

# **BLS/ILS/ALS PROTOCOLS**

## **CLARK COUNTY EMS SYSTEM**



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**P.O. BOX 3902 – SHADOW LANE – LAS VEGAS, NV 89127**

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# FOREWORD

## EMERGENCY MEDICAL SERVICES PROTOCOL MANUAL FOR THE CLARK COUNTY EMS SYSTEM

Optimal prehospital care results from a combination of careful patient assessment, essential prehospital emergency medical services, and appropriate medical consultation. The purpose of this manual is to provide guidance for **ALL** prehospital care providers and Emergency Department Physicians within the Clark County EMS System.

The **GOAL** of the manual is to **STANDARDIZE** prehospital patient care in Clark County. It is to be understood that these protocols are guidelines. Nothing contained in these protocols shall be construed to expand the Scope of Practice of any Emergency Medical Technician beyond that which is identified in the Clark County Emergency Medical Services Regulations and these protocols.

**NOTHING** contained within these protocols is meant to delay rapid patient transport to a receiving facility. Patient care should be rendered while en-route to a definitive treatment facility.

The **General Patient Care** and the **Spinal Immobilization** protocols must be followed in the specific sequence noted. For all other treatment protocols, the letter and numerical outline format is strictly for rapid and uniform reference and does not imply or direct a mandatory sequence for patient care.

To maintain the life of a specific patient, it may be necessary, in rare instances, for the physician providing on-line medical consultation, as part of the EMS consultation system, to direct a prehospital provider in rendering care that is not explicitly listed within these protocols, to include administering a patient's own medications which are not part of the approved formulary. To proceed with such an order both the telemetry physician and the provider must acknowledge and agree that the patient's condition and extraordinary care are not addressed elsewhere within these medical protocols, and that the order is in the best interest of patient care (**NOTE:** telemetry contact is **not** required for the administration of the patient's own Solu-Cortef in the treatment of suspected adrenal insufficiency). Additionally, the provider must feel capable, based on the instructions given by the telemetry physician, of correctly performing the directed care. Whenever such care is provided, the telemetry physician and the provider must immediately notify the Office of EMS & Trauma System (OEMSTS) of the extraordinary care situation. In addition, the provider must immediately, upon completion of the call, fax the prehospital care record to the OEMSTS. All such incidents will be entered into the **Quality Improvement Review** process.

Occasionally a situation may arise in which a physician's order cannot be carried out; e.g., the provider feels the administration of an ordered medication would endanger the patient, a medication is not available, or a physician's order is outside of protocol. If this occurs, the provider must immediately notify the telemetry physician as to the reason the order cannot be carried out, and indicate on the prehospital care record what was ordered, the time, and the reason the order could not be carried out. In addition, the provider must immediately notify the OEMSTS, and, upon completion of the call, fax the prehospital care record to the OEMSTS. All such incidents will be entered into the **Quality Improvement Review** process.

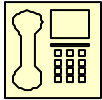
Protocol Key:



Caution / Warning / Alert



Pediatric Treatment Consideration (for patients less than 12 years of age)



Telemetry contact required

Items in **BOLD and UNDERLINED** are hyperlinked to the corresponding protocol.

Items in ***BOLD and ITALICIZED*** are so marked for emphasis.

These protocols have been developed specifically for the Clark County EMS System and represent consensus among all of the Clark County EMS agency medical directors and the Chief Health Officer. The protocols demonstrate a commitment to a consistent approach to quality patient care.

From time to time, protocols may be added or revised by the Chief Health Officer upon recommendation by the Medical Advisory Board. Additional recommendations are welcome and appreciated at any time. They may be submitted to the OEMSTS for consideration and referral to the Medical Advisory Board.

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Office of Emergency Medical Services & Trauma System  
P.O. Box 3902 – 625 Shadow Lane  
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Questions may also be telephoned to EMS Staff at (702) 759-1050, or visit our website at [www.southernnevadahealthdistrict.org/ems/ems.htm](http://www.southernnevadahealthdistrict.org/ems/ems.htm).

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## TERMS AND CONVENTIONS

<b>AED</b> .....	means Automated External Defibrillator
<b>ALS</b> .....	means Advanced Life Support
<b>BLS</b> .....	means Basic Life Support
<b>BP</b> .....	means Blood Pressure
<b>BVM</b> .....	means Bag-Valve-Mask
<b>CHF</b> .....	means Congestive Heart Failure
<b>COPD</b> .....	means Chronic Obstructive Pulmonary Disease
<b>CPR</b> .....	means Cardiopulmonary Resuscitation
<b>DCAP-BTLS</b> .....	means Deformities; Contusions; Abrasions; Punctures/Penetrations; Burns; Tenderness; Lacerations; Swelling
<b>EKG</b> .....	means Electrocardiogram
<b>ETA</b> .....	means Estimated Time of Arrival
<b>ETT</b> .....	means Endotracheal Tube
<b>GU</b> .....	means Genitourinary
<b>HR</b> .....	means Heart Rate
<b>ILS</b> .....	means Intermediate Life Support
<b>IM</b> .....	means Intramuscular
<b>IN</b> .....	means Intranasal
<b>IO</b> .....	means Intraosseous
<b>IV</b> .....	means Intravenous
<b>JVD</b> .....	means Jugular Venous Distention
<b>MAD</b> .....	means Mucosal Atomizer Device
<b>MOI</b> .....	means Mechanism of Injury
<b>NRB</b> .....	means Non-rebreather
<b>NS</b> .....	means Normal Saline
<b>OEMSTS</b> .....	means Office of Emergency Medical Services & Trauma System
<b>OPQRST</b> .....	means Onset; Provokes; Quality; Radiates; Severity; Time (used in evaluating localized pain)

**PCR** ..... means Patient Care Record/Report

**RR**.....means Respiratory Rate

**SAMPLE** ..... means Symptoms; Allergies; Medications; Prior history; Last meal eaten;  
Events leading up to injury/illness

**SL**.....means Sublingual

**SQ**.....means Subcutaneous

# **TREATMENT PROTOCOLS**

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# GENERAL PATIENT CARE

## A. RESPONSE

Review the dispatch information and select appropriate response.

## B. SCENE ARRIVAL AND SIZE-UP

1. Consider Body Substance Isolation (BSI).
2. Consider Personal Protective Equipment (PPE).
3. Evaluate the scene safety.
4. Determine the number of patients.
5. Consider the need for additional resources.

## C. PATIENT APPROACH

1. Determine the Mechanism of Injury (MOI) / Nature of Illness (NOI).



For all emergency scenes where patient needs exceed available EMS resources, initial assessment and treatment shall be in accordance with an approved triage methodology.

## D. INITIAL ASSESSMENT



**Correct life-threatening problems as identified.**

1. Airway
  - a. Open and establish airway.
    - 1) Head tilt – chin lift if no suspicion of cervical spine injury
    - 2) Jaw thrust if evidence of potential cervical spine injury
  - b. Suction as necessary
  - c. If necessary, insert airway adjunct
    - 1) Oral airway if gag reflex is absent
    - 2) Nasal airway if gag reflex is present
  - d. Cervical Spine Immobilization  
If patient presents with a traumatic mechanism of injury refer to [Spinal Immobilization](#) protocol.



