bar{a}	before	brady	bradycardia
AAA	abdominal aortic aneurysm	BS	breath sounds
AAO	awake, alert, and oriented	BSA	body surface area
ab	abortion or miscarriage	Bicarb	sodium bicarbonate
ABC	airway, breathing & circulation	BSI	body substance isolation
abd	abdomen	BTLS	burns, tenderness, laceration, or swelling
ABG	arterial blood gas	BVM	bag-valve-mask
AC	antecubital fossa		
ACLS	advanced cardiac life support		
adm	admission		
AED	automated external defibrillator	\bar{c}	with
A fib	atrial fibrillation	C	centigrade or Celsius
A flutter	atrial flutter	C-1, etc.	first cervical vertebrae
AIDS	Acquired Immunodeficiency Syndrome	Ca ⁺⁺	calcium
A&Ox3	alert & oriented to person, place & time	CA	carcinoma or cancer
A&Ox4	alert & oriented to person, place, time & enent	CABG	coronary artery bypass graft
AKA	above knee amputation	CAD	coronary artery disease
ALS	advanced life support	CAO	conscious, alert & oriented
AM or a.m.	Before noon (ante meridian)	cap	capsule
AMA	against medical advice	cath	catheter
Amb	ambulance	CBC	complete blood count
AMI	acute myocardial infarction	cc	cubic centimeter
amp	ampule	CC	Chief Complaint
amt	amount	CCU	cardiac / coronary care unit
ant	Anterior	CHD	congenital heart disease
AOS	arrived on scene	chemo	chemotherapy
AP	Anteroposterior	CHF	congestive heart failure
approx	Approximately	CID	cervical immobilization device
ARDS	Adult Respiratory Distress Syndrome	cl	clear
ARC	AIDS related complex	Cl ⁻	chloride
ASA	aspirin (acetylsalicylic acid)	cm	centimeter
ASAP	as soon as possible	CMS	circulation, movement, & sensation
ASCVD	Atherosclerotic cardiovascular disease	CNS	Central Nervous System
ASHD	Atherosclerotic heart disease	CO ₂	Carbon Dioxide
A tach	atrial tachycardia	c/o	complains of
ATLS	advanced trauma life support	CO	carbon monoxide
A-V	arterio-venous	COLD	chronic obstructive lung disease
AV	atrioventricular	COPD	chronic obstructive pulmonary disease
ax	axillary	CP	chest pain
		CPAP	continuous positive airway pressure
BBB	bundle branch block	CPK	creatine phosphokinase
BBS	bilateral breath sounds	CPR	cardiopulmonary resuscitation
BCLS	basic cardiac life support	creat	creatinine
BG	blood glucose	CSF	cerebrospinal fluid
b.i.d.	twice per day	c-spine	cervical spine
bil or bilat	bilateral	CT	computerized axial tomography
BiPAP	biphasic positive airway pressure	CVA	stroke (cerebrovascular accident)
BLS	basic life support		
BM	bowel movement	D ₅ W	5% dextrose in water
		D ₅₀	50% dextrose
		D/C	disconnect; discharge; discontinue
		DCAP	deformity, contusions, abrasions, punctures / penetrations
		DCAPBTLS	deformity, contusion, abrasion, puncture/ penetration, burn,

