

McKinley County, City of Gallup and MedStar Ambulance

**EMERGENCY MEDICAL SERVICES
GUIDELINES**

TREATMENT GUIDELINES

EMS FIRST RESPONDER

EMT - BASIC

EMT- INTERMEDIATE

EMT-PARAMEDIC

Updated May 2018

ABDOMINAL PAIN

DESIGNATION OF CONDITION

Includes a chief complaint of moderate to severe abdominal pain from either medical or traumatic causes

EMPHASIS ON PATIENT CARE

Airway management, adequate perfusion, and transport

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs
4. Consider possible causes:
 - a. Gastrointestinal disorders
 - b. Blunt or penetrating trauma
 - c. DKA
 - d. Pancreatitis
 - e. Ruptured aneurysms or aortic dissection
 - f. Renal stones
 - g. Acute Myocardial Infarction (AMI)
 - h. Sexually transmitted disease
 - i. Pelvic Inflammatory Disease (PID)

Note: Any female of childbearing age who presents with abdominal pain, and signs & symptoms of shock, is considered to have suffered ruptured ectopic pregnancy until proven otherwise.

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. En-route, initiate one or two large bore IVs (determined by patient condition) of an isotonic fluid, infused at flow rate to maintain adequate end organ perfusion.
6. Analgesics, prior to physician evaluation are usually not appropriate. For long transports or when in doubt, contact Medical Control.

ALTERED MENTAL STATUS (FROM UNKNOWN CAUSE)

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: limited or no response to verbal or painful stimuli, inappropriate responses, irrational behavior and unable to ascertain causation.

EMPHASIS ON PATIENT CARE

Airway management, adequate perfusion

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated. If occult trauma is possible, consider spinal immobilization.
2. Secondary Management - History, physical exam, Vital Signs
3. Consider possible causes:
 - a. Diabetic Emergency
 - b. Overdose
 - c. CVA
 - d. AMI
 - e. Head Trauma
 - f. Dehydration
 - g. Syncope
 - h. Hypo/Hyperthermia
 - i. Shock or hypoperfusion
 - j. CNS Infection
4. Perform glucometry
 - a. If the glucose is < 80 mg/deciliter and associated signs and symptoms of Hypoglycemia, follow **Diabetic Emergencies Guidelines**.
 - b. If the glucose is > 80 mg/deciliter and narcotic overdose suspected, follow **Poisoning/Overdose Guidelines**.
5. If narcotic overdose or hypoglycemia is not suspected, transport the patient without delay to an appropriate medical facility.
6. If no ILS/ALS capability, radio for ILS or ALS intercept.
7. If patient exhibits signs and symptoms of shock, follow **Shock Guidelines**.

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ALTERED MENTAL STATUS (FROM UNKNOWN CAUSE) (cont.)**INTERMEDIATE PRE-HOSPITAL MANAGEMENT**

8. Initiate an isotonic solution; titrate to end organ perfusion.
9. Consider intraosseous route (EMT-I and above) if patient condition warrants and peripheral IV site is unobtainable.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

10. Administer Thiamine 100mg IM or IVP

Note: D50 administration may be harmful for patients with ischemic brain injury. However, D50 should never be withheld in any patient suspected of hypoglycemia. When in doubt, treat for hypoglycemia if unable to perform glucometry.

In cases of altered mental status as a result of narcotic overdose, after NALOXONE administration, the patient may rapidly awaken and become combative. This should be considered prior to insertion of an advanced airway.

AMPUTATIONS

DESIGNATION OF CONDITION

Characterized by partial or complete dissection of body limbs or tissue

EMPHASIS ON PATIENT CARE

Control hemorrhage; maintain adequate perfusion and oxygenation; preserve severed body parts

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated, consider appropriate tourniquet.
2. Secondary Management - History, physical exam, vital signs
 - a. Cover remaining part with sterile dressings, saturate with saline, cover with dry dressings, and elevate the injured extremity.
 - b. Wrap severed part in sterile gauze, preserving all amputated material. Dampen gauze with sterile saline. Place in a watertight container, place container in ice water, if available. **DO NOT FREEZE OR USE DRY ICE.**
 - c. Partial amputations should be dressed and splinted in alignment with the extremity to assure optimum blood flow.
3. Rapidly transport the patient and amputated tissue to appropriate medical facility.

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. En-route, initiate one or two large bore IVs (determined by patient condition) of an isotonic solution infused at a flow rate to maintain adequate end organ perfusion.
5. For use of narcotic analgesics, see **Pain Management Guidelines**.

ANAPHYLACTIC REACTION

DESIGNATION OF CONDITION

Signs and symptoms may include any one or all of the following: wheezing associated with bronchoconstriction and/or stridor associated with upper airway edema, tachycardia, tachypnea, dyspnea, diminishing lung sounds, diaphoresis, tripod positioning, facial swelling, hives, shock and perhaps a history of severe allergies. Respiratory involvement may or may not occur in all cases of anaphylaxis. Be aware of “silent chest” presentation in cases of severe respiratory distress associated with poor air exchange.

EMPHASIS ON PATIENT CARE

Maintenance of airway, adequate oxygenation, adequate perfusion

FIRST RESPONDER

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Rapidly transport the patient to an appropriate medical facility. Consider ILS or ALS intercept.
3. Secondary Management - History, physical exam, vital signs
4. Remove injection mechanism if still present and treat wound.
5. If patient exhibits respiratory distress: Administer the appropriate EPI-Pen; 1-8 years old, EPI-PEN JR and 8 years old+ regular Epi-pen

BASIC PRE-HOSPITAL MANAGEMENT

- a. Adult – If airway compromise, administer **EPINEPHRINE 1:1000** [0.3 mg] IM. May be repeated once in 10 minutes if hypotension or severe SOB is still present via a limited 0.3cc syringe.
- b. Pediatric - If airway compromise, administer **EPINEPHRINE 1:1000** [0.01 cc/kg (0.01 mg/kg)] IM. Via a limited 0.3cc syringe
- c. Consider administration of **ALBUTEROL** [5 mg] with or without **IPRATROPIUM** (0.5 mg)

INTERMEDIATE

6. Treatment should continue at the Intermediate and Paramedic level as follows:
 - d. Adult - administer **DIPHENHYDRAMINE** [20-50 mg] slow IVP at a rate of 1ml/min. or deep IM.
 - e. Pediatric - administer **DIPHENHYDRAMINE** [1 mg/kg] slow IVP or deep IM with a max dose of 50 mg.

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ANAPHYLACTIC REACTION (cont.)

- f. Administer **PREDNISON TABs** [1mg/kg, max of 60 mg] by mouth for age > 8 y/o or **SOLUMEDROL** If too unstable to take anything by mouth.
Adult: (125-250 mg) IV/IO
Ped: (1-2 mg/kg) IV/IO
- g. En route, initiate a large bore IV of an isotonic solution titrate to maintain end organ perfusion.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

7. If there is a marked decrease in BP, or the patient is displaying signs & symptoms of respiratory and/or cardiovascular collapse (**Paramedic only**):
- Adult - administer **EPINEPHRINE 1:10,000** [3-5 ml (0.3-0.5 mg)] slow IVP
 - Pediatric - administer **EPINEPHRINE 1:10,000** [0.01 mg/kg (0.1ml/kg)] IVP
 - Bolus at 10-20 cc/kg of an isotonic fluid
 - Repeat **EPINEPHRINE 1:10,000** [3 ml] every 10 minutes

NOTE. Cardiac monitoring (at all levels) will be done for all patients receiving Epinephrine.

BITES (NON-VENOMOUS ANIMAL, HUMAN)

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: local pain, swelling, and lacerations.

EMPHASIS ON PATIENT CARE

Scene safety, control of bleeding, prevent further contamination

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Assess the scene for safety. Remove patient to a safe area for assessment and treatment.
2. Primary Management - Assess airway, breathing and circulation and manage as indicated.
3. Secondary Management - History, physical exam, vital signs
4. Irrigate the wound with sterile solution.
5. Attempt to find the animal and check vaccination history. If the bite was from a human, if possible, ascertain the identity and medical history of the person.
6. **Do not attempt to secure animal**, leave it to the Police or Animal Control Officers. All animal bites must be reported. This will normally be done at medical facility.
7. Transport the patient to an appropriate medical facility.
8. If patient exhibits signs and symptoms of shock, follow **Shock Guidelines**.

BITES (VENOMOUS)

DESIGNATION OF CONDITION

Signs and symptoms may include any one or all of the following: pain, local swelling, puncture wounds, bleeding at site, tachycardia, tachypnea, vomiting, abdominal pain, numbness at extremities, and headache.

EMPHASIS ON PATIENT CARE

Scene safety, control of bleeding, prevent further contamination

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Assess the scene for safety. Remove patient to a safe area for assessment and treatment.
2. Primary Management - Assess airway, breathing and circulation and manage as indicated.
3. Manage bite wound and extremity
 - a. Remove jewelry from affected limb.
 - b. Stabilize extremity and place at the level of the heart.
 - c. Consider a constricting band (**restricting lymphatic flow only, checking often due to swelling**) 2” -3” above and below bite.
 - d. Irrigate bite with sterile isotonic solution or sterile water.
4. Initiate transport to an appropriate medical facility.
5. Secondary Management - History, physical exam, vital signs
 - a. Obtain history of bite.
 - i. Try to safely identify type of animal or insect.
 - ii. Ascertain time of bite and onset of signs and symptoms.
 - b. Keep patient calm and still.
 - c. If safe to do so, capture and contain the venomous species and if safely possible, transport for positive identification to identify the proper anti-venin.
6. If anaphylaxis develops, see **Anaphylactic Reaction Guidelines**.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

7. En route, initiate an IV (flow rate determined by patient condition) of an isotonic solution in an unaffected extremity.
8. Strongly Consider Pain Management Guidelines
 9. (Continued next page)

BITES (VENOMOUS) (cont.)**PARAMEDIC PRE-HOSPITAL MANAGEMENT**

8. If the bite was by a Black Widow, and severe signs and symptoms are present, consider **DIAZEPAM** [2.5 - 10 mg IV], if in doubt, contact Medical Control.

**Note: Rapid onset of signs and symptoms indicate a major envenomation.
Do not cut and attempt to remove poison.
Do not use any type of cryotherapy on bite wound.**

BURNS / THERMAL INJURIES

DESIGNATION OF CONDITION

Signs and symptoms may include any one or all of the following: Partial thickness - burns involving the epidermal and dermal layers characterized by reddening or blistering skin. Full thickness - burns involving all skin layers, muscle fascia, and/or charred black or grayish skin, dry in appearance.

EMPHASIS ON PATIENT CARE

Airway management, fluid replacement, and transport to a burn center after stabilization

SPECIAL NOTE: Alert receiving hospital of any inhalation injury ASAP involving possible cyanide toxicity, usually exhibited with high SpO₂ however patient remains in Respiratory Distress and Cyanotic. Foams, plastics, wool and many other substances produce cyanide when burned.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Stop the burning process, and remove from source.
2. Primary Management - Assess airway, breathing and circulation and manage as indicated.
3. Initiate transport to appropriate medical facility. Consider air evacuation and contact Medical Control for destination decisions.
4. Secondary Management - History, physical exam, vital signs
 - a. Estimate percentage of body surface area (BSA) affected and estimate partial or full thickness burns.
5. Remove jewelry and clothing unless adhered to skin.
6. Once the burning process has been stopped, place **dry** sterile dressings over burns, with no two burned surfaces touching.
7. Maintain normal body temperature.
8. Sterile wet dressings or water gel preparations can be applied to burns less than 10% BSA for 2nd and 3rd degree burns

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

8. En route, initiate a large bore IV of an isotonic solution and titrate it to end organ perfusion.
9. Initiate a second IV in an unburned area if possible and if patient condition warrants. If > 20% BSA affected, consider a 20 cc/kg fluid bolus.