If the ability to adequately ventilate the patient cannot be established, the patient **MUST** be transported to the nearest emergency department.

2. Breathing
  - a. Determine if breathing is adequate.
    - 1) If patient's ventilations are not adequate, provide assistance with 100% oxygen using Bag-Valve-Mask (BVM).
    - 2) Administer oxygen as appropriate.
      - a) 12-15 lpm NRB to all patients (including COPD) experiencing cardiovascular, respiratory, or neurological compromise.
      - b) 2-6 lpm by nasal cannula or 6-15 lpm mask delivery device to **ALL** other patients with no history of prescribed home oxygen.
      - c) Patients with a history of prescribed home oxygen for chronic conditions should receive their prescribed home dosage of oxygen.
    - 3) Consider pulse oximetry, if available.



***Never withhold oxygen from a patient in respiratory distress!***



3. Circulation
  - a. Assess pulse.
    - 1) Infants and children less than 12 years of age:
      - a) If patient is symptomatic with poor perfusion (unresponsive or only responds to painful stimuli) and pulse is less than 60 bpm or absent begin CPR.
      - b) If pulse is greater than 60 bpm, continue assessment.
    - 2) Patients 1 year of age or greater: If pulse is absent, begin CPR and attach AED.
  - b. Assess for and manage profuse bleeding.
  - c. Assess skin color, temperature, and capillary refill.
  - d. All patients greater than 35 years of age complaining of chest pain or shortness of breath should have 12-Lead EKG performed, if equipment is available, to search for cardiac ischemia.
4. Disability
  - a. Assess mental status using AVPU Scale
    - 1) **A**lert
    - 2) Responds to **V**erbal stimuli
    - 3) Responds to **P**ainful stimuli
    - 4) **U**nresponsive
  - b. Perform Mini-Neurologic Assessment (Pulse / Motor / Sensory).

5. Exposure
  - a. To assess patient's injuries, remove clothing as necessary, considering condition and environment.

**E. HISTORY AND PHYSICAL EXAMINATION**

For **UNSTABLE / UNRESPONSIVE** trauma patients:

- a. Conduct Rapid Trauma Assessment, assessing for *DCAP-BTLS*:
    - 1) Head
      - a) Crepitation
    - 2) Neck
      - a) JVD
      - b) Tracheal Deviation
    - 3) Chest
      - a) Crepitation
      - b) Respiration
      - c) Paradoxical Motion
      - d) Breath Sounds
    - 4) Abdomen
      - a) Rigidity
      - b) Distention
    - 5) Pelvis / GU
      - a) Pain on Motion
      - b) Blood, Urine, Feces
    - 6) Extremities
      - a) Pulse / Motor / Sensory
    - 7) Posterior
  - b. Obtain Baseline Vital Signs
  - c. Obtain *SAMPLE* History
2. For **STABLE / RESPONSIVE** trauma patients:
- a. Determine chief complaint
  - b. Perform focused examination of the injured site and areas compatible with given MOI
  - c. Obtain Baseline Vital Signs
  - d. Obtain *SAMPLE* History
3. For **UNSTABLE / UNRESPONSIVE** medical patients:
- a. Perform Rapid Physical Examination
    - 1) Head and Neck
      - a) JVD
      - b) Medical Alert Device
    - 2) Chest
      - a) Breath Sounds
    - 3) Abdomen
      - a) Rigidity
      - b) Distention

## TREATMENT PROTOCOL

- 4) Pelvis / GU
    - a) Blood, Urine, Feces
  - 5) Extremities
    - a) Motor / Sensory / Pulse
    - b) Medical Alert Device
  - 6) Posterior
  - b. Obtain Baseline Vital Signs
  - c. If possible, obtain history of episode from family or bystanders (*OPQRST*).
  - d. If possible, obtain *SAMPLE* History from family or bystanders.
4. For **STABLE / RESPONSIVE** medical patients:
- a. Obtain history of episode (*OPQRST*).
  - b. Obtain Baseline Vital Signs
  - c. Obtain *SAMPLE* History
  - d. Perform a Focused Physical Exam, checking areas suggested by NOI.
5. Perform Detailed and Ongoing Assessments as dictated by patient condition.
- a. Reassess unstable patients frequently (recommended every 5 minutes).
  - b. Reassess stable patients at a minimum of every 15 minutes.

## F. TREATMENT PROTOCOLS

1. Refer to **ALL** appropriate protocols.
2. For pediatric patients:
  - a. Equipment and medications must be appropriate for the size and weight of the patient. Use of the Broselow Tape or equivalent is encouraged.
  - b. The developmental age of the infant/child must be considered in the communication and evaluation for treatment.
  - c. Treatment priorities are similar to the adult patient.
  - d. When appropriate, family members should remain with pediatric patients.
  - e. Infants and children must be properly restrained prior to and during transport.



## G. COMMUNICATIONS

1. Telemetry contact shall be established:
  - a. For all Code 3 transports.
  - b. For any medical emergency in which the EMS provider's judgment suggests consultation with a telemetry physician is necessary.
  - c. For all trauma patients going to a Trauma Center.
  - d. When telemetry contact is required per protocol.



**Telemetry contact should be established by radio. Telephone contact may only be used if the call is recorded via a phone patch through the FAO at 382-9007.**

## TREATMENT PROTOCOL

2. For patients who meet [Trauma Field Triage Criteria](#), telemetry reports shall include:
  - a. Patient age
  - b. Gender
  - c. Mechanism of injury
  - d. Ambulatory at scene
  - e. Suspected injuries
  - f. Vital signs
  - g. Airway status
  - h. Neurologic status
  - i. ETA
  - j. An incident identifier if multiple patients are involved (e.g. fire department command code "Main Street Command")
3. For all other patients, telemetry reports shall include, at a minimum:
  - a. Attendant / vehicle identification
  - b. Nature of call: INFORMATION ONLY or REQUEST FOR PHYSICIAN ORDERS
  - c. Patient information: i.e. number, age, sex
  - d. Patient condition: i.e. stable, full arrest
  - e. History
    - 1) Basic problem or chief complaint
    - 2) Pertinent associated symptoms
    - 3) Time since onset
    - 4) Past history, if pertinent
  - f. Objective findings
    - 1) General status of patient
    - 2) Level of responsiveness
    - 3) Vital signs
    - 4) Pertinent localized findings
    - 5) Working impression of patients' problem
  - g. Treatment
    - 1) In progress
    - 2) Requests for drugs or procedures
  - h. Estimated Time of Arrival, including any special circumstances that may cause a delay in transport

### H. DISPOSITION

1. Patients sustaining traumatic injuries shall be transported in accordance with the [Trauma Field Triage Criteria](#) protocol.
2. Patients sustaining burn injuries shall be transported in accordance with the [Burns](#) protocol.
3. Pediatric patients (<18 y/o for transport purposes ONLY) shall be transported in accordance with the [Pediatric Patient Destination](#) protocol.

## TREATMENT PROTOCOL

4. Patients with evidence of an acute cerebrovascular accident shall be transported in accordance with the [Acute Cerebrovascular Accident](#) protocol
5. Sexual assault victims shall be transported as follows:
  - a. Victims <13 years of age shall be transported to Sunrise Hospital and Medical Center.
  - b. Victims 13 years of age and up to 18 years of age shall be transported to either Sunrise Hospital and Medical Center or University Medical Center.
  - c. Victims 18 years of age and older shall be transported to University Medical Center.
  - d. For sexual assault victims outside a 50 mile radius from the above facilities, the licensee providing emergency medical care shall transport the patient to the nearest appropriate facility.
6. All patients in cardiac arrest or in whom the ability to adequately ventilate cannot be established should be transported to the closest facility.
7. Stable patients should be transported to the hospital of their choice.
  - a. If the patient does not have a preference, the patient should be transported to the closest facility.
  - b. Patients transported to an emergency department in accordance with the [Chronic Public Inebriate](#) protocol shall be transported to the **CLOSEST** facility.
8. Upon arrival in the emergency department, any patient, excluding patients placed on a legal psychiatric hold, meeting **ALL** the following criteria may be placed in the hospital waiting room or other appropriate location:
  - a. Normal vital signs
    - 1) HR 60-100
    - 2) RR 10-20
    - 3) Systolic BP 100-180
    - 4) Diastolic BP 60-100
    - 5) Room air pulse oximetry >94%
    - 6) Alert and oriented x 4
  - b. Did not receive any parenteral medications during EMS transport except a single dose of [Morphine Sulfate](#) and/or [Ondansetron HCl \(Zofran\)](#).
  - c. In the judgment of the Paramedic, does not require continuous cardiac monitoring. Note: Any EKG monitoring initiated by a transferring facility may not be discontinued by EMS personnel.
  - d. Does not require intravenous fluids (saline lock is permissible).
  - e. Can maintain a sitting position without adverse impact on their medical condition.

## TREATMENT PROTOCOL

- f. Is left with a completed Prehospital Care Record, Patient Information Sheet and verbal notification to hospital personnel.
9. If a hospital declares an **Internal Disaster**, that facility is to be bypassed for **ALL** patients except patients in cardiac arrest or in whom the ability to adequately ventilate has not been established.
10. If the patient declines prehospital care and/or transport, the following procedures shall be followed:
  - a. Talk with the patient: Attempt to convince patient of the need for treatment. Reinforce the gravity of the situation.
  - b. Talk with family/friends: Establish their relationship to the patient. They may be able to convince the patient to accept care.
  - c. If the patient agrees to treatment/transport at this time, initiate appropriate care and transport.
  - d. If the patient continues to decline treatment/transport, answer questions posed by algorithm on the Release of Medical Assistance form (Appendix), circling appropriate response.
  - e. Ensure complete documentation on the trip report to include a minimum of mental status exam and complete vital signs.
  - f. Complete waiver and have patient sign if patient continues to decline treatment/transport.
  - g. If patient refuses to sign, document refusal on PCR and waiver.
  - h. If possible, have patient's refusal witnessed by a third-party (friend, law enforcement, etc).
  - i. Attach one copy of waiver to prehospital medical record, give one copy to patient, and give third copy to secondary provider (if applicable).

### I. TRANSFER OF CARE / RENDEZVOUS

Providers will relay assessment findings and treatment provided to the individual(s) assuming responsibility for the patient(s).

### J. DOCUMENTATION

A Patient Care Record (PCR) will be completed for each incident/patient encounter, in accordance with current EMS Regulations.

### K. CONFIDENTIALITY

Patient confidentiality must be maintained at all times.

### L. PROFESSIONAL CONDUCT

All patients should be treated with dignity and respect in a calm and reassuring manner.

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## ABDOMINAL PAIN, BACK PAIN, FLANK PAIN (Non-Traumatic)

### BLS:

1. Initiate [General Patient Care](#).

### ILS:

2. If patient is greater than 35 years of age, a female in her childbearing years, or suffering from nausea/vomiting, attempt [Vascular Access](#).
3. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

### ALS:

4. If patient is greater than 35 years of age or has a history of cardiac disease, place on cardiac monitor.
5. If patient complains of nausea/vomiting, consider [Ondansetron HCl \(Zofran\)](#) 4 mg slow IV/IM. May repeat dose one time as indicated.



Pediatric dose of [Ondansetron HCl \(Zofran\)](#) is 0.15mg/kg IV/IM, not to exceed 4 mg. (**Not recommended for use in children less than 2 years of age**).

6. Consider [Morphine Sulfate](#) 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals until pain is relieved or respiratory/mental status depression occur.



Morphine not recommended for use in children for abdominal pain.

7. Continue [General Patient Care](#).

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# ACUTE CEREBRAL VASCULAR ACCIDENT



**Scene time should be less than 10 minutes and it is imperative that EMS personnel attempt to document the contact information for someone who can provide a history of the illness.**

## **BLS:**

1. Initiate [General Patient Care](#).
2. Position patient with head and chest elevated or position of comfort.
3. Administer oxygen to maintain normal oxygen saturation.
4. Suction as necessary and be prepared to assist ventilations.
5. Complete [Cincinnati Stroke Scale \(Appendix B\)](#).
6. Make telemetry contact with the receiving facility. Patients with a positive Cincinnati Stroke Scale shall be transported, based on the preference of the patient, to one of the following facilities:
  - a. Desert Springs Hospital
  - b. Southern Hills Hospital and Medical Center
  - c. Spring Valley Hospital Medical Center
  - d. Sunrise Hospital and Medical Center
  - e. Sunrise MountainView Hospital
  - f. University Medical Center
  - g. Valley Hospital Medical Center
7. If the patient does not have a preference, the patient shall be transported to the closest of the above facilities.
8. If, in the judgment of prehospital personnel, the transport time to one of the above facilities would be detrimental to a critically ill / unstable patient, the patient should be transported to the closest Emergency Department.
9. The patient may be transported to a non-designated facility:
  - a. At the request of the patient if deemed stable by the EMS provider; or
  - b. The incident is greater than 50 miles from the closest stroke facility; and
  - c. The receiving facility and physician are contacted and agree to accept the patient.



## TREATMENT PROTOCOL

### **ILS:**

10. If airway is not manageable by BLS methods, consider use of a [Supraglottic Airway Device](#) as indicated by patient condition.
11. Attempt [Vascular Access](#).
12. Obtain glucose reading; treat hypoglycemia per [Altered Mental Status](#) protocol.

### **ALS:**

13. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
14. Place patient on cardiac monitor; treat any underlying dysrhythmias according to applicable protocol.
15. Continue [General Patient Care](#).

## ACUTE CORONARY SYNDROME (SUSPECTED)



Nitroglycerin is contraindicated for any patient having taken Viagra, or similar medication, in the last 24 hours.

### **BLS:**

1. Initiate [General Patient Care](#).
2. Assess and treat for shock if indicated.
3. If the patient has a known history of coronary artery disease, assist the patient in administering his or her own [Nitroglycerin](#) exactly as prescribed *IF* initial **SYSTOLIC** blood pressure is greater than 100 mmHg, and pulse is greater than 60 bpm. May be repeated every 5 minutes if ischemic discomfort persists, and blood pressure and pulse remain stable. Maximum three doses total (patient **AND** EMT-B assisted).

### **ILS:**

4. If airway is not manageable by BLS methods, consider use of a [Supraglottic Airway Device](#) as indicated by patient condition.
5. Attempt [Vascular Access](#).
6. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.
7. Administer [Acetylsalicylic Acid \(Aspirin\)](#) 324 mg (four – 81 mg chewable tablets) PO, if not contraindicated.

### **ALS:**

8. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
9. Place patient on cardiac monitor. Obtain 12-Lead EKG if equipment is available. Notify receiving facility if there is evidence of an acute myocardial infarction.



After ABCs, acquiring a 12-Lead EKG is the highest priority on-scene.

10. Administer [Nitroglycerin](#) 0.4 mg SL. May be repeated every 5 minutes if ischemic discomfort persists, **SYSTOLIC** blood pressure is greater than 100 mmHg, and pulse is greater than 60 bpm. 12-Lead EKG and IV access should be obtained prior to administration of Nitroglycerin.



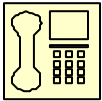
Nitroglycerin is contraindicated in any patient with evidence of a right ventricular infarction.

11. Administer [Morphine Sulfate](#) 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals until pain is relieved or respiratory/mental status depression occur.
12. If patient complains of nausea/vomiting, consider [Ondansetron HCl \(Zofran\)](#) 4 mg slow IV/IM. May repeat dose one time as indicated.
13. Continue [General Patient Care](#).

# ADVANCED AIRWAY MANAGEMENT

## ALS:

1. Perform [Endotracheal Intubation](#).
  - a. Ensure patent [Vascular Access](#).
  - b. Hyperoxygenate the patient with 100% O<sub>2</sub> via BVM
  - c. Maintain continuous cardiac monitoring and pulse oximetry
  - d. For [Nasotracheal Intubation](#) prep the nostrils with [Phenylephrine \(Neo-Synephrine\)](#) 2-3 drops or 1-2 sprays in each nostril, and [Lidocaine 2% Lubricant](#).
  - e. If patient is 12 years of age or greater, administer [Etomidate \(Amidate\)](#) 0.5 mg/kg IV.
  - f. If patient is less than 12 years of age, administer [Midazolam \(Versed\)](#) 0.1 mg/kg IV/IN titrated to effect. Maximum single dose: 5 mg. Must be given slowly over a period of 3-5 minutes. Additional pediatric Versed doses by telemetry physician order only.
  - g. Insert orotracheal or nasotracheal tube as appropriate.
  - h. The following items **MUST** be documented on the PCR:
    - Confirm tracheal placement:
      - 1) Visualization of the cords, if an orotracheal intubation
      - 2) Use of End-tidal CO<sub>2</sub> detector/capnography and results
    - Confirm proper tube depth and adequacy of ventilation:
      - 3) Presence/absence of bilateral breath sounds
      - 4) Presence/absence of chest wall rise/fall
      - 5) Presence/absence of gastric sounds
      - 6) Reverification of tube position after **EACH** patient movement
  - i. Secure tube with commercial tube holder or tape
2. Maintain patient sedation. Administer [Midazolam \(Versed\)](#) 0.1 mg/kg IV/IN. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.
3. After successful intubation, insert nasogastric / orogastric tube for gastric distension that impairs adequate ventilation.
4. If there is evidence of complete airway obstruction unresolved by any other BLS or ALS procedures, or if a condition is present in which ventilation of a patient is not possible by any other BLS and ALS procedure, perform [Needle Cricothyroidotomy](#).
5. If the patient has an obstructed or decannulated tracheostomy tube **AND** respiratory distress, perform [Tracheostomy Tube Replacement](#).



6. Continue [General Patient Care](#).

# ALLERGY / ANAPHYLAXIS

## BLS:

1. Initiate [General Patient Care](#).
2. Assess for signs and symptoms of allergic reaction.
3. For allergic reaction **WITH WHEEZING**, assist the patient in administering their own [Bronchodilator Metered Dose Inhaler](#) exactly as prescribed.
4. For severe allergic reaction involving **ANGIOEDEMA/STRIDOR** and/or **SHOCK**, assist the patient in administering their own [Epinephrine Auto-Injector](#) exactly as prescribed.

## ILS:

5. If airway is not manageable by BLS methods, consider use of a [Supraglottic Airway Device](#) as indicated by patient condition.
6. Attempt [Vascular Access](#).
7. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

8. Administer [Diphenhydramine \(Benadryl\)](#) 50 mg IV/IM.



Pediatric Benadryl dose is 1 mg/kg IV/IM, not to exceed 50 mg.

9. For allergic reaction **WITH WHEEZING**, administer [Albuterol \(Proventil\)](#) 2.5 mg in 3.0 ml (0.083% solution) via nebulizer. Continue treatments until clinical condition improves.
10. For severe allergic reaction involving **ANGIOEDEMA/STRIDOR** and/or **SHOCK**, administer [Epinephrine](#) 0.5 mg 1:1,000 IM every 15 minutes as indicated by patient condition for a total maximum dose of 1.5 mg. If the patient's condition is so critical that imminent circulatory collapse is likely, administer [Epinephrine](#) 0.5 mg 1:10,000 IV.

## TREATMENT PROTOCOL



Pediatric [Epinephrine](#) dose is 0.01 mg/kg 1:1,000 IM or every 15 minutes as indicated by patient condition with a maximum single dose of 0.3 mg. May repeat x 2 for a total maximum dose of 0.9 mg. If the patient's condition is so critical that imminent circulatory collapse is likely, administer [Epinephrine](#) 0.01 mg/kg 1:10,000 IV/IO.

### **ALS:**

11. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
12. Place patient on cardiac monitor.
13. Continue treatment as outlined above in ILS section.
14. Continue [General Patient Care](#).

## ALTERED MENTAL STATUS



**Consider other causes of Altered Mental Status: e.g. Hypoxia or Thermoregulatory Dysfunction. Alcohol can cause altered mental status but is not commonly a cause of total unresponsiveness to pain.**

### **BLS:**

1. Initiate [General Patient Care](#).
2. If the patient is seizing:
  - a. **DO NOT RESTRAIN.**
  - b. Protect patient from further injury.
3. When seizure activity has stopped, identify and treat injuries.
4. If patient is a known diabetic administer [Glucose](#) between the gum and cheek, if gag reflex is present.

### **ILS:**

5. Determine blood glucose using Chemstrip / Glucometer. If BS<80 mg/dl in the adult patient, administer:
  - a. [Glucose 50% \(D50\)](#) 25 gm IV. If no response, repeat one additional 25 gm amp in 5 minutes to a total dose of 50 gm; **OR**
  - b. [Glucagon](#) 1 mg IM for patients in whom IV access cannot be achieved within ten minutes or three IV attempts.



If BS<60 mg/dl in the pediatric patient or <40 in the newborn patient, administer Glucose 0.5 gm/kg IV/IO.

<15 kg Glucose 12.5% (D12.5) 4 ml/kg

>15 kg Glucose 50% (D50) 1 ml/kg

Pediatric Glucagon dose is 0.5 mg IM

6. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.



**If narcotic overdose/hypoglycemia is suspected, administer Narcan/Glucose prior to Supraglottic Airway Device/intubation.**

## TREATMENT PROTOCOL

7. Consider [Vascular Access](#).
8. If patient has respiratory depression **AND** is unresponsive, administer [Naloxone \(Narcan\)](#) 2 mg IN/IM/IV. If no change in patient's status or patient is slow to respond, administer Naloxone (Narcan) 2 mg IN/IM/IV, titrated to effect to a total maximum dose of 10 mg.



Pediatric Narcan dose is 0.1 mg/kg IN/IM/IV, not to exceed the adult dose.

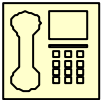
9. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

### **ALS:**

10. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
11. Place patient on cardiac monitor.
12. If patient is seizing, administer [Midazolam \(Versed\)](#) 0.1 mg/kg IN/IM/IV. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.



13. The initial pediatric dose of Versed is 0.1 mg/kg IN/IM/IV, to a single maximum dose of 5 mg. Additional pediatric Versed doses by telemetry physician order only.
14. Does the patient meet the criteria of the [Emergency Medical Services Chronic Public Inebriate](#) protocol?
15. Continue [General Patient Care](#).

## BEHAVIORAL EMERGENCIES



**Law enforcement assistance should be requested on all calls involving potentially violent patients.**

### **BLS:**

1. Initiate [General Patient Care](#).
2. Consider medical causes of the patient's behavior
  - a. Hypoxia
  - b. Intoxication/overdose
  - c. Hypoglycemia
3. Implement **SAFER** model.
  - a. **S**tabilize the situation by containing and lowering the stimuli.
  - b. **A**ssess and acknowledge the crisis.
  - c. **F**acilitate the identification and activation of resources (chaplain, family, friends, or police).
  - d. **E**ncourage patient to use resources and take actions in his/her best interest.
  - e. **R**ecovery or referral - leave patient in care of responsible person or professional, or transport to appropriate facility.
4. If it is in the best interest of the patient and does not place EMS personnel in danger of physical harm, soft restraints may be applied to the wrists and ankles prior to transport. The reasons for restraint must be clearly documented on the PCR.



**Under no circumstances are patients to be transported restrained in the prone position.**

### **ALS:**

5. If the patient continues to present a danger to himself or EMS personnel, consider chemical restraint. The reasons for chemical restraint must be clearly documented on the PCR.
  - a. Administer [Midazolam \(Versed\)](#) 0.1 mg/kg IM/IN/IV. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.
6. Consider [Vascular Access](#).

## TREATMENT PROTOCOL



Midazolam not recommended for use in children for behavioral emergencies.

7. Continue [General Patient Care](#).

# BURNS



**Patients meeting the following criteria shall be transported to the Burn Center (UMC Adult Trauma Center or UMC Pediatric E.D.):**

- (1) Second and/or third degree burns >20% bsa**
- (2) Second and/or third degree burns >10% bsa in patients under 10 or over 50 years of age**
- (3) Burns of the face, hands, feet, or perineum**
- (4) Electrical burns (including lightning)**
- (5) Chemical burns**
- (6) Circumferential burns**

## **BLS:**

1. Initiate [General Patient Care](#).
2. Stop the burning process with water or saline.
3. Remove smoldering clothing and jewelry.
4. Continually monitor the airway for evidence of obstruction.
5. Cover the burned area with a dry sterile dressing. **DO NOT** use any type of ointment, lotion or antiseptic.
6. Estimate involved body surface area (BSA) using the “Rule of Nines.”

## **ILS:**

7. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.
8. Attempt [Vascular Access](#), if indicated by patient condition.
9. If vital signs and patient’s condition indicate hypoperfusion, **OR** there is greater than 10% BSA involved, administer initial fluid challenge of 500 ml NS. If patient’s condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

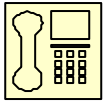
## TREATMENT PROTOCOL

### ALS:

10. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
11. Place patient on cardiac monitor.
12. Consider [Morphine Sulfate](#) 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals until pain is relieved or respiratory/mental status depression occur.

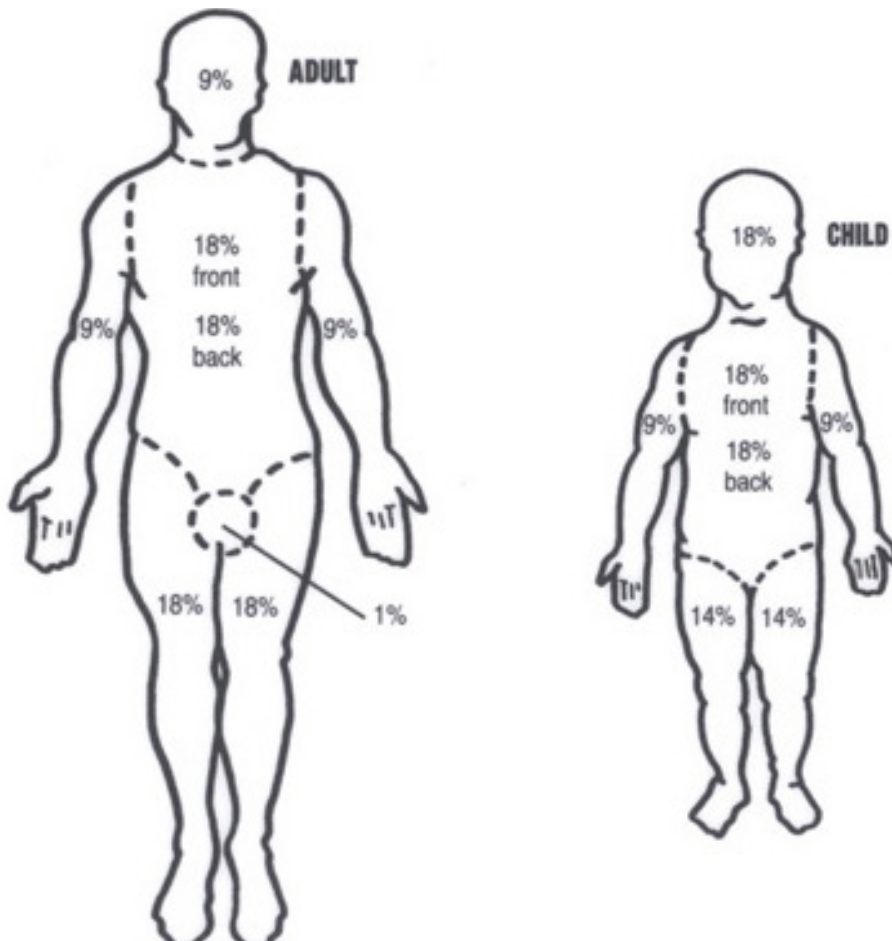


Pediatric Morphine ***first*** dose is 0.1 mg/kg slow IV to a maximum single dose of 10 mg.



Additional pediatric Morphine doses by telemetry physician order only.

13. Continue [General Patient Care](#).



REVISED AND ENDORSED BY EMS MEDICAL ADVISORY BOARD 7/07/10  
SOUTHERN NEVADA HEALTH DISTRICT

## ADULT CCR CARDIAC ARREST

### **BLS:**

1. Initiate [General Patient Care](#).
2. Establish unresponsiveness, pulselessness, and apnea.
3. Does patient meet the criteria of the [Prehospital Death Determination](#) protocol?
4. Does the patient meet the criteria of the [Do Not Resuscitate \(DNR\)](#) protocol?
5. **WITNESSED ARREST BY EMS**, place patient on Automatic External Defibrillator (AED) and defibrillate if prompted then immediately begin chest compressions at a rate of 100/min for 2 minutes.
6. **UNWITNESSED ARREST**, immediately begin chest compressions at a rate of 100/min for 2 minutes prior to AED application and analysis.
7. Have additional rescuer insert Oropharyngeal Airway (OPA) and place Non-Rebreather (NRB) mask on patient at 10-15 LPM or initiate BVM ventilation at 6 BPM.



**Quality compressions are the single most important action to be taken, followed by timely defibrillation. Do not interrupt compressions to apply oxygen, attempt an IV or perform other ALS Procedures.**

8. Analyze rhythm, defibrillate if prompted **OR** immediately resume chest compressions at 100/min for 2 minutes. Repeat analysis every two minutes.
9. If patient has return of spontaneous circulation ensure adequate oxygenation and ventilation.

### **ILS:**

10. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#).

## TREATMENT PROTOCOL

11. Attempt [Vascular Access](#).
12. If patient has return of spontaneous circulation and vital signs indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, check lung fields. If clear, administer an additional 500 ml NS.

### **ALS:**

13. Place patient on cardiac monitor.
14. Treat underlying dysrhythmia per appropriate protocol.
15. Administer [Epinephrine](#) as soon as possible. Administer additional dose every 400 compressions IV/IO/ETT until desired effect is achieved. (ETT administration requires 2-2 ½ times IV dose).
16. If airway is not manageable by BLS methods, consider [Advanced Airway Management](#) protocol after the completion of three cycles of compressions.



**Do not interrupt compressions for more than 5-10 seconds to attempt intubation.**

16. If patient has return of spontaneous circulation and vital signs indicate hypoperfusion unresponsive to fluid challenge administer [Dopamine \(Intropin\)](#) starting at 5 mcg/kg/min via continuous IV infusion. Titrate to a **SYSTOLIC** blood pressure of 100 mmHg not to exceed 20 mcg/kg/min.
17. If patient remains unresponsive to resuscitation efforts, consider [Termination of Resuscitation](#).
18. Continue [General Patient Care](#).



**If patient has return of spontaneous circulation, strongly consider transport to the closest hospital capable of maintaining cooling measures for 24 hours.**

# CARDIAC DYSRHYTHMIA: ASYSTOLE

**ALS:**

1. Administer **Epinephrine** 1.0 mg every 3-5 minutes IV/ETT until desired effect is achieved. (ETT administration requires 2-2 ½ times IV dose).



Pediatric Epinephrine dose is 0.01 mg/kg 1:10,000 IV or 0.1 mg/kg 1:1,000 ETT every 3-5 minutes, not to exceed adult dose.

In neonatal resuscitation (0-30 days), 1:10,000 is to be used. The ETT dose remains unchanged at 0.01 mg/kg repeated every 3-5 minutes, if necessary.

2. Administer **Atropine** 1.0 mg IV/ETT every 3-5 minutes until heart rate of 60 bpm or clinical condition improves or total dose of 3 mg (ETT administration requires 2-2½ times IV dose).



Atropine not recommended for use in children.

3. If prolonged arrest, identify and treat potential underlying causes:

- |                            |  |
|----------------------------|--|
| a. Hypovolemia             | Volume Infusion  |
| b. Hypoxia                 | <b><u>Oxygenation &amp; Ventilation</u></b>                            |
| c. Hydrogen ion (Acidosis) | <b><u>Sodium Bicarbonate</u></b>                                       |
| d. Hyperkalemia            | <b><u>Calcium Chloride, Glucose, Sodium Bicarbonate; Albuterol</u></b> |
| e. Hypothermia             | Warming  |
| f. Tablets (Overdose)      |  |
| TCA's                      | <b><u>Sodium Bicarbonate</u></b>                                       |
| Beta Blockers              | <b><u>Glucagon</u></b>   |
| Ca Channel Blockers        | <b><u>Calcium Chloride</u></b>   |
| Opiates                    | <b><u>Narcan</u></b>   |
| g. Tamponade (Cardiac)     | Volume Infusion  |
| h. Tension Pneumothorax    | <b><u>Needle Decompression</u></b>                                     |
| i. Thrombosis, Heart (AMI) | Dysrhythmia Focused Therapy  |
| j. Thrombosis, Pulmonary   | Volume Infusion  |

4. If patient remains unresponsive to resuscitation efforts, consider **Termination of Resuscitation**.

5. Continue **General Patient Care**.

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## CARDIAC DYSRHYTHMIA: BRADYCARDIA

### ALS:

1. Place patient on cardiac monitor.
2. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.

For the **HEMODYNAMICALLY UNSTABLE** patient

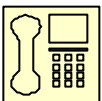
3. Initiate [Transcutaneous Pacing](#). Do not delay Pacing while awaiting IV access. In the conscious patient, administer:

#### Sedation:

- a. [Midazolam \(Versed\)](#) 0.1 mg/kg IN/IV/IM. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect; **AND**

#### Analgesia:

- b. [Morphine Sulfate](#) 0.1 mg/kg IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals until pain is relieved or respiratory/mental status depression occur.



Pediatric Pacing is by Telemetry Physician order only.

For the **HEMODYNAMICALLY STABLE** but symptomatic bradycardia patient

4. Consider [Atropine](#) 0.5 mg IV/ETT every 3-5 minutes until heart rate of 60 bpm or clinical condition improves or total dose of 3 mg (ETT administration requires 2-2 ½ times IV dose).

## TREATMENT PROTOCOL



5. In the pediatric patient Epinephrine is the initial drug of choice. Administer **Epinephrine** 0.01 mg/kg 1:10,000 IV or 0.1 mg/kg 1:1,000 ETT every 3-5 minutes, not to exceed adult dose.

The pediatric **Atropine** dose is 0.02 mg/kg IV/ETT with a minimum dose of 0.1 mg. May repeat once in 5 minutes with a total maximum dose of 1 mg.

6. If patient is refractory to maximum dose of Atropine, administer **Dopamine (Intropin)** starting at 5 mcg/kg/min via continuous IV infusion. Titrate to a **SYSTOLIC** blood pressure of 100 mmHg not to exceed 20 mcg/kg/min.
7. Continue **General Patient Care**.

## CARDIAC DYSRHYTHMIA: MONOMORPHIC VENTRICULAR TACHYCARDIA

### ALS:

1. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
2. Place patient on cardiac monitor.

For the **HEMODYNAMICALLY UNSTABLE** patient

3. Perform [Synchronized Cardioversion](#).
4. If there is any doubt whether an unstable patient has monomorphic or polymorphic ventricular tachycardia, do not delay treatment for further rhythm analysis. Perform [Defibrillation](#).
5. Consider sedation prior to [Synchronized Cardioversion](#) or [Defibrillation](#); administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.



Pediatric cardioversion should begin at 0.5 to 1 J/kg and may increase to 2 J/kg if initial dose is unsuccessful. Pediatric defibrillation shall be at 2 J/kg. If unsuccessful, defibrillation should be attempted at 4 J/kg and continue at 4 J/kg until conversion occurs. Consider sedation prior to cardioversion or defibrillation; administer Etomidate 0.15 mg/kg IV.

6. If cardioversion is unsuccessful, administer [Amiodarone \(Cordarone\)](#) 150 mg in 50 ml NS IV to run over 10 minutes.



Pediatric Amiodarone dose is 5 mg/kg in 50 ml NS IV to run over 20 minutes.

7. Repeat [Synchronized Cardioversion](#) or [Defibrillation](#) if ventricular tachycardia not resolved. Reassess need for additional sedation. Repeat Etomidate, if necessary.
8. If unsuccessful, repeat [Amiodarone \(Cordarone\)](#) 150 mg in 50 ml NS IV to run over 10 minutes.

## TREATMENT PROTOCOL



Pediatric Amiodarone dose is 5 mg/kg in 50 NS IV to run over 20 minutes.

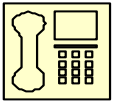
9. Repeat [Synchronized Cardioversion](#) or [Defibrillation](#) if ventricular tachycardia not resolved.

For the **HEMODYNAMICALLY STABLE** patient

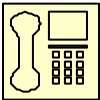
10. Perform a 12-Lead EKG in an attempt to establish specific rhythm.

**Confirmed Torsades de Pointes: See [Torsades de Pointes Protocol](#).**

11. Administer [Amiodarone \(Cordarone\)](#) 150 mg in 50 ml NS IV to run over 10 minutes.



Pediatric Amiodarone dose is 5 mg/kg in 50 ml NS IV to run over 20 minutes.



12. If refractory to drug therapy and the patient remains **HEMODYNAMICALLY STABLE**, consider [Synchronized Cardioversion](#).

13. Consider sedation prior to cardioversion; administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.



Pediatric cardioversion should begin at 0.5 to 1 J/kg and may increase to 2 J/kg if initial dose is unsuccessful. Consider sedation prior to cardioversion; administer Etomidate 0.15 mg/kg IV.

14. Continue [General Patient Care](#).

# CARDIAC DYSRHYTHMIA: PULSELESS ELECTRICAL ACTIVITY

## ALS:

1. Administer [Epinephrine](#) 1.0 mg every 3-5 minutes IV/ETT until desired effect is achieved. (ETT administration requires 2-2 ½ times IV dose).



Pediatric Epinephrine dose is 0.01 mg/kg 1:10,000 IV or 0.1 mg/kg 1:1,000 ETT every 3-5 minutes, not to exceed adult dose.

In neonatal resuscitation (0-30 days), 1:10,000 is to be used. The ETT dose remains unchanged at 0.01 mg/kg repeated every 3-5 minutes, if necessary.

2. If underlying rhythm is bradycardic, administer [Atropine](#) 1.0 mg IV/ETT every 3-5 minutes until heart rate of 60 bpm or clinical condition improves or total dose of 3 mg (ETT administration requires 2-2 ½ times IV dose).



Atropine not recommended for use in children.



**Bradycardia in the pediatric patient is most commonly due to hypoxia. Ensure adequate oxygenation.**

3. Identify and treat potential underlying causes:

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>a. Hypovolemia</li> <li>b. Hypoxia</li> <li>c. Hydrogen ion (Acidosis)</li> <li>d. Hyperkalemia</li> </ol>   | <p>Volume Infusion</p> <p><b><u>Oxygenation &amp; Ventilation</u></b></p> <p><b><u>Sodium Bicarbonate</u></b></p> <p><b><u>Calcium Chloride, Glucose, Sodium Bicarbonate; Albuterol</u></b></p> |
| <ol style="list-style-type: none"> <li>e. Hypothermia</li> <li>f. Tablets (Overdose)               <ul style="list-style-type: none"> <li>TCA's</li> <li>Beta Blockers</li> <li>Ca Channel Blockers</li> <li>Opiates</li> </ul> </li> </ol> | <p>Warming</p> <p><b><u>Sodium Bicarbonate</u></b></p> <p><b><u>Glucagon</u></b></p> <p><b><u>Calcium Chloride</u></b></p> <p><b><u>Narcan</u></b></p>  |
| <ol style="list-style-type: none"> <li>g. Tamponade (Cardiac)</li> <li>h. Tension Pneumothorax</li> <li>i. Thrombosis, Heart (AMI)</li> <li>j. Thrombosis, Pulmonary</li> </ol>   | <p>Volume Infusion</p> <p><b><u>Needle Decompression</u></b></p> <p>Dysrhythmia Focused Therapy</p> <p>Volume Infusion</p>  |

4. If patient remains unresponsive to resuscitation efforts, consider [Termination of Resuscitation](#).
5. Continue [General Patient Care](#).

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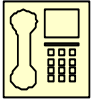
## CARDIAC DYSRHYTHMIA: SUPRAVENTRICULAR TACHYCARDIA (NARROW COMPLEX)

### ALS:

1. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
2. Place patient on cardiac monitor. Obtain 12-Lead EKG, if equipment available.

For the **HEMODYNAMICALLY UNSTABLE** patient

3. Administer [Adenosine \(Adenocard\)](#), if IV is already established, 12 mg fast IV.



Pediatric Adenosine dose is 0.2 mg/kg fast IV, not to exceed 12 mg.

4. If unsuccessful, or IV not established, perform [Synchronized Cardioversion](#).
5. Consider sedation prior to cardioversion; administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.



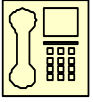
Pediatric cardioversion should begin at 0.5 to 1 J/kg and may increase to 2 J/kg if initial dose is unsuccessful. Consider sedation prior to cardioversion; administer Etomidate 0.15 mg/kg IV.

6. If unsuccessful, repeat [Synchronized Cardioversion](#). Reassess need for additional sedation. Repeat Etomidate, if necessary.

For the **HEMODYNAMICALLY STABLE** patient

7. Attempt [Vagal Maneuvers](#).
8. If unsuccessful, administer [Adenosine \(Adenocard\)](#) 6 mg fast IV. If first dose is unsuccessful in 1-2 minutes, may repeat at 12 mg fast IV.

## TREATMENT PROTOCOL



Pediatric Adenosine dose is 0.1 mg/kg fast IV, not to exceed 6 mg. If first dose is unsuccessful in 1-2 minutes, may repeat at 0.2 mg/kg fast IV, not to exceed 12 mg.

9. Continue [General Patient Care](#).



**Adenosine (Adenocard) should be used with caution in patients taking Digoxin or carbamazepine (Tegretol).  
Patient's who develop high-level A-V block with the first dose of Adenosine should not receive additional doses.**

## CARDIAC DYSRHYTHMIA: TORSADES DE POINTES

### ALS:

1. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
2. Place patient on cardiac monitor.

For the **HEMODYNAMICALLY UNSTABLE** patient

3. Perform [Synchronized Cardioversion](#).
4. If there is any doubt whether an unstable patient has monomorphic or polymorphic ventricular tachycardia, do not delay treatment for further rhythm analysis. Perform [Defibrillation](#).
5. Consider sedation prior to [Synchronized Cardioversion](#) or [Defibrillation](#); administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.



Pediatric cardioversion should begin at 0.5 to 1 J/kg and may increase to 2 J/kg if initial dose is unsuccessful. Pediatric defibrillation shall be at 2 J/kg. If unsuccessful, defibrillation should be attempted at 4 J/kg and continue at 4 J/kg until conversion occurs. Consider sedation prior to cardioversion or defibrillation; administer Etomidate 0.15 mg/kg IV.

6. If [Synchronized Cardioversion](#) or [Defibrillation](#) is unsuccessful, administer [Magnesium Sulfate](#) 2 gm slow IV.



Pediatric Magnesium dose is 25 mg/kg slow IV/IO.

7. Repeat [Synchronized Cardioversion](#) or [Defibrillation](#) if Torsades de Pointes not resolved. Reassess need for additional sedation. Repeat [Etomidate \(Amidate\)](#), if necessary.

For the **HEMODYNAMICALLY STABLE** patient

8. Perform a 12-Lead EKG in an attempt to establish specific rhythm.

**Confirmed Monomorphic:** See [Monomorphic VT Protocol](#).

9. Administer [Magnesium Sulfate](#) 2 gm slow IV.



Pediatric Magnesium dose is 25 mg/kg slow IV.



10. If refractory to drug therapy and the patient remains **HEMODYNAMICALLY STABLE**, consider [Synchronized Cardioversion](#).
11. Consider sedation prior to cardioversion; administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.
12. Continue [General Patient Care](#).

## CARDIAC DYSRHYTHMIA: VENTRICULAR FIBRILLATION OR PULSELESS VENTRICULAR TACHYCARDIA

### ALS:

1. **WITNESSED ARREST BY EMS**, initiate immediate [Defibrillation](#).
2. **UNWITNESSED ARREST**, immediately begin chest compressions at a rate of 100/min for 2 minutes prior to [Defibrillation](#).
3. Have additional rescuer insert Oropharyngeal Airway (OPA) and place Non-Rebreather (NRB) mask on patient at 10-15 LPM or initiate BVM ventilation at 6 BPM.



Initial pediatric defibrillation dose is 2 J/kg. Additional shocks should be delivered at 4 J/kg. Pediatric ventilation rate is one breath every 6-8 seconds **via BVM** without pausing chest compressions.

4. Administer [Epinephrine](#) as soon as possible. Administer additional dose every 400 compressions IV/IO/ETT until desired effect is achieved. (ETT administration requires 2-2 ½ times IV dose).



Pediatric Epinephrine dose is 0.01 mg/kg 1:10,000 IV/IO or 0.1 mg/kg 1:1,000 ETT every 3-5 minutes, not to exceed adult dose.

In neonatal resuscitation (0-30 days), 1:10,000 is to be used. The ETT dose remains unchanged at 0.01 mg/kg repeated every 3-5 minutes, if necessary.

5. Analyze rhythm, defibrillate if prompted **OR** immediately resume chest compressions at 100/min for 2 minutes.
6. If unsuccessful, Administer [Amiodarone \(Cordarone\)](#) 300 mg IV.



Pediatric Amiodarone dose is 5 mg/kg IV/IO.

7. Analyze rhythm, defibrillate if prompted **OR** immediately resume chest compressions at 100/min for 2 minutes.
8. If unsuccessful, administer [Amiodarone \(Cordarone\)](#) 150 mg IV.



Repeat pediatric Amiodarone dose is 5 mg/kg IV/IO.

## TREATMENT PROTOCOL

9. If airway is not manageable by BLS methods, consider [Advanced Airway Management](#) protocol after the completion of three cycles of compressions.



**Do not interrupt compressions for more than 5-10 seconds to attempt intubation.**

10. If Torsades de Pointes is suspected, administer [Magnesium Sulfate](#) 2 gm slow IV.



Pediatric Magnesium dose is 25 mg/kg slow IV.

11. If prolonged arrest, identify and treat potential underlying causes:
- |                            |   |
|----------------------------|---|
| a. Hypovolemia             | Volume Infusion   |
| b. Hypoxia                 | <b>Oxygenation &amp; Ventilation</b>                            |
| c. Hydrogen ion (Acidosis) | <b>Sodium Bicarbonate</b>                                       |
| d. Hyperkalemia            | <b>Calcium Chloride, Glucose, Sodium Bicarbonate; Albuterol</b> |
| e. Hypothermia             | Warming   |
| f. Tablets (Overdose)      |   |
| TCA's                      | <b>Sodium Bicarbonate</b>                                       |
| Beta Blockers              | <b>Glucagon</b>   |
| Ca Channel Blockers        | <b>Calcium Chloride</b>   |
| Opiates                    | <b>Narcan</b>   |
| g. Tamponade (Cardiac)     | Volume Infusion   |
| h. Tension Pneumothorax    | <b>Needle Decompression</b>                                     |
| i. Thrombosis, Heart (AMI) | Dysrhythmia Focused Therapy                                     |
| j. Thrombosis, Pulmonary   | Volume Infusion   |

12. Continue [General Patient Care](#).



**If patient has return of spontaneous circulation, strongly consider transport to the closest hospital capable of maintaining cooling measures for 24 hours.**

## HYPERKALEMIA (ADULT)



Patients must have suspected hyperkalemia (crush syndrome, chronic renal failure), *AND* electrocardiographic findings consistent with hyperkalemia (bradycardia with widened QRS complexes) *AND* hemodynamic instability **BEFORE** initiating treatment.

### ALS:

1. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
2. Place patient on cardiac monitor.
3. Administer [Calcium Chloride](#) 1 gm slow IV.



**Calcium Chloride is contraindicated in patients taking digitalis products.**

4. Administer [Glucose 50% \(D50\)](#) 25 gm IV.
5. Administer [Sodium Bicarbonate](#) 50 mEq IV.
6. Administer [Albuterol \(Proventil\)](#) 2.5 mg in 3.0 ml normal (0.083% solution) via nebulizer.
7. May repeat [Calcium Chloride](#), [Sodium Bicarbonate](#) and [Albuterol \(Proventil\)](#) if patient condition deteriorates after period of improvement.
8. Continue [General Patient Care](#).

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## OBSTETRICAL / GYNECOLOGICAL EMERGENCIES

### **BLS:**

1. Initiate [General Patient Care](#).
2. If patient presents with vaginal bleeding, determine pregnancy status
  - a. Any passed tissue or products of conception should be transported with the patient.
3. If patient presents pregnant, with contractions and/or pain, accompanied by bleeding or discharge, crowning during contraction, the feeling of an impending bowel movement, and/or a rock-hard abdomen, prepare for imminent delivery.
  - a. Normal (head first) presentation
    - 1) Puncture amniotic sac if