	tenderness, laceration or swelling	GCS	Glasgow coma score
Defib	defibrillation	GI	gastrointestinal
Dept	department	gluc	glucose
Dig	digitalis; digoxin	gm	gram
DJD	degenerative joint disease	grav	gravida (number of pregnancies)
DKA	diabetic ketoacidosis	GSW	gunshot wound
DM	diabetes mellitus	gtts	drops
DNR	do not resuscitate	G-tube	gastric tube
DOA	dead on arrival	GU	genitourinary
DOB	date of birth	Gyne	gynecology
DOE	dyspnea on exertion	H ⁺	the element hydrogen
Dr.	Doctor	hr	hour
DSD	dry sterile dressing	h/a, HA	headache
dsg	dressing	HazMat	hazardous materials
DT's	delirium tremens	Hb	hemoglobin
DVT	deep vein thrombosis	HCO ³	bicarbonate
Dx	diagnosis	Hct	hematocrit
EBL	estimated blood loss	HCTZ	hydrochlorothiazide
ECF	extended care facility	HEENT	head, eyes, ears, nose, and throat
ECG	electrocardiograph	Hg	mercury
ED	emergency department	HIV	human immunodeficiency virus
EENT	eyes, ears, nose, throat	h/o	history of
e.g.	for example	hosp	hospital
EJ	external jugular	H+P	history and physical (examination)
EMA	Emergency Management Agency	HP	health professional
EMS	Emergency Medical Services	HPI	history of present illness/injury
EMT	Emergency Medical Technician	HR	heart rate
EMT-P	EMT - Paramedic	ht	height
Epi	epinephrine	HTN	hypertension
Est.	estimated	Hx	history
ET	endotracheal	H ₂ O	water
ETA	estimated time of arrival	ICP	intracranial pressure
ETC	Esophageal - Tracheal Combitube®	ICS	intracostal space
ETCO ₂	end tidal carbon dioxide	ICU	intensive care unit
etc.	et cetera (and others)	ID	intra-dermal, into the skin layers; Identify
ETD	estimated time of departure	IDDM	insulin dependent diabetes mellitus
ETT	Endotracheal tube	i.e.	that is
ETIOL	etiology	IM	intramuscular
ETOH	ethyl alcohol (ethanol)	immob	immobilized
exam	examination	in.	inch
exp	expiratory	inf	inferior
ext	extremity; external	insp.	Inspiratory
F	Fahrenheit	int	internal
F or ♀	female	IO	intraosseous
FB	foreign body	IPPB	intermittent positive pressure breathing
FD	fire department	IRDS	infant respiratory distress syndrome
Fe ⁺⁺	iron	Irreg	irregular
FHT	fetal heart tones	IUD	intrauterine device
FI O ₂	percent concentration of oxygen	IV	intravenous
fld	fluid	IVP	IV push
FMD	family medical doctor	IVR	idioventricular rhythm
FR	first responder	J	joule
freq	frequently	JVD	jugular venous distention
Fri	Friday	K ⁺	the element potassium
FSBG	finger stick blood glucose	KED	Kendricks Extrication Device
ft	foot	kg	kilogram
f/u	follow-up	KVO	keep vein open
fx	fracture		
FYI	for your information		
G	gravida		
ga.	Gauge		
GB	gall bladder		

○	Left	NAD	no acute distress
L or Lt	left	NaCl	sodium chloride
L	liter	NaHCO ₃	sodium bicarbonate
L-1, etc.	first lumbar vertebrae	NC	nasal cannula
L-spine	lumbar spine	ND	nondistended
lac	laceration	neg	negative
lat	lateral	neuro	neurological
LBB	long backboard	NG	nasogastric
LBBB	left bundle branch block	NGT	nasogastric tube
lb.	pound	NIBP	non-invasive blood pressure
LE	lower extremity (e.g. LLE or RLE)	NIDDM	non-insulin dependent diabetes mellitus
lido	lidocaine	NKA	no known allergies
liq	liquid	NKDA	no known drug allergies
LLL	left lower lobe (of the lungs)	nl or norm	normal
LLQ	left lower quadrant (of the abdomen)	N ₂ O	nitrous oxide
lpm	liter per minute	NPO	nothing by mouth
LMP	last menstrual period	NRB	non-rebreather
LOC	loss of consciousness; level of consciousness	NRM	non-rebeather mask
LPN	licensed practical nurse	NS	normal saline
LR	lactated ringers	NSR	normal sinus rhythm
L-spine	lumbar spine	NSS	normal saline solution
LS	lumbrosacral	NT	nontender
LSB	long spine board	NTG	nitroglycerin
LUL	left upper lobe (of the lungs)	N&V or N/V	nausea and vomiting
LUQ	left upper quadrant (of the abdomen)	NVD	nausea, vomiting and diarrhea
LVH	left ventricular hypertrophy	O ₂	oxygen
M or ♂	male	O ₂ sat	oxygen saturation
MAE	moves all extremities	OB	obstetrical
MAST	military (or medical) anti-shock trousers	OBS	organic brain syndrome
MAT	multifocal atrial tachycardia	occ	occasional
MC	medical command	OD	overdose
MCF	medical command facility	OK	all correct; alright
mcg	microgram	OM	otitis media
MCI	mass casualty incident	OOH DNR	out of hospital do not resuscitation (in relation to a PaDOH recognized OOH DNR order, bracelet or necklace)
MCL	mid-clavicular line	OOS	out of service
MCP	Medical Command Physician	O/S	on scene
med.	medication; medial	OTC	over the counter medications
mEq.	milliequivalent	oz.	ounce
mg	milligram	\bar{p}	post; after
MgSO ₄	magnesium sulfate	P or PR	pulse rate
MHMR	Mental Health and Mental Retardation	PA	physician assistant; Pennsylvania
MI	myocardial infarction	PAC	premature atrial contraction
MICU	mobile intensive care unit	PACU	post anesthesia care unit (i.e. recovery room)
min	minute	PAT	paroxysmal atrial tachycardia
ml	milliliter	palp	palpation
mm	millimeter	para	number of live births
mm Hg	millimeters of mercury (pressure)	PCN	penicillin
mod.	Moderate	PCO ₂	partial pressure of carbon dioxide
MOM	Milk of Magnesia	PCP	primary care physician; phencyclidine
Mon	Monday	PCR	Patient Care Report (PaDOH EMS)
MPH	miles per hour	PD	police department
MRI	magnetic resonance imaging	PE	pulmonary embolus; physical exam
MS	musculoskeletal; multiple sclerosis	PEA	pulseless electrical activity
MSO ₄	morphine sulfate	PEARL	pupils equal and reactive to light
MVA	motor vehicle accident	ped.	pediatric
MVC	motor vehicle crash/ collision	PEEP	positive end-expiratory pressure
Na ⁺	sodium		
N/A	not applicable; not available		