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BURNS / THERMAL INJURIES (cont.)

10. Document all fluid administered.
11. Consider **MORPHINE SULFATE** [2 -20 mg IV] or **FENTANYL** [1 mg/kg IV] as authorized by Medical Control or under standing orders for Paramedics.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

13. With facial or airway involvement (singled nasal hair, soot inside nares, stridor etc.) early invasive airway management (Intubation) should be considered. See **Airway Management Guidelines and Pain Management Guidelines (airway)**.

Note: Do not apply electrodes to burned areas.

Rule of Nines

Adult:	Child:
Head-9%	Head-18%
Chest-18% or Back-18%	Chest-18% or Back-18%
Groin-1%	Groin-1%
Arms-9% each	Arms-9% each
Legs-18% each	Legs-13.5% each

BURNS / CHEMICAL INJURY

DESIGNATION OF CONDITION

Signs and symptoms include the following: evidence of dry or liquid chemical contamination, and reddening and/or blistering of the skin.

EMPHASIS ON PATIENT CARE

Decontamination, prevention of further injury and exposure, safety of providers

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Assess the scene for safety. Do not enter area until it has been determined safe for the EMT to have immediate contact with patient.
2. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Decontaminate by irrigating with water.
 - i. Remove all contaminated clothing.
 - ii. Brush away dry chemical, prior to irrigating.
 - iii. Irrigate for minimum of 20 minutes.
3. Remove jewelry and clothing prior to transport.
4. Transport to appropriate medical facility.
5. Secondary Management - History, physical exam, vital signs
 - a. Estimate percentage of Body Surface Area (BSA).
 - b. Assess for additional associated trauma.

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. En-route, initiate one or two large bore IVs (determined by patient condition) of an isotonic solution titrate to maintain adequate end organ perfusion.
7. For use of narcotic analgesics, see **Pain Management Guidelines**.

**Note: Do not apply electrodes to burned skin areas.
Maintain body warmth post irrigation.**

See special skill for Hydrofluoric acid burns

CARDIAC EMERGENCIES / CHEST PAIN

DESIGNATION OF CONDITION

Signs and symptoms may include any, none, or all of the following: sub-sternal chest pain, chest pressure, shortness of breath, diaphoresis, nausea, and vomiting, syncope, radiating pain to the jaw and arms, a feeling of impending doom, and history of cardiac problems.

EMPHASIS ON PATIENT CARE

Airway management, adequate perfusion and oxygenation, pain control and early transportation to an appropriate facility

FIRST RESPONDER PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Cardiac monitoring, and obtain a 12 - lead EKG if possible.
 - b. Administer Oxygen as appropriate to maintain SPO2 at about 93-95% no greater.
2. Transport the patient to an appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs
 - a. Obtain history including thrombolytic candidate screen
4. If the pain is consistent with ACS chest pain, administer **ASPIRIN** [81-324 mg PO] regardless if patient has taken own Aspirin or on “blood thinners”.

BASIC PRE-HOSPITAL MANAGEMENT

- 5.. If applicable, contact **ONLINE** Medical Control for administration of the patient's own **NITROGLYCERIN** every 3-5 minutes X 3, if BP > 100 systolic, HR > 60, and <140.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

6. En route, initiate an IV of an isotonic solution at a TKO rate and consider second IV if time permits.

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CARDIAC EMERGENCIES / CHEST PAIN (cont.)

7. If patient does not have nitroglycerin and is still in pain, BP > 100 systolic, HR > 60, and <140, consider **NITROGLYCERIN** [0.4 mg SL] every 3-5 minutes X 3, **ONLY IF IV IS INITATED**. If transport is prolonged, contact Medical Control for additional Nitroglycerin administration. Assess **MEDICATIONS**, if on Erectile Dysfunction Meds, do not administer unless under medical control.
8. Contact Medical Control for the administration of **MORPHINE SULFATE**, [2 - 20 mg] in 1-2 mg increments, slow IVP. Morphine should be administered slowly and incrementally to avoid nausea and hypotension. Alternately **FENTANYL** may be used [1 mg/kg] especially if there is sensitivity to Morphine

PARAMEDIC PRE-HOSPITAL MANAGEMENT

9. Follow **Pain Management Guidelines**.

Note: Current literature does not support the routine use of Lidocaine or Amiodarone, except possibly in significant ectopy (i.e. symptomatic couplets, runs of VT, and very frequent multifocal PVCs). See Ventricular Tachycardia (VT) Guidelines.

CARDIAC EMERGENCIES / MEDICAL CARDIAC ARREST

DESIGNATION OF CONDITION

Signs and symptoms include an unresponsive patient with absent carotid pulses.

EMPHASIS ON PATIENT CARE

CPR, defibrillation and ACLS intervention as rapidly as possible

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management – Defibrillation, assess airway, breathing and circulation and manage as indicated.
 - a. Determine cardiopulmonary arrest and time last seen conscious.
 - b. Ascertain if the patient has Advanced Directives (i.e. EMS DNR, Living Will) and if so, follow **Do Not Resuscitate Guidelines**.
 - c. If no Advanced Directives are present, consider moving the patient to a room where safe and effective resuscitation can occur.
 - d. Initiate CPR per current ILCOR guidelines, ventilating with 100% **OXYGEN**, until a defibrillator is available.
 - e. Turn the defibrillator/monitor on and apply defibrillation electrodes.
 - f. Analyze the EKG rhythm, and defibrillate as indicated.
 - g. Immediately resume CPR for 5 cycles despite any rhythm change, analyze rhythm after 2 minutes of CPR.
 - h. Insert advanced airway: (follow **Airway Management Guidelines**), and continue ventilation with 100% **OXYGEN**, and begin continuous chest compressions with ventilation every 6-8 seconds (adult) or 4-5 seconds (Ped) (Protected Airway CPR)
 - i. Administer additional, individual shocks, followed by CPR as indicated.
2. Contact Medical Control for transport or termination of resuscitation instructions.
3. Rapidly transport the patient as soon as possible to the nearest medical facility, and consider ALS intercept.

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CARDIAC EMERGENCIES / MEDICAL CARDIAC ARREST (cont.)**INTERMEDIATE PRE-HOSPITAL MANAGEMENT**

4. Initiate an IV of an isotonic solution at a TKO rate.
5. Defibrillation is the most effective means of terminating Ventricular Fibrillation (VF) and pulseless Ventricular Tachycardia (VT). Following defibrillation attempts, consider:
 - a. Administer **EPINEPHRINE 1: 10,000** [1 mg] every 3-5 minutes for duration of resuscitation until pulses return or the arrival of ALS. If indicated, defibrillate between drug administrations.

NOTE: Administration of D50 ONLY if BGL is obtained and proven hypoglycemic through a blood glucose test.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. Follow current ACLS guidelines, see specific Cardiac Guidelines.

CARDIAC EMERGENCIES / VF & VT (without a pulse)

DESIGNATION OF CONDITION

Signs and symptoms include an unresponsive patient with absent carotid pulses, and an EKG showing ventricular fibrillation or pulseless ventricular tachycardia.

EMPHASIS ON PATIENT CARE

CPR, defibrillation and ACLS intervention as rapidly as possible

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management – Assess airway, breathing and circulation and manage as indicated.
 - a. Determine cardiopulmonary arrest and time last seen conscious.
 - b. Ascertain if the patient has Advanced Directives (i.e. EMS DNR, Living Will) and if so, follow **Do Not Resuscitate Guidelines**.
 - c. If no Advanced Directives are present, consider moving the patient to a room where safe and effective resuscitation can occur.
 - e. Unwitnessed Arrest: Initiate CPR for 2 minutes (5 cycles) under current ILCOR guidelines, ventilating with 100% **OXYGEN**, turn on AED follow instructions.
 1. RESPONDER Witnessed Arrest: **Defibrillate immediately then begin CPR**
 - g. If patient is in V-Fib or Pulseless V-Tach., and shock is advised, **clear** area and deliver a single shock as indicated by the defibrillator.
 - h. Resume CPR immediately for 5 cycles or 2 minutes.
 - i. Insert advanced airway: (follow **Airway Management Guidelines**), and continue ventilation with 100% **OXYGEN**.
 - j. Re-check pulse and re-verify EKG rhythm. If no change in rhythm and the patient is still pulseless, repeat defibrillation attempts and CPR as necessary and initiate transport.

Note: After the initial defibrillation; if transport time to the nearest ACLS provider is < 20 minutes away, initiate transport, defibrillate en route as needed. If transport time to the nearest ACLS provider is > 20 minutes away, contact Medical Control for instructions and consideration of terminating resuscitation.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

2. Initiate an IV of an isotonic solution at a TKO rate.
3. After the initial defibrillation, administer **EPINEPHRINE 1: 10,000** [1 mg] every 3-5 minutes for duration of resuscitation until pulses return or the arrival of ALS. If indicated, defibrillate between drug administrations. To make **1:10,000** place 1 ml **1:1,000** in 9 ml saline.

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CARDIAC EMERGENCIES / VF & VT (without a pulse) (cont.)**PARAMEDIC PRE-HOSPITAL MANAGEMENT**

4. After initial defibrillation (360 joules if monophasic, or biphasic equivalent according to manufacturer's guidelines), with CPR in progress, intubate the patient with ET tube (if patient is not adequately ventilated with MLA or laryngeal device).
5. In persistent or recurrent VF/VT without a pulse:
 - a. With CPR in progress, administer:
 - i. **VASOPRESSIN** [40 units] IVP or IO, **single dose**, 1 time only.
 - OR**
 - ii. **EPINEPHRINE 1:10,000** [1 mg] IVP or IO,
or [2-2.5 mg] **1:1,0000** ET, every 3-5 minutes.
 - b. Repeat defibrillation at the appropriate energy level, immediately followed by CPR. Administration of appropriate drugs should occur during CPR.
 - c. Consider administration of:
 - i. **AMIODARONE** [300 mg] IVP or IO followed by 10 ml saline, rapid flush. May repeat once at 150 mg.
 - OR**
 - ii. **LIDOCAINE** [1.0-1.5 mg/kg] IVP or IO, [2-3 mg/kg] ET
 - d. Defibrillate
 - THEN**
 - e. Repeat **EPINEPHRINE 1:10,000** [1mg]
 - f. Defibrillate
 - g. Repeat **LIDOCAINE if given** [0.5-0.75]
 - h. Defibrillate
 - i. Repeat **EPINEPHRINE 1:10,000** [1 mg]
 - j. Defibrillate
 - k. Repeat **LIDOCAINE if given** [0.5-0.75] (total maximum dose - 3 mg/kg IVP).
 - l. Defibrillate
 - m. Consider **MAGNESIUM SULFATE** [2 g] IVP (if suspected hypomagnesemia or Torsades)
 - n. Consider **SODIUM BICARBONATE** [1 mEq/kg] IVP if down time longer than 10 min.
 - o. Contact Medical Control for transport or termination of resuscitation instructions.

Note: Bicarbonate has been de-emphasized in ACLS. Acidosis should be managed by insuring that the patient has adequate ventilations and perfusion.

CARDIAC EMERGENCIES / ASYSTOLE, (witnessed rhythm deterioration)

DESIGNATION OF CONDITION

The patient will be unconscious, unresponsive, pulseless, apneic, and show no electrical activity on the monitor (confirmed by 10-second strips in at least two consecutive leads, when possible). This guideline is considered for a **normo-thermic** patient.

EMPHASIS ON PATIENT CARE

CPR, ACLS intervention, possible decision to terminate resuscitation

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Determine cardiopulmonary arrest and time last seen conscious.
 - b. Ascertain if the patient has Advanced Directives (i.e. EMS DNR, Living Will) and if so, follow **Do Not Resuscitate Guidelines**.
 - c. If no Advanced Directives are present, consider moving the patient to a room where safe and effective resuscitation can occur.
 - d. Initiate CPR, ventilating with 100% **OXYGEN**, until a defibrillator is available.
 - e. Turn the defibrillator/monitor on and apply defibrillation electrodes.
 - f. Analyze the EKG rhythm. If the patient is in asystole, continue CPR.
2. Consider consult with Medical Control for transport or termination of resuscitation orders.
3. Consider inserting advanced airway (follow **Airway Management Guidelines**).
4. If indicated, initiate rapid transport with ALS intercept.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

5. Initiate an IV of an isotonic solution at a TKO rate.
6. Administer **EPINEPHRINE 1: 10,000** [1 mg] every 3-5 minutes for duration of resuscitation until pulses return or the arrival of ALS.

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CARDIAC EMERGENCIES / ASYSTOLE, (witnessed rhythm deterioration cont.)**PARAMEDIC PRE-HOSPITAL MANAGEMENT**

7. Intubate the patient with ET tube (if patient is not adequately ventilated with basic airway management).
8. Consider possible underlying causes of asystolic cardiac arrest, and treat accordingly:
 - a. Hypoxia
 - b. Hyperkalemia
 - c. Hypokalemia
 - d. Preexisting acidosis
 - e. Drug overdose
 - f. Hypothermia
9. Repeat **EPINEPHRINE 1:10,000** [1 mg] IVP or IO, [2-2.5 mg (**1:1,000** in 10ml saline)] ET, every 3-5 minutes.
11. Consider immediate **TRANSCUTANEOUS PACING (TCP)**, if witnessed rhythm deterioration.
12. If no rhythm change, repeat **EPINEPHRINE 1:10,000**[1 mg].
13. Consider **SODIUM BICARBONATE** [1 mEq/kg] IVP if down time longer than 10 min.
14. Contact Medical Control for transport or termination of resuscitation instructions.

Note: Bicarbonate has been de-emphasized in ACLS. Acidosis should be managed by insuring that the patient has adequate ventilations and perfusion.

CARDIAC EMERGENCIES / TRAUMATIC CARDIAC ARREST

DESIGNATION OF CONDITION

Signs and symptoms include an unresponsive patient with absent carotid pulses with a high suspicion of traumatic origin.

EMPHASIS ON PATIENT CARE

CPR, ACLS intervention, possible decision to terminate resuscitation

Verify that the mechanism of injury is consistent with the patient presentation, and cause of arrest

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Minimal/manual C- spine precautions if indicated.
 - b. Initiate CPR, ventilate with 100% **OXYGEN**.
2. Contact Medical Control for transport and/or termination of resuscitation orders.
3. Transport the patient as soon as possible to the nearest medical facility, consider ALS intercept if transport time > 10 minutes.
 - a. Insert advanced airway (follow **Airway Management Guidelines**).
 - b. Turn the defibrillator/monitor on and apply defibrillation electrodes.
 - c. Analyze the EKG rhythm.
 - d. If patient is in V-Fib or Pulseless V-Tach., follow **Medical Cardiac Arrest Guidelines** if arrest is not due to obvious trauma. Remember the arrest may have preceded trauma and be the underlying cause.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En route, initiate two large bore IVs of an isotonic solution wide open.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. Intubate the patient with an ET tube if not already secured
6. If patient is in Pulseless Electrical Activity (PEA) **follow PEA Guidelines**, consider cause, and treat accordingly:
 - a. Tension pneumothorax
 - b. Cardiac tamponade
 - c. Hypovolemia
 - d. Acidosis
 - e. Overdose
 - f. Hypoxia
 - g. Pulmonary emboli
 - h. AMI
 - i. Traumatic asphyxia
7. If not already done, contact Medical Control for transport or termination of resuscitation orders.

CARDIAC EMERGENCIES / BRADYCARDIA-SYMPOMATIC

DESIGNATION OF CONDITION

The patient will present with a hemodynamically unstable bradycardia (BP <90mmHg systolic, decreased LOC, and a heart rate of < 60 bpm with associated signs and symptoms including: chest pain, shortness of breath, etc).

EMPHASIS ON PATIENT CARE

Maintain adequate oxygenation and perfusion, ALS intervention

FIRST RESPONDER – BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Cardiac monitoring, and obtain a 12 - lead EKG, if possible.
 - b. Administer oxygen as appropriate
 - c. If the patient has chest pain consistent with cardiac pain, administer **ASPIRIN** [81-324 mg PO].
2. Transport the patient as soon as possible to the nearest medical facility, consider ALS intercept.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate an IV of isotonic solution at a flow rate determined by patient condition.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. If the patient is symptomatic, consider **TRANSCUTANEOUS PACING** at a rate of 70 bpm, assess for electrical and mechanical capture. If patient is showing a Second Degree Type II or Third Degree block, **TRANSCUTANEOUS PACING** is the treatment of choice.
6. Consider sedation with **DIAZEPAM** [2-10 mg] or **MIDAZOLAM** [1-5 mg] in conjunction with **TRANSCUTANEOUS PACING**.

(Continued next page)

CARDIAC EMERGENCIES / BRADYCARDIA-SYMPOMATIC (cont.)

7. Consider **ATROPINE SULFATE** [0.5 mg] IVP, repeated every 3-5 minutes up to .04 mg/kg (3 mg).

NOTE: ATROPINE may be harmful in Second Degree Type II or Third Degree blocks, use TCP. ATROPINE should be considered before pacing for suspected vagal induced bradycardias. ATROPINE will not be effective in patients who have had heart transplants.

7. Consider **DOPAMINE** [2-20 mcg/kg/min.], or **EPINEPHRINE DRIPS** [2-10 mcg/min.]: titrate to effect.

CARDIAC EMERGENCIES / HYPERTENSION (EMERGENT)

DESIGNATION OF CONDITION

The patient may be experiencing hypertension sufficient to produce clinical end organ dysfunction most commonly in the cardiovascular system, CNS, and kidneys. Diastolic pressure usually exceeds 130 mmHg. Common presentations may include: severe headache, chest pain, CHF, blurred vision, and confusion.

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation and perfusion, and transport

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to appropriate medical facility. Consider ALS intercept.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. En-route, initiate an IV of isotonic solution at a TKO rate.
5. Treat other findings (chest pain, CHF) according to the appropriate guidelines.

Note: Most patients with hypertension are asymptomatic and do not require pre-hospital lowering of blood pressure.

CARDIAC EMERGENCIES / PULSELESS ELECTRICAL ACTIVITY (PEA)

DESIGNATION OF CONDITION

Patient presenting in cardiac arrest with organized electrical activity noted on the cardiac monitor, but without corresponding pulses palpated. Determination and correction of underlying cause of the PEA may improve outcome. Specific problems which may cause PEA:

- Tension pneumothorax
- Hypovolemia
- Cardiac tamponade
- Acidosis
- AMI
- Hypothermia
- Hyperkalemia
- Pulmonary embolism
- Drug overdose

EMPHASIS ON PATIENT CARE

CPR, rapid transport, management of associated conditions

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Initiate CPR
 - b. Insert advanced airway (follow **Airway Management Guidelines**).
 - c. Apply defibrillation electrodes and begin cardiac monitoring.
2. Transport the patient as soon as possible to the nearest medical facility, consider ALS intercept.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate one or two large bore IVs of an isotonic solution with 20 cc/kg fluid bolus. Repeat as indicated.
5. Administer **EPINEPHRINE 1:10,000** [1 mg] IVP every 3-5 minutes as long as the patient remains pulseless.

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CARDIAC EMERGENCIES / PULSELESS ELECTRICAL ACTIVITY (PEA) **(cont.)**

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. Intubate, if advanced airway has not been placed or if airway management is ineffective.
7. Repeat **EPINEPHRINE 1:10,000** [1 mg] IVP or IO, [2-2.5 mg (**1:1,000** in 10ml saline)] ET, every 3-5 minutes.
8. If patient is bradycardic (heart rate < 60 bpm), administer **ATROPINE SULFATE** [1 mg] IVP or IO, [2-2.5 mg] ET, every 3-5 minutes to a maximum dose of 0.04 mg/kg (3mg).
9. Consider **SODIUM BICARBONATE** [1 mEq/kg] IVP, especially if hyperkalemia, tricyclic antidepressant overdose or metabolic acidosis is suspected.
10. Treat for any suspected reversible causes (identified in the designation of condition) within applicable scope of practice.
11. Contact Medical Control for transport or termination of resuscitation orders.

CARDIAC EMERGENCIES / NARROW COMPLEX TACHYCARDIAS

DESIGNATION OF CONDITION

Patient presentation with heart rate over 150 with supraventricular focus. Patients with narrow complex tachycardia, are often familiar with their problem and symptoms. **Those who do not show evidence of hemodynamic instability require no prehospital medications.** Patients presenting with hemodynamic instability, evidence of poor perfusion, chest pain, altered level of consciousness, shortness of breath, cyanosis or evidence of congestive heart failure are considered unstable and invasive intervention should be implemented per this protocol.

EMPHASIS ON PATIENT CARE

Maintain adequate perfusion, adequate oxygenation, and ALS intervention

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to appropriate medical facility. Consider ALS intercept.
3. Secondary Management - History, physical exam, vital signs
- 4.. If there is chest pain consistent with cardiac pain, administer **ASPIRIN** [81-324 mg PO].

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate an IV of an isotonic solution, titrate to maintain end organ perfusion.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. If **STABLE** Narrow Complex Tachycardia:
 - a. Trendelenburg position and Valsalva maneuver may be attempted.
6. If **UNSTABLE** Narrow Complex Tachycardia:
 - a. Patients with significant decompensation may require immediate **Synchronized Cardioversion**. If the patient is conscious, consider sedation using **DIAZEPAM** [2-10 mg] or **MIDAZOLAM** [1-5 mg] IVP, prior to cardioversion, if appropriate to patient condition.
 - i. Cardiovert at 50-100 joules
 - ii. Cardiovert at 200 joules
 - iii. Cardiovert at 300 joules
 - iv. Cardiovert at 360 joules

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CARDIAC EMERGENCIES / NARROW COMPLEX TACHYCARDIAS (cont.)

- b. In patients with mild to moderate decompensation:
- i. Administer **ADENOSINE** [6 mg] rapid IV push (1-2 seconds) followed by a 20 cc flush of Normal Saline.
 - ii. Repeat **ADENOSINE** [12 mg] rapid IV push (1-2 seconds) followed by a 20 cc flush of Normal Saline, after 1-2 minutes, if indicated.
 - iii. Repeat **ADENOSINE** [12 mg] rapid IV push (1-2 seconds) followed by a 20 cc flush of Normal Saline, after 1-2 minutes, if indicated.
 - iv. If patient's condition deteriorates, perform synchronized cardioversion immediately.
- c. If patient's cardiac rhythm changes during procedure, treat per applicable guidelines.

Caution: Use of Nitroglycerine or Morphine Sulfate for patients with this rhythm may precipitate cardiac arrest or decompensation.

CARDIAC EMERGENCIES / WIDE COMPLEX TACHYCARDIA (with a pulse)

DESIGNATION OF CONDITION

Patient who presents with sustained Ventricular Tachycardia or Wide Complex Tachycardia with pulse present. These patients may be conscious or unconscious. “Unstable” indicates symptoms such as chest pain, dyspnea, hypotension, CHF, ischemia, or unconsciousness. “Stable” patients with sustained ventricular tachycardia will not have these symptoms, but must be monitored carefully for onset of such symptoms.

EMPHASIS ON PATIENT CARE

Maintain adequate perfusion, adequate oxygenation, ALS intervention

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Turn the defibrillator/monitor on and apply defibrillation electrodes.
3. Analyze the EKG rhythm.
4. Initiate transport to an appropriate medical facility. Consider ALS intercept.
5. Secondary Management - History, physical exam, vital signs
6. If there is chest pain consistent with cardiac pain, administer **ASPIRIN** [81-324 mg PO].
7. If the patient becomes unconscious and pulseless, follow **Cardiac Arrest Guidelines**.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

6. En-route, initiate an IV of an isotonic solution at a TKO rate.

Caution: Use of Nitroglycerin or Morphine Sulfate for patients with this rhythm may precipitate cardiac arrest or decompensation.

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CARDIAC EMERGENCIES / WIDE COMPLEX TACHYCARDIA (cont.)**PARAMEDIC PRE-HOSPITAL MANAGEMENT**

8. If stable wide complex tachycardia or if patient has mild symptoms of decompensation:
- a. Administer **LIDOCAINE** [1.0 mg/kg] IVP.
 - b. If tachycardia does not resolve, repeat **LIDOCAINE** [0.5 mg/kg] every 5 minutes until VT resolves, or up to 3 mg/kg of **LIDOCAINE** has been administered.
 - c. If tachycardia is resolved, start **LIDOCAINE DRIP** [start at 2 mg/min].
 - d. If no response to Lidocaine and supraventricular tachycardia with aberrancy is suspected, consider **ADENOSINE** [6 mg] rapid IV push (1-2 seconds) followed by a 20 cc flush of Normal Saline.

OR
 - e. Consider **AMIODARONE** [150 mg] over 10 min.
 - f. Consider **ADENOSINE** [6 mg] rapid IV push (1-2 seconds) followed by a 20 cc flush of Normal Saline and if not resolved, 12 mg rapid IV push, if not resolved a second IV push.

THEN
 - g. May also consider **MAGNESIUM SULFATE** [1-2 g diluted in 10 ml of D5W over 1-2 min.] slow IVP. For Torsades de Pointes, Magnesium Sulfate is the drug of choice and may require doses up to 5-10 g administered slow IVP.
9. If hemodynamically unstable wide complex tachycardia:
- a. Prepare for immediate **Synchronized Cardioversion**, may give brief trial of **LIDOCAINE** [1.0 mg/kg] IVP. If the patient is conscious, consider sedation using **DIAZEPAM** [2-10 mg] or **MIDAZOLAM** [1-5 mg] IVP, prior to cardioversion, if appropriate to patient condition.
 - i. Cardiovert at 100 joules
 - ii. Cardiovert at 200 joules
 - iii. Cardiovert at 300 joules
 - iv. Cardiovert at 360 joules
 - v. Or at the appropriate energy selection recommended by the manufacture.
 - b. If patient's cardiac rhythm changes during procedure, treat per applicable guidelines.

Note: Although the loading dose of Lidocaine does not need to be reduced, the maintenance dose should be decreased by 50% in the presence of impaired hepatic blood flow and in patients > 70 years of age.

CEREBROVASCULAR ACCIDENT (CVA)

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: disorientation, weakness or paralysis to one side, excessive drooling, facial drooping, unequal pupils, difficulty in speaking, elevated BP, headache, and/or seizures. Patient may have a past history of CVA or TIA.

EMPHASIS ON PATIENT CARE

Maintain adequate perfusion, adequate oxygenation, and transport

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Oxygen to maintain SPO2 to 93-95% no greater.
2. Perform prehospital stroke assessment
 - a. Complete the thrombolytic check sheet
3. Establish time when patient last know normal.
4. Transport the patient to an appropriate medical facility.
5. Obtain BGL, correct as necessary
6. Secondary Management - History, physical exam, vital signs

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

7. En-route, initiate an IV of isotonic solution at a TKO rate.

CHILDBIRTH (Emergency)

DESIGNATION OF CONDITION

Determining imminent birth may include: regular contractions lasting 45 - 60 seconds at 1-2 minutes intervals and very hard; crowning occurs; patient feels the urge to bear down or feels she needs to have a bowel movement.

EMPHASIS ON PATIENT CARE

Pre-delivery: Treat the child by treating the mother.

Post delivery: Maintain warmth and adequate respirations for the baby.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
 - a. Obtain medical and obstetrical history including:
 - i. Due date (EDC)
 - ii. When did contractions start, how close, bleeding, and does she feel the need to push.
 - iii. Previous or present illness, cardiac problems, diabetes, etc.
 - iv. Number of pregnancies, live births, and miscarriages (gravida, para, and abortions).
 - v. Patient's age
 - vi. Last menstrual period (LMP)
 - vii. Complications of prior pregnancies, deliveries, prior C-section.
 - viii. Summary of prenatal care
 - ix. Use of drugs
 - b. If birth is imminent and the following conditions present, contact a physician (preferably one who does obstetrics) for delivery instructions:
 - i. Multiple births
 - ii. Excessive bleeding
 - iii. Breech presentation
 - c. Consider rapid transport and ALS intercept for the following (**see Emergency Childbirth Complications**):
 - i. Limb presentations
 - ii. Transverse presentation
 - iii. Unlikely to deliver vaginally

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CHILDBIRTH (cont.)

3. If the decision is made to deliver the baby in the prehospital setting:
 - a. Reassure mother - encourage to not bear down between contractions, but to breathe in “pants”.
 - b. Place slight pressure over the head with hand to prevent rapid delivery, but do not attempt to delay delivery.
 - c. Once head delivers, instruct mother to stop pushing.
 - d. Suction the mouth then the nose with bulb syringe as soon as the face is visible.
 - e. Support body as delivery proceeds. Baby will be extremely slippery. **DO NOT** pull on baby.
 - f. Suction mouth then nose again (serves as stimulation).
 - g. Dry and wrap in blanket, cover head. Stimulate the baby to breathe/cry. If baby does not breathe spontaneously, continue stimulation efforts, apply oxygen and prepare to ventilate with BVM. Take baby’s pulse at the cord. If >100, observe and continue drying, warming and stimulating. Place on mother’s abdomen and encourage mother to nurse the baby. If <100 assist ventilations. Do APGAR scoring.
 - h. Using clamps or hemostats, clamp the cord, 6-10 inches from baby, 2-3 inches apart, then cut between clamps.
 - i. If bleeding occurs post delivery, gently massage mother’s abdomen/uterus.
 - j. Wait for placenta delivery. If placenta is not delivered in 15 min. then begin transport. Do not pull on the umbilical cord (deliver birth products to ED).
 - k. Place sterile pad over vaginal opening.
 - l. Cover mother with clean and dry bedding.
 - m. Record time of the birth.
 - n. Do not let the neonate become hypothermic.
4. Transport mother and baby to the nearest hospital. Bring all blood soaked pads and passed tissue to hospital.
5. Monitor the mother and baby’s vital signs and APGAR every 5 minutes.

Neonate Vital Signs			
Age	Respirations	Pulse	Blood Pressure (Systolic)
Newborn	30-60	100-160	50-70

The APGAR Score				SCORE	
Sign	0	1	2	1min	5 min
Skin Color	Blue, pale	Body pink, extremities blue	Completely pink		
Heart Rate	Absent	< 100	>100		
Irritability	No response	Grimaces	Cries		
Muscle Tone	Limp	Some flexion of extremities	Active motion		
Resp. Effort	Absent	Slow & irregular	Strong cry		
			TOTAL SCORE		

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CHILDBIRTH (cont.)

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

6. If the mother continues to bleed, initiate an IV of isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
7. Do not establish the IV in the antecubital, hand, or wrist unless no other site is available. Use the forearm.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

8. If the placenta has delivered, and heavy vaginal bleeding continues, administer **OXYTOCIN** [10 - 20 USP units in 500 ml Isotonic Solution] at a flow rate of 10-15 gtts/min.

COMPLICATIONS (all levels)

9. If the cord is wrapped around the baby's neck:
 - a. Gently pull and slip over the head or shoulders.
 - b. If it will not slip over either, clamp cord twice, and cut between clamps and proceed with delivery.
10. If the delivery is breech, but imminent, attempt to establish contact with a physician (who does obstetrics) for delivery instructions:
 - a. Support infant's body until the upper back appears.
 - b. Grasp the iliac wings and apply gentle downward traction. **DO NOT** apply traction to the infant's legs or back, as this may cause dislocation of the back or adrenal hemorrhage.
 - c. Swing the infant's body in the direction of least resistance, either to the right or to the left. By alternate swinging, both shoulders should deliver posteriorly. Keep the infant in the face down position.
 - d. By splinting the Humerus and applying **gentle** traction with two fingers, the arms can be delivered.
 - e. Gentle abdominal compression of the mother's uterus will engage the infant's head. Swing the infant's head upwards until the body is in a vertical position.
 - f. When the head delivers, suction and wrap the baby.
 - g. Clamp the umbilical cord with two cord clamps and cut the cord between the clamps with sterile scalpel.

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CHILDBIRTH (cont.)

11. If there is a limb presentation:

- a. Place the mother in knee-chest position.
- b. Administer oxygen at a moderate concentration. Ventilate as needed.
- c. Transport immediately.

12. If the cord is prolapsed:

- a. Place a moist sterile dressing over cord.
- b. Place mother in knee-chest position.
- c. Administer oxygen at a moderate concentration. Ventilate as needed.
- d. Insert gloved hand into vagina and gently push baby's head away from the cord until it pulsates.
- e. Transport immediately.

13. If the patient is experiencing preeclampsia (BP > 130/90 & edema):

- a. Keep patient in a left lateral decubitus position and keep away from intense stimulus (i.e. bright lights, loud noises, etc.). Headache, visual problems, abdominal pain or BP > 160/100 indicate more severe disease.
- b. Secure the airway and administer OXYGEN titrated to patient condition. For Intermediate and Paramedic level, initiate IV of an isotonic solution TKO.
- c. Anticipate seizures. If they occur, at the Paramedic level, consider **MAGNESIUM SULFATE** [4 gms] slow IVP or IM and **DIAZEPAM** [2-10 mg] slow IVP or rectally.
- d. For Magnesium Sulfate toxicity, administer **CALCIUM PREPERATION** [5-10 ml] slow IVP. (Do not exceed 2ml/min.
- e. Unless delivery is imminent, transport immediately.

15. If Meconium staining is present:

- a. Perinatal suctioning of meconium stained fluid is no longer recommended.
- b. The baby should be intubated if: (AHA - PALS)
 - i. Bag-valve-mask ventilation is necessary, but ineffective
 - ii. Tracheal suctioning is required for aspiration of thick, particulate meconium only for non-vigorous infants who may be obstructed with thick meconium.
 - iii. Prolonged positive-pressure ventilation is necessary

NOTE: This is the only circumstance when a Paramedic may intubate a patient under age 8.

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CHILDBIRTH (cont.)

16. If the patient experiences excessive bleeding:

- a. For all patients, initiate an IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion (Intermediate and Paramedic levels only).
- b. Pre-delivery
 - i. Consider possible placental abruption, especially if associated with trauma or cocaine use.
 - ii. If unstable vital signs (or fetal heart tones <100), notify emergency department of possible need for c-section.
- c. Post-delivery
 - i. Most likely uterine stretching, especially after delivery of the placenta
 - ii. Massage fundus of the uterus (located suprapubically) vigorously.
 - iii. Paramedic Level, if bleeding continues administer **OXYTOCIN** [10 - 20 USP units in 500 ml Isotonic Solution] at a flow rate of 10-15 gtts/min.
 - iv. Initiate rapid transport

17. If shoulder dystocia (fetal shoulders impact the symphysis pubis) occurs:

- a. Position the mother on her left side in a dorsal-knee-chest position to increase the diameter of the pelvis.
- b. Attempt to guide the infant's head downward to allow the anterior shoulder to slip under the symphysis pubis. Avoid excessive force or manipulation.
- c. Gently rotate the fetal shoulder girdle into the wider oblique pelvic diameter. The posterior shoulder should deliver without resistance.
- d. After the delivery, continue with resuscitative measures as needed.

DEHYDRATION

DESIGNATION OF CONDITION

The patient has experienced an abnormal loss of body fluids. Diarrhea, vomiting, profuse sweating, hyperthermia, or a decrease in fluid intake may cause this condition. Signs and symptoms may include any or all of the following: may be lethargic, skin and mucous membranes dry, disoriented, weak, tachycardia, hypotension, weak or absent radial pulses, cool and clammy skin, diaphoresis, pallor, nausea and vomiting, rapid and shallow respiration. In the pediatric patient: sunken fontanelles, fever, crying without tears, diminished number of diaper changes, recent history of diarrhea, lethargic.

EMPHASIS ON PATIENT CARE

Fluid replacement, actively cool, remove from heat source, airway management

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated. Use humidified O₂.
2. Transport the patient as soon as possible to the nearest medical facility.
3. Secondary Management - History, physical exam, vital signs
4. Treat underlying cause(s) (**See applicable guidelines**).
5. Consider use of oral hydration fluids if the patient is conscious and able to self-protect the airway.

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. En-route, initiate one or two large bore IVs of an isotonic solution. Bolus the patient with 20cc/kg and infuse at a flow rate to maintain adequate end organ perfusion.
7. Utilize a Buretrol IV set on pediatric patients and bolus at 20 cc/kg, repeating as necessary. Consider intraosseous access if the patient's condition warrants.

DIABETIC EMERGENCIES

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: Hypoglycemia - altered mental state, seizures, unconscious, drooling, skin is pale and moist, confused, agitated, sudden onset, headache. Hyperglycemia – hot skin, acetone/fruity breath, Kussmaul respirations, polyuria, polydipsia, and polyphagia. There may be a history of recent injury, illness or unusual exertion. Though usually occurring in IDDM, this may also occur in NIDDM. Consider other causes of symptoms.

EMPHASIS ON PATIENT CARE

Maintain adequate perfusion, glucose replacement if hypoglycemic

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
3. Perform glucometry, if available.
 - a. If BGL < 80 mg/dl **AND SYMPTOMATIC**: (the patient must be symptomatic to proceed)
 - i. If the patient is conscious and able to self-protect the airway, administer oral glucose.
 - ii. If the patient is unconscious, initiate transport and consider ILS/ALS intercept for intravenous glucose administration.
 - b. If BGL is > 200 mg/dl or registers “HIGH” **AND SYMPTOMATIC** (the patient must be symptomatic to proceed)
 - i. Protect the patient’s airway, administer high-flow oxygen, assist ventilations, if indicated and consider ILS/ALS intercept for IV fluids.
4. If no change in mental status, transport as soon as possible to an appropriate medical facility.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

5. If the patient has an altered mental state and glucose level is > 80 mg/dl:
 - a. Initiate an IV of an isotonic solution and bolus at 20 cc/kg if associated dehydration or signs of poor perfusion, otherwise TKO.

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DIABETIC EMERGENCIES (cont.)

6. If the patient has an **altered mental state** and glucose level is < 80 mg/dl:
 - a. Initiate an IV of an isotonic solution at TKO.
 - b. Administer **50 % DEXTROSE** [25g], IVP into a free flowing line. Repeat dosage, in 10 minutes. If no improvement, recheck BLG and if BGL < 80 mg/dl, administer 3rd amp. of 50 % Dextrose.
 - c. Pediatric dose is 1 gm/kg of a **25% DEXTROSE** solution (dilute 50cc D50 1:1 with sterile water, give 2-4 ml/kg slow IVP). In neonates, use a **10% Dextrose** solution (dilute 50cc D50 in 500ml bag of D5W) at [0.2 gm/kg].
7. If unable to obtain IV access, consider **GLUCAGON** [0.5 - 1 mg], IM, or SQ.

Note: After Glucagon administration, it is imperative that the patient receives supplemental glucose, orally (if conscious), or by IV access. Patients receiving Glucagon must be transported to a medical facility.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

7. If thiamine deficiency is suspected (i.e. chronic alcohol consumption, radiation therapy, malnourishment) consider **THIAMINE** [100 mg] slow IVP or IM (adult), [10-25 mg] slow IVP or IM (pediatric).

DO NOT RESUSCITATE (DNR) ORDERS - EMS

DESIGNATION OF CONDITION

To honor an **EMS DNR ORDER** there must be a completed **EMS DNR ORDER** or the approved Medic Alert bracelet or neck medallion, and patient identification. Resuscitation attempts should be initiated until the order or bracelet/medallion and identification are presented. If a family member or other caregiver has "**DURABLE POWER OF ATTORNEY**" they should be consulted for instructions on patient care or withholding patient care. These guidelines pertain only to patients with valid and verifiable "Advanced Directives".

EMPHASIS ON PATIENT CARE

Verification of documents, medical direction involvement

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. EMS personnel shall follow EMS DNR Orders or Durable Powers of Attorney when encountering persons in pre-hospital settings in accordance with State Regulations and local EMS protocols.
2. EMS procedures for verifying EMS DNR Orders include:
 - a. Primary Assessment - Perform initial primary assessment, i.e., assess airway, breathing and circulation.
 - b. Verify identification by:
 - i. Using a driver's license or other signed photo identification; or
 - ii. Identification by a family member; or
 - iii. Positive third-party identification by someone who knows the person
 - c. Verify the existence of an EMS DNR Order for the person, using the following indicators:
 - i. EMS DNR Order
 - ii. Intact Medic Alert or EMS bracelet
 - d. If there is any question about the validity of an EMS DNR Order, or there is any indication of an attempted homicide, initiate resuscitation until such time that the questions have been answered. If possible, contact medical control for consultation.

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DO NOT RESUSCITATE (DNR) ORDERS - EMS (cont.)

3. EMS procedures for implementing EMS DNR Orders include:
 - a. For all persons, the following procedures may be initiated for the comfort of the person if they have not been refused by the person or by the authorized health care decision-maker, by:
 - i. Administer oxygen by mask or cannula
 - ii. Suctioning
 - iii. Managing airway, except intubation and other advanced airway maneuvers
 - iv. Administering analgesics, including IV route (EMT-I, EMT-P)
 - v. Controlling bleeding
 - vi. Making patient comfortable
 - vii. Comforting family
 - b. For covered persons in cardiac or respiratory arrest, resuscitative measures to be withheld include:
 - i. External chest compression
 - ii. Artificial ventilations, intubation or other advanced airway maneuvers
 - iii. Defibrillation/external cardiac pacing
 - iv. Administration of cardiac medications
 - v. Artificial respiration
4. EMS procedures for implementing Durable Powers of Attorney include:
 - a. Primary Assessment - Perform initial primary assessment, i.e., assess airway, breathing and circulation.
 - b. Verify identification by:
 - i. Using a driver's license or other signed photo identification; or,
 - ii. Identification by a family member; or,
 - iii. Positive third-party identification by someone who knows the person
 - iv. Verify the identification of the person identified in the Durable Power of Attorney as the authorized health care decision-maker.
 - c. Follow that person's instructions as authorized by the Durable Power of Attorney.
 - d. If there is any question about the validity of a Durable Power of Attorney, or there is any indication of an attempted homicide, initiate resuscitation until such time that the questions have been answered. If possible, contact medical control for consultation.
5. Where a person has both EMS DNR orders and a Durable Power of Attorney, the EMS DNR order shall prevail for pre-hospital treatment only.

DROWNING or NEAR DROWNING

DESIGNATION OF CONDITION

Includes a history of being submerged under water for an excessive period of time resulting in potential cardio-pulmonary compromise

EMPHASIS ON PATIENT CARE

Airway maintenance, CPR, if indicated

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Begin artificial respirations in the water, taking C-spine precautions. Stabilize C-spine prior to moving from water if any suspicion of a potential head or neck injury exists.
 - b. Do not stop CPR if arrest has occurred and patient has been in cold water.
 - c. If hypothermia is present or suspected, refer to **Hypothermia Guidelines**.
2. Rapidly transport patient to appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs
 - a. History of incident including:
 - i. How long was patient submerged.
 - ii. Fresh, polluted or salt water
 - iii. Diving accident (suspect C-spine injury)
 - iv. Water temperature
 - v. Pre-existing medical conditions

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate a large bore IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
5. If cardiac arrest occurs, follow **Medical Cardiac Arrest Guidelines**.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. If indicated, intubate with ET tube and suction trachea as needed.

ELECTRICAL INJURY

DESIGNATION OF CONDITION

Signs and symptoms may include any one or all of the following: Partial to full thickness burns with entrance and exit wounds, associated fractures, disorientation, cardiac dysrhythmias, irregular respiration, apnea, unconsciousness or cardiac arrest.

SPECIAL NOTE: Personal Safety is first, ensure the power is off, and if unsure do not enter the scene.

EMPHASIS ON PATIENT CARE

Airway Maintenance, CPR and defibrillation if indicated, maintain adequate perfusion

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Assess the scene for safety. Turn the power off, if it can be done safely, otherwise call the electric company.
2. Primary Management - Assess airway, breathing and circulation and manage as indicated.
3. Transport the patient as soon as possible to appropriate medical facility.
4. Secondary Management - History, physical exam, vital signs

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. En route, initiate a large bore IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.

Note: If the patient is in cardiac arrest, follow Cardiac Arrest Guidelines.

EXTREMITY TRAUMA

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: pain, tenderness, deformity, loss of use, swelling, crepitus, discoloration, exposed bone ends, absent distal pulses with associated extremity trauma.

EMPHASIS ON PATIENT CARE

Control of hemorrhage, immobilization, maintain adequate perfusion

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Mid-shaft fractures should be splinted in an anatomical position unless crepitus or resistance is encountered.
 - b. Mid-shaft closed Femur fractures should be splinted with a traction type splint.
 - c. Fractures within three inches of the joint or dislocations should be splinted in the position found.
 - d. If the patient is hypotensive, transport immediately and splint en route, if possible.
2. Transport the patient to an appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. If the fracture is located in Humerus, pelvis, hip, femur, ribs or multiple fractures are suspected, en route, initiate a large bore IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
5. If a solitary, isolated long bone fracture in a stable patient experiencing severe pain and systolic BP > 90 consider FENTYNAL [1 mg/kg] or **MORPHINE SULFATE** [2-20 mg] IVP with medical control approval.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. Follow **Pain Management Guidelines**.

Note: If in doubt, splint!

HEAD INJURY (TRAUMATIC BRAIN INJURY)

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: slowing pulse rate, increasing blood pressure, increasingly irregular respiratory patterns, altered level of consciousness, unequal pupils, repeating speech patterns, seizures, presence of CSF, with a history of head trauma.

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation, spinal precautions

Be aware of the potential for spinal, abdominal or chest trauma not apparent due to altered mental status.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated. If the patient requires assisted ventilations, these should occur at 12-16 breaths per minutes with adequate tidal volume.
2. Oxygen to maintain SPO2 to 93-95% no greater.
2. Transport the patient as soon as possible to an appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs, and Glasgow Coma Scale

GLASGOW COMA SCALE

Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1
Verbal Response	Oriented	5
	Confused	4
	Inappropriate Words	3
	Incomprehensible Words	2
	None	1
Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdraw (Pain)	4
	Flexion (Pain)	3
	Extension (Pain)	2
	None	1
	Glasgow Coma Score Total	

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HEAD INJURY (TRAUMATIC BRAIN INJURY) (cont.)**INTERMEDIATE PARAMEDIC PRE-HOSPITAL MANAGEMENT**

5. En-route, initiate an IV of an isotonic solution at a rate to maintain end organ perfusion. Consider second IV, if indicated.
6. Use a Buretrol IV set for pediatrics. Consider intraosseous access, if peripheral venous access is not available and patient conditions warrants.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

Consider ET intubation (Paramedic level) if GCS is less than 8 and age is greater than 8, however do not delay transport for intubation.

HYPERTHERMIA

DESIGNATION OF CONDITION

Hyperthermia is considered a sustained core temperature of greater than 101° F (38.3° C), with thermoregulatory mechanisms failing around 105.8° F (41° C). This condition can result from environmental exposure, exertion, medications, or illness. Signs and symptoms include any or all of the following: muscle cramps, weakness, exhaustion, dizziness, fainting, altered level of consciousness, unresponsiveness, and rapid heart rate. Skin may be moist or dry, and normal, cool, or hot. The most severe sign of hyperthermia is an altered level of consciousness.

EMPHASIS ON PATIENT CARE

Rapid cooling of the core temperature, fluid maintenance (elderly, chronically ill, and pediatrics are at a higher risk)

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated. Use humidified O₂.
 - a. Remove patient from the environment.
 - b. Remove all constricting and heavy clothing.
 - c. Give clear liquids to drink only if fully conscious. If unconscious, consider ILS/ALS intercept and rapid transport.
 - d. Provide rapid cooling by:
 - i. Air conditioning
 - ii. Spray or sprinkle Tepid water on and Fanning the patient
 - iii. Cool packs to neck, groin, and armpits (heat stroke)
 - iv. Wet sponge or towel
2. Secondary Management - History, physical exam, vital signs

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

3. En-route, initiate one or two large bore IVs of an isotonic solution and bolus at a rate of 10-20 cc/kg.

HYPOTHERMIA

DESIGNATION OF CONDITION

Mild hypothermia is considered when core body temperature is between 94° and 97° F (34-36° C) and a core temperature between 86 and 94° F (30-34° C) is considered moderate hypothermia. Patients with mild to moderate hypothermia may exhibit signs and symptoms of shivering, tachycardia, tachypnea, decreasing LOC, lethargic (may be fully oriented), and loss of fine motor coordination.

Severe hypothermia is considered a core temperature < 86° F (30° C) with signs and symptoms of pupil dilation, bradycardia, bradypnea, coma, no shivering, arrhythmia, and joint stiffness.

To change Celsius to Fahrenheit: 1.8 x C degree + 32) example: 30 degrees C = 86 degrees F.

EMPHASIS ON PATIENT CARE

Maintenance of body heat, airway management
LOC is the most reliable indicator of the severity of hypothermia.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Remove patient from the environment.
 - b. Remove all wet clothing.
2. Secondary Management - History, physical exam, vitals signs
3. Managing mild to moderate hypothermia.
 - a. Administer warmed, humidified oxygen titrated to patient condition. If patient becomes hypoxic, administer high concentration or assist ventilations as needed.
 - b. Record oxygen saturation reading.
 - c. Avoid rough handling when moving the patient.
 - d. Cover with blankets, preferably warmed.
 - e. Monitor the patient's vital signs and rhythm closely.
 - f. Transport the patient to appropriate medical facility.

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HYPOTHERMIA (cont.)

4. Managing severe hypothermia includes:
 - a. Assess for pulse and breathing for 30 - 45 seconds.
 - b. Wrap torso, and head in warm blankets. Cover extremities with un-warmed blankets.
 - c. Attach cardiac monitor or apply quick-look paddles.
 - d. Assist ventilation at 6-10 per minute with warmed, humidified oxygen.
 - e. Handle gently, rough handling may induce fatal cardiac dysrhythmias.
 - f. If the patient is pulseless and apneic:
 - i. Begin CPR prior to defibrillation and ventilate with warm, humidified oxygen.
 - ii. If patient in ventricular fibrillation, deliver one defibrillation attempt.
 - iii. If no conversion, then continue CPR.
 - iv. Consider inserting advanced airway (follow **Airway Management Guidelines**).
 - v. Ventilate with warmed, humidified oxygen at high concentration.
 - vi. Prevent further heat loss. Do not attempt re-warming in the field, patients re-warmed after severe hypothermia commonly develops cardiac arrhythmias that must be addressed with ACLS treatment.
 - vii. Rapidly and carefully transport the patient to an appropriate medical facility.
 - viii. Monitor the patient's vital signs and rhythm closely.

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. En-route, initiate a large bore IV of warm/tepid **isotonic solution** and infuse at a rate to maintain adequate end organ perfusion (only with mild to moderate hypothermia). In severe hypothermia IV fluid administration should be done with caution to avoid after-drop effect of circulating acidotic/toxic peripheral blood to the heart and brain.
6. Airway management should be limited to basic manual procedures and slow ventilatory assistance. If unable to manage the airway by basic maneuvers, adjuncts may be used, however this may induce ventricular dysrhythmias and overzealous ventilatory assistance can induce hypocapnia, resulting in ventricular irritability.

Note: Subsequent defibrillations or additional cardiac life support medications should be avoided until the patient has been re-warmed in the emergency department. Warm the patient's core first to avoid after-drop effect. Ventilating patient via mouth to mask may be the most effective core warming device available pre-hospital.

MULTIPLE SYSTEMS TRAUMA / STABLE (If unstable, see Shock Guidelines)

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: mechanism of injury suggestive of trauma to two or more body systems.

EMPHASIS ON PATIENT CARE

Control of hemorrhage, inspection of C-spine, minimize scene time

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. En-route, initiate one or two large bore IVs of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
5. Utilize a Buretrol in pediatrics at rate of 20 cc/kg. If unable to initiate a peripheral IV, consider intraosseous access if patient condition warrants.
6. Consider Pain Management using **FENTANYL** [1 mg/kg] with medical control.

POISONING / OVERDOSE

DESIGNATION OF CONDITION

Evidence of inhalation, ingestion, or injection of a substance causing an untoward effect. Signs and symptoms may include any one or all of the following: respiratory depression, apnea, tachycardia, bradycardia, cardiac arrhythmias, altered mental status, unconsciousness, nausea, vomiting, and cardiac arrest.

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation and maintain adequate perfusion

SPECIAL NOTE

Bring in all substances, pill bottles or medications, use caution and evaluate for hazardous material.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
 - a. If medication overdose:
 - i. Amount of and type
 - ii. Time taken
 - iii. Accidental vs. intentional
 - iv. Mixed OD
 - v. History of underlying illness, if appropriate
 - vi. Treatment prior to arrival
 - b. If poisoning:
 - i. Identify substance and quantity taken
 - ii. Method taken
 - iii. Underlying conditions
 - iv. Has the patient vomited?
3. Contact Poison Control [**1-800-222-1222**] and transport the patient to an appropriate medical facility. Consider ILS/ALS intercept.
4. If narcotic overdose is suspected with serious signs and symptoms:
 - EMT-Basic and Above**
 - a. Administer **NALOXONE** [0.4 mg] IM, SQ or [2-4 mg (1 mg per nostril] IN. If no improvement, repeat every 2-5 min. [0.4 mg] until 2 mg has been administered. (IN Max is 4 mg)

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POISONING / OVERDOSE (cont.)

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

5. At scene, initiate a large bore IV of an isotonic solution at TKO
 - a. Adult: Administer **NALOXONE** [0.4 mg] IVP, titrated to improvement in respiratory rate and effort. If no improvement, repeat every 2-5 min. [0.4 mg] until 2 mg has been administered. Contact medical control prior to administering subsequent doses. If IV access is not available, consider IM, SQ or IN administration.
 - b. Pediatric: Administer **NALOXONE** [0.1 mg/kg up to 5 years of age or 20 kg] IVP, titrated to improvement in respiratory rate and effort. If no improvement, repeat in 10 min. at [0.1 mg/kg] until 0.8 mg has been administered. Contact medical control prior to administering subsequent doses. May also be administered SQ, IM, IN or IO.
 - c. High doses may be required for synthetic narcotics.
 - d. If the patient remains unresponsive, secure definitive airway, (follow **Airway Management Guidelines**) and check BGL.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. If organophosphate poisoning is suspected, i.e. increased salivation, lactation, urination, defecation, and gastrointestinal cramping and emesis:
 - a. Adult - administer **ATROPINE** [2.0 mg] IVP, repeated until symptoms abate.
 - b. Pediatric - administer **ATROPINE** [0.05 mg/kg IVP or IO, repeated until symptoms abate.
7. If tricyclic anti-depressant (TCA) overdose is suspected with serious signs/symptoms (widening of the QRS complexes, PVC's, hypotension, seizures, dysrhythmias, or a combination of any of these), consider **SODIUM BICARBONATE** [1 mEq/kg] slow IVP.
8. If patient presents with a calcium channel blocker overdose:
 - a. Adult - administer **CALCIUM CHLORIDE (CaCl₂) 10%** [10-20 ml] slow IVP. **Do not exceed 2ml/min.**
 - b. Pediatric - administer **CALCIUM CHLORIDE (CaCl₂) 10%** [10-30 ml/kg] slow IVP. **Do not exceed 2 ml/min.**

ALL LEVELS

9. If chemical nerve agents are suspected, administer an auto injector (**ATROPINE** [2 mg] **PRALIDOXIME (2PAM)** [600 mg]).

PSYCHIATRIC EMERGENCIES

DESIGNATION OF CONDITION

The patient will have an altered mental status with associated inappropriate actions. Signs and symptoms may include: threatened or attempted suicide, aggression, hallucinations, or any action that could cause harm to the patient or others.

EMPHASIS ON PATIENT CARE

Provider safety, transport decisions

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. If evidence of immediate danger exists:
 - i. Protect yourself and others (leave the scene, if necessary).
 - ii. Summon law enforcement.
 - iii. Show of force utilizing law enforcement should be considered if indicated by patient behavior and if necessary to render care.
 - b. If no evidence of immediate danger exists.
 - i. **ONE EMT** should be responsible for assessing, treating, and communicating with patient.
 - ii. The **SAME EMT** should remain with patient during transport.
2. Secondary Management - History, physical exam, vital signs
 - a. Pertinent medical history, if possible including:
 - i. Prescription and non-prescription drugs.
 - ii. Underlying organic cause, i.e. brain tumor, chemotherapy, and hypoglycemia
 - iii. Previous psychiatric problems
3. Transport with patient consent.
 - a. Transport the patient in position of comfort, if not contraindicated by injuries.
 - b. Keep environment as quiet as possible.

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PSYCHIATRIC EMERGENCIES (cont.)

4. Transport without consent.
 - a. If medical complications are indicated follow **Emergency Transport Guidelines**.

Note: Use physical restraint only if necessary for protection of EMS providers or the patient. If restraint of the patient is necessary, do not attempt to restrain until you have sufficient resources. A minimum of four people is necessary to assure adequate protection to the rescuers and patient during the restraint process. If restraints have been applied, do not release until transfer at the hospital.

REFUSAL / ADULT

DESIGNATION OF CONDITION

A competent adult (18 years or older) may refuse any or all treatment or transport at any time. If patient is not capable of making rational decisions, follow **Involuntary Restraint and Transport Guidelines**. All refusal patients must be evaluated, vital signs obtained (if possible), and informed of the situation and the potential life threat or disability.

EMPHASIS ON PATIENT CARE

Provider safety, transport decisions

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Perform Secondary Management including (if patient allows):
 - a. Inform patient of her/his medical condition, potential injury or illness and the potential ramifications if treatment and transport are refused.
 - b. Assure the patient fully understands what you are saying.
 - c. Attempts to inform should be done in the presence of a witness, i.e. family members, bystander, or Police Officer (preferably not a member of the EMS service).
 - d. Obtain the patient's signature on refusal and information for report.
 - e. Have a witness sign below narrative.
 - f. Even though you have obtained a signature, take reasonable steps to protect patient by calling a friend or family member to attend to patient.
3. **EMS refusal of care represents one of the highest liability exposures that an EMS Provider will ever face. All refusals should be carefully documented. Consider having medical control speak directly with the patient by cell phone or radio.**

REFUSAL / INVOLUNTARY RESTRAINT AND TRANSPORT

DESIGNATION OF CONDITION

Emergency treatment applies to any age patient. Emergency treatment without consent implies that a **life threat** exists and patient is **mentally incapable** of making decisions on their own behalf. Reasonable force can be used, but only that force **necessary** to treat and transport the patient.

EMPHASIS ON PATIENT CARE

Provider safety, transport decisions

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Several attempts to gain consent for treatment and transport must be made prior to any attempts to subdue the patient.
2. If the patient meets the following criteria, the EMT may use reasonable force to treat and transport.
 - a. The patient words or actions indicate that he/she is mentally incapable of making decisions on their own behalf. Such as:
 - i. Displays inappropriate and erratic behavior
 - ii. Patient has inappropriate responses to questions.
 - iii. Evidence of drug or alcohol impairment.
 - a. **If evidence of drug or alcohol use is present but no impairment is detected; document this clearly**
 - iv. Disoriented to time, person, place, or event
 - v. Suicide attempt or talking about attempting suicide.
 - b. A life-threat is suspected of existing or does exist.
3. Use the following guidelines to secure and treat the patient.
 - a. Call for law enforcement assistance, if needed.
 - b. Have enough personnel to safely secure patient and assure that all personnel are informed of plans and are involved.
 - c. Adequately restrain the patient to stretcher or other device, as needed.
 - d. At least two EMTs should be present at all times, if the patient is, or suspected of being combative.
 - e. Keep bystanders and onlookers away from the patient as they may agitate the patient.
 - f. All resuscitative measures to sustain life may be executed.
 - g. The EMT must be in **voice contact** with medical control.
 - h. Transportation is limited to an appropriate health care facility.

REFUSAL / INVOLUNTARY RESTRAINT AND TRANSPORT (cont.)

4. Document all actions, statements, and responses to your questions that support your decision to treat the patient without consent.

REFUSAL (PEDIATRIC)

DESIGNATION OF CONDITION

Children are unable to refuse treatment and transport on their own behalf. A parent, or guardian, may refuse any part of or all treatment and/or transport on behalf of the patient. Remember this guideline is used only if **no** life threats exist. If a life threat is present, follow **Involuntary Restraint and Transport Guideline**.

EMPHASIS ON PATIENT CARE

Provider safety, transport decisions

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Secondary Management - History, physical exam, vital signs (if patient allows):
 - a. Inform parent or legal guardian of patient's medical condition, potential injury or illness, potential ramifications if treatment and transport are refused.
 - b. Assure the parent or legal guardian fully understands what you are saying.
 - c. Attempts to inform must be done in the presence of a witness, i.e. family members, bystander, or police officer (preferably not a member of the EMS service).
 - d. Obtain the parent's or legal guardian's signature on refusal and information for report.
 - e. Have a witness sign refusal.
 - f. Document all attempts to gain consent for treatment, advisement of potential injury or illnesses, and potential ramifications if treatment is not rendered.
2. If parents are not available, make all reasonable efforts to locate parents or legal guardians and have them come to the scene, otherwise transport the patient to the nearest appropriate facility. Consider contacting Medical Control, speak directly with the parent or guardian.

RESPIRATORY DISTRESS – General Guidelines

DESIGNATION OF CONDITION

The patient is not breathing, not breathing adequately, or experiencing agonal respirations with inadequate rate and/or depth.

EMPHASIS ON PATIENT CARE

Maintain a patent airway and assist ventilations

PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. If respirations are inadequate or absent, maintain or establish **airway patency** by:

FIRST RESPONDER, BASIC and INTERMEDIATE

- a. Positioning maneuvers as indicated by patient condition
- b. Suction (oropharynx, nasopharynx, or stoma)
- c. Nasopharyngeal airway
- d. Oropharyngeal airway
- e. Multi-lumen airway
- f. Laryngeal Airway Device

PARAMEDIC (In addition to a. – f.)

- g. Endotracheal suctioning
 - h. Laryngoscopic visualization
 - i. Magill forceps manipulation
 - j. Nasotracheal intubation (blind or visualized)
 - k. Oral endotracheal intubation
 - l. Stomal intubation
 - m. Surgical cricothyrotomy
3. Maintain or establish **adequate ventilation & oxygenation** for all patients by:
 - a. Bag Valve Mask (BVM).
 - b. Positive Pressure Ventilatory Devices (PPVD) and Automatic Transportable Ventilators (ATV).
 4. Ensure that the ventilatory device is connected to a supplemental oxygen source, if available, using an adequate oxygen flow (8-12 lpm with an oxygen concentration $\geq 40\%$).

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RESPIRATORY DISTRESS (cont)

5. If the patient is non-intubated, make sure the mask is properly sealed on the patient's mouth and nose. If the patient is intubated, connect the device to the tube, assuring a proper fit.
6. Ventilate the adult patient at a rate of 10-12 bpm, with inspiratory time of 1 - 2 seconds if supplemental oxygen is available. If supplemental oxygen is not available, use an inspiratory time of 2 seconds. Inspiratory/expiratory times should be at a 1:2 ratio. For infants, ventilate at 20-30 bpm, with an inspiratory time of 0.5 - 1.0 seconds and for children, 12 - 20 bpm at 1 - 1.5 seconds.
7. Auscultate lung sounds and watch for symmetric chest rise.
8. Avoid inspiratory pressures >20 cmH₂O in non-intubated patients which can lead to gastric distention or barotrauma. Cricoid pressure should be considered.
9. Continuously monitor the ventilatory device to ensure there are no malfunctions of equipment or use.
10. Airway adjuncts should be monitored for proper placement.
 - a. Consider pulse oximetry (including room air SAO₂), end-tidal CO₂ detectors (ETCO₂) and capnometry/capnography.

RESPIRATORY DISTRESS - Croup

DESIGNATION OF CONDITION

The most common age group affected is 1 to 3 years but this process can develop in any age patient. The onset is slow. Signs and symptoms are: hoarse voice, harsh “seal bark” cough, stridor upon inhalation, and high-pitched squeaking sounds may be present. In addition the classic signs of respiratory distress may be present. Always consider the possibility of foreign body aspiration.

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation

FIRST RESPONDER, BASIC and INTERMEDIATE PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to an appropriate medical facility. Consider ALS intercept.
3. Secondary Management - History, physical exam, vital signs

PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. Do not attempt to intubate if there is adequate air exchange.

RESPIRATORY DISTRESS - Epiglottitis

DESIGNATION OF CONDITION

The most common age group affected is 3 to 7 years, but this process can develop in any age patient. The onset is usually rapid. Signs and symptoms are: Pain on swallowing, high fever (102 to 104) degrees Fahrenheit, drooling, mouth breathing, changes in voice quality, tripod positioning, chin and neck thrust forward. In addition the classic signs of respiratory distress may be present. Since the development of Hemophilus B immunization, the incidence of epiglottitis has been reduced significantly, however it should still be considered for patients presenting with the usual signs and symptoms.

EMPHASIS ON PATIENT CARE

Prevent agitation to the patient, airway management, and adequate oxygenation

FIRST RESPONDER, BASIC and INTERMEDIATE PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Do not attempt to place **anything**, including airway adjuncts or fingers, in the patient's mouth. This may lead to complete airway block or bleeding into airway.
2. Rapidly and carefully transport the patient, in position of comfort, to the nearest medical facility. Consider ALS intercept.
3. Secondary Management including: History, physical exam, and vital signs

PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. Do not attempt to intubate if there is adequate air exchange.
5. Intubation may be very difficult due to swelling of the epiglottis and surrounding structures. Well-performed BVM ventilation can often provide adequate oxygenation until arrival at the hospital.

Note: Assisted ventilation of any type can agitate the child causing complete airway obstruction. Judicious observation and intervention are best, reserving aggressive airway interventions for children who proceed to respiratory arrest.

RESPIRATORY DISTRESS - ASTHMA, COPD, EMPHYSEMA, CHRONIC BRONCHITIS

DESIGNATION OF CONDITION

Constriction of the small airways of the lungs resulting in broncho-constriction, increased secretions and wheezing. The patient will almost always have a pertinent history and will be suffering from some degree of dyspnea. Wheezing may not be present and lack of wheezing with decreasing breath sounds is often a sign of impending respiratory arrest. Signs and symptoms may include any or all of the following: inspiratory wheezing, rapid and/or shallow respiratory rate, nasal flaring, and use of accessory muscles. Patient may complain of difficulty in breathing, and cyanosis may be present. LOC may be decreased, diminishing or silent bilateral lung sounds, wheezing, stridor, and/or sternal retractions. The patient may be tachycardic, diaphoretic, with tripod positioning. “See Saw” breathing may be present in children.

EMPHASIS ON PATIENT CARE

Airway maintenance, adequate oxygenation

FIRST RESPONDER PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Initiate transport to an appropriate medical facility. Consider ILS or ALS intercept.
3. Secondary Management - History, physical exam, vital signs
4. If patient is in moderate to severe respiratory distress and acute asthma or emphysema is suspected:
 - a. Adults - administer **ALBUTEROL** [5.0 mg], diluted in 2.5 cc of a sterile isotonic solution, over a 5 - 15 minute period. Some patients may need continuous nebulizer treatment during the entire transport. Providers are encouraged to deliver nebulized **ALBUTEROL** via bag valve mask for patients who are unable to provide effective respiratory exchange. Do not delay transportation waiting for the medication to take effect.
 - b. Children - administer **ALBUTEROL** [5.0 mg], diluted in 5 cc of a sterile Isotonic Solution over a 5 - 15 minute period, and repeated as needed.
 - c. **IPRATROPIUM** [0.5 mg] in conjunction with Albuterol for patients > 8 y/o.
5. If Respiratory Distress continues or patient has signs and symptoms of moderate to severe cyanosis, administer EPI-PEN, use EPI-PEN JR for patients under 8 years of age.

BASIC PRE-HOSPITAL MANAGEMENT

If no relief is noted and the patient is unable to exchange oxygen due to bronchoconstriction:

- a. Adult - administer **EPINEPHRINE 1:1,000** [0.3 mg.], IM using a limited 0.3 ml TB syringe.
- b. Pediatric - administer **EPINEPHRINE 1:1,000** [0.01 ml/kg (.01 mg/kg)] up to 0.3 ml, IM using a limited 0.3 ml TB syringe.

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RESPIRATORY DISTRESS - ASTHMA, COPD, EMPHYSEMA, CHRONIC BRONCHITIS (cont.)

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

5. Administer **PREDNISON TABs** [1 mg/kg, max of 60 mg] by mouth for age > 8 y/o or **SOLUMEDROL** If too unstable to take anything by mouth.
Adult: (125-250 mg) IV/IO
Ped: (1-2 mg/kg) IV/IO.

6. En-route, initiate an IV of isotonic solution at a TKO rate

PARAMEDIC PRE-HOSPITAL MANAGEMENT

- 7 Consider **MAGNESIUM SULFATE** [2 gms] IVP in adults.

- 8 For pediatrics, utilize a Buretrol set at TKO rate.
- 9 For severe respiratory Distress, Administer **SOLUMEDEROL**:
 - a. Adult [125 mg] IVP
 - b. Ped [1 mg/kg] IVP

Note: Do not delay transport while administering Albuterol. You may continue treatment en route to hospital. Monitor respiratory rate and depth closely.

RESPIRATORY DISTRESS - PULMONARY EDEMA

DESIGNATION OF CONDITION

Patient presenting with signs, symptoms, and history of moderate to severe dyspnea and or poor perfusion secondary to pulmonary edema. Emphasis will be placed on complete assessment of patient and history with treatment of the underlying cause if possible. Caution should be taken in getting a complete history since many of these patients are taking numerous medications for chronic conditions.

EMPHASIS ON PATIENT CARE

Airway maintenance, adequate oxygenation, consider CPAP

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
 - a. Apply appropriately sized CPAP device.
2. Initiate transport to an appropriate medical facility. Consider ILS or ALS intercept.
3. Secondary Management - History, physical exam, vital signs

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate an IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
5. Closely monitor IV drip rate. **DO NOT OVER HYDRATE** the patient.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

6. Evaluate dysrhythmias and treat per appropriate guidelines.
7. Consider **NITROGLYCERIN** [0.4mg] SL every 5 minutes, if patient is in severe distress, and BP > 100 systolic, HR > 60 only after careful assessment, if Patient is on Erectile Dysfunction medications medical control must be contacted prior to administration.
8. Consider the administration of the following medications:
 - a. **MORPHINE SULFATE** [2 mg] IVP, titrated to effect.
 - b. **FUROSEMIDE** [0.5 - 1.0 mg/kg]. If patient is currently taking **FUROSEMIDE** PO, and BP is > 100 systolic, double the dose the patient is currently taking.
9. Consider intubation, positive pressure ventilation, and ET suctioning as needed.

SEIZURE

DESIGNATION OF CONDITION

Most seizures spontaneously end within 5 minutes with a postictal state of varying length, with unconsciousness or altered LOC. These seizures do not require advanced level intervention. Status epilepticus exists when witnessed seizure activity continues for > 10 minutes or multiple seizures recur without a return to full mental capacity. These types of seizures do require paramedic level intervention. Signs and symptoms may include any one or all of the following: may experience an aura, violent spasms of muscles lasting up to 3 - 5 minutes, incontinence, increased salivation, postictal phase, possible history of drug usage for seizures.

EMPHASIS ON PATIENT CARE

Maintain adequate airway, adequate oxygenation, protect patient from harm

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
3. Initiate transport to an appropriate medical facility, consider ILS/ALS intercept.
 - a. Determine blood glucose level using glucometry.
 - b. Cardiac monitoring
 - c. Monitor the patient's vital signs.

INTERMEDIATE PRE-HOSPITAL MANAGEMENT

4. En-route, initiate a large bore IV of an isotonic solution at a TKO rate.

PARAMEDIC PRE-HOSPITAL MANAGEMENT

5. For status epilepticus:
 - a. Adult - administer **DIAZEPAM** [2-10 mg], slow IVP or **LORAZEPAM** [2-4 mg], or **MIDAZOLAM** [1-10 mg] IV/IM/IO/IN
 - b. Pediatric - administer **DIAZEPAM** [0.1-0.3 mg/kg], slow IVP, or **MIDAZOLAM** [0.05-0.1 mg/kg] IV/IO/IN/IM

SEXUAL ABUSE / ASSAULT

DESIGNATION OF CONDITION

The patient has been forcefully exploited by another person(s). The force used may be physical violence, threats, mental manipulation, or other forms of psychological force.

EMPHASIS ON PATIENT CARE

Supportive care, management of associated trauma

FIRST RESPONDER, BASIC, INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
 - a. Treat all life threats as indicated.
 - b. Protect the scene and preserve evidence in cooperation with law enforcement.
 - c. Encourage patient not to bathe, douche, or change clothes.
 - d. Do not allow more people than necessary for patient care in contact with the patient or on the scene.
 - e. This may be a highly emotional and volatile situation; be sure your physical examination and treatments are clearly documented on the report form.
 - f. Obtain only information needed to treat the patient. **Do not attempt to investigate the crime.**
3. Transport decisions will be patient dependent.

SHOCK

DESIGNATION OF CONDITION

Signs and symptoms may include any or all of the following: disoriented, weak, tachycardia, systolic < 90, weak or absent radial pulses, cool and clammy skin, diaphoresis, pallor, nausea and vomiting, rapid and shallow respiration, and have a significant injury, mechanism of injury or illness.

EMPHASIS ON PATIENT CARE

Maintain adequate perfusion, oxygenation

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Transport the patient without delay to an appropriate medical facility.
3. Secondary Management - History, physical exam, vital signs
 - a. Obtain history of incident including:
 - i. Possible underlying medical causes
 - ii. Speed
 - iii. Seat belts
 - iv. Caliber of firearm, distance
 - v. Length of knife or object
 - vi. Blunt or penetrating trauma

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. En route, initiate two large bore IVs of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
5. Consider treatment for possible underlying, reversible etiologies including volume depletion, tension pneumothorax, pericardial tamponade, spinal shock, and sepsis within appropriate scope of practice.

SYNCOPE (FROM UNKNOWN CAUSE)**DESIGNATION OF CONDITION**

Patient has experienced a temporary loss of consciousness - "Fainting"

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation, evaluation for underlying cause

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
 - a. Rule out (see specific guidelines):
 - i. Diabetic emergency
 - ii. Overdose
 - iii. CVA
 - iv. AMI or arrhythmia
 - v. Head trauma
 - vi. Dehydration

INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT

4. En route, initiate an IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.

NOTE: All Syncopal episodes with an unknown or pertinent history need cardiac monitoring. Consider 12-lead.

SPECIAL SKILL: Thoreau EMS and Whispering Cedars FD Only**HYDROFLUORIC ACID BURNS****DESIGNATION OF CONDITION:**

The patient has suffered from hydrofluoric acid burns: These patients can rapidly decompensate due to the fluoride ion bonding with the patients own calcium, essentially stripping the body of calcium. This produces a deeper burn then visualized and devastating cardiac results and death due to hypocalcaemia. Burns larger the 1% can be fatal. Calcium preparations are the only agents available to cease the burning process. Many times the patient will complain of a burning sensation under the skin and the wound area growing under their skin, which is exactly what is occurring. Speed of application and transport is essential.

BASIC and INTERMEDIATE PRE-HOSPITAL MANAGEMENT

1. Ensure scene safety
2. Do not handle the burn patient without adequate protection you will become contaminated and can suffer a significant burn without initial signs and symptoms that could be deadly.
3. If possible; quickly rinse the affected areas with isotonic solutions or water as available, taking care not to contaminate additional body parts, persons or spread contamination. All items used become Hazardous Materials.
4. For Skin Exposure:
 - A. In a container, mix **CALCIUM GLUCONATE** injectable with K-Y Jelly to make a loose jelly or use the pre-mixed Gel if available.
 - B. Apply over burn liberally using a tongue depressor or similar applicator. **DO NOT** apply mixture with fingers even if gloved.
 - C. Apply loose dry dressings.
 - D. Reapplication maybe necessary
 - E. Calcium Gluconate injection can also be injected intradermally using a TB syringe surrounding the burn site.
5. For Eye Exposure:
 - E. Apply eyewash to affected eye(s) using **CALCIUM GLUCONATE** Eye wash Solution leaving the solution in eye, liberally applying often.
To make **CALCIUM GLUCONATE** eyewash, add 2 vials of 10% solution to a 500 ml normal saline IV bag and run into eye(s), capture off flow with a kidney pan or towels and do not handle until chemical gloves are obtained.
 - F. Cover both eyes even if one is uninjured
6. For Respiratory Exposure:
 - G. Place 10% Calcium Gluconate into standard Nebulizer unit using either handheld or simple face mask devices, apply oxygen to ensure strong mist is obtained.
7. Cardiac monitoring
8. Rapid transport to hospital, strongly consider ALS intercept

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SPECIAL SKILL: Thoreau EMS and Whispering Cedars FD Only**HYDROFLUORIC ACID BURNS (Cont.)****INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT**

9. Consider Pain Management with FENTYNYL [1mg/kg] as appropriate
10. Initiate 2 large bore IV's with isotonic solution, titrate rate to maintain patients vital signs.
11. Evaluate Cardiac Rhythm frequently and prepare for arrhythmias to include asystole.
12. Contact Medical Control early for additional orders.

These patients require very rapid transport to an appropriate facility so they may receive continued ACLS.

TASER DARTS

DESIGNATION OF CONDITION

Patient has experienced the use of a Police or civilian Taser, darts may or may not still be imbedded in the patient. Tasers are increasingly used as a less than lethal device by Police Officers and is now available for civilian use for self protection. This device uses muscular electrical disturbances to disable the person, according to studies and the manufacture it does not interfere with smooth muscle or cardiac muscle unlike the older style stun guns. A tased person experiences total muscle tetany and immediate pain that soon subsides upon electrical restraint release

EMPHASIS ON PATIENT CARE

Airway management, adequate oxygenation, evaluation for underlying cause for use of the Taser

CAUTION

Many persons who have had to be “tased” may be using substances that make them violent. This can lead to several conditions including violence on the attending crew and excitable delirium (unproven diagnosis) leading to cardiac arrest.

FIRST RESPONDER and BASIC PRE-HOSPITAL MANAGEMENT

1. Primary Management - Assess airway, breathing and circulation and manage as indicated.
2. Secondary Management - History, physical exam, vital signs
 - a. Rule out (see specific guidelines):
 - i. Diabetic emergency
 - ii. Overdose
 - iii. CVA
 - v. Head trauma
 - vi. Dehydration
4. Removal of Darts.
 - a. Taser darts enter the skin generally no more than a 1/8 to 1/4 inch and will not generally penetrate through the subcutaneous tissue and rarely muscle tissue. The surrounding tissue will usually have a slight burn and the wound cauterized by the electrical energy
 - i. If the darts are in torso, legs or arms (posterior or anterior) they can be removed using a hemostat or similar device or by grabbing the wires and while pushing down around the dart area, pulling out the darts. Darts are considered a biohazard and must be handled accordingly.
 - ii. If darts are in joint areas, face, gentiles, eyes, head or neck, treat as an impaled object and do not attempt to remove.
 - iii. Cover area with appropriate dressing or Band-Aid.

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TASER DARTS (cont.)**INTERMEDIATE and PARAMEDIC PRE-HOSPITAL MANAGEMENT**

5. En-route, initiate an IV of an isotonic solution and infuse at a flow rate to maintain adequate end organ perfusion.
6. Assess for cardiac involvement and treat accordingly

NOTE: All Taser Patients need cardiac monitoring (consider 12-lead).