PEG	percutaneous endoscopic gastrostomy (as in PEG tube)
PERRL	pupils equal, round and reactive to light
PHRN	Prehospital Registered Nurse
PID	pelvic inflammatory disease
PJC	premature junctional contraction
PM or p.m.	post meridian or after noon
PMH	past medical history
pn	pain
PNC	premature nodal contraction
PND	paroxysmal nocturnal dyspnea
p.o.	By mouth
poss.	possible
post.	posterior
POV	privately owned vehicle
PR	pulse rate; per rectum or rectally
preg	pregnant
PRN	administer as needed
psi	pounds per square inch of pressure
PSP	Pennsylvania State Police
PSVT	paroxysmal supraventricular tachycardia
Pt. or pt.	patient
PTA	prior to arrival
PTX	pneumothorax
pulm.	pulmonary
PVC	premature ventricular contraction
q	every
qd	once daily
QID	four times a day
QRS	Quick Response Service
qt	quart
(R)	right
R or Rt.	right
RBBB	right bundle branch block
RBC	red blood cell count
RDS	respiratory distress syndrome
rec'd	received
reg	regular
Rehab	Rehabilitation
resp	respiration
RLL	right lower lobe (of the lungs)
RLQ	right lower quadrant (of the abdomen)
RN	registered nurse
R/O	rule out
ROM	range of motion
RR or R	respiratory rate
RRR	regular rate and rhythm (in relation to heart exam)
RSR	regular sinus rhythm
Rt.	right
RUL	right upper lobe (of the lungs)
RUQ	right upper quadrant (of the abdomen)
Rx	treatment; prescription; medication
\bar{s}	without
SAb	spontaneous abortion
Sat	Saturday
SB	sinus bradycardia

S. brady	sinus bradycardia
S. tach	sinus tachycardia
SA	sinoatrial
SIDS	sudden infant death syndrome
SL	sublingual
SNT	soft, nontender (related to abdominal exam)
SOB	shortness of breath
sol.	solution
SpO ₂	oxygen saturation (in blood plasma)
spont	spontaneous
SQ	subcutaneous
s/s	signs and/or symptoms
ST	sinus tachycardia
stat	immediately
STD	sexually transmitted disease
Sun	Sunday
SVT	supraventricular tachycardia
SW	stab wound
Sx	symptoms
Symp	symptoms
sym	symmetrical
syst	systolic
SZ	seizure
T	temperature
tab	tablet
tach	tachycardia
tachy	tachycardia
tbsp	tablespoon
TB	tuberculosis
TBSA	total body surface area
Tech	technician
Temp	temperature
TIA	transient ischemic attack
tid	three times per day
TKO	to keep open (related to IV fluid rate)
TPA	tissue plasiminogen activator
trach	tracheostomy
tsp	teaspoon
T-spine	thoracic spine
Tue	Tuesday
TV	tidal volume
Tx	treatment
UE	upper extremity (e.g. LUE or RUE)
Unk.	Unknown
Unresp.	unresponsive
URI	upper respiratory infection
UTI	urinary tract infection
vag	vaginal
VD	venereal disease
VF or V-Fib	ventricular fibrillation
VFD	volunteer fire department
vol.	volume
VS	vital signs
VT	ventricular tachycardia
V. Tach	ventricular tachycardia
WBC	white blood count
W/C	wheelchair
W/D	warm and dry
Wed	Wednesday
WNL	within normal limits

WPW	Wolff-Parkinson-White
wt.	weight
X	times or for (how long)
y/o	years old
yr.	year

=	equal
≠	not equal
<	less than
>	greater than
≤	less than or equal to
≥	greater than or equal to
≈, ~	approximately
#	number
/	per
↑	increase(d)
↓	decrease(d)
∅	none or no or absent
@	at
+	positive finding
–	negative finding
Δ	Change
°	degrees
1°	first degree; primary
2°	second degree; secondary
3°	third degree; tertiary
♂	male
♀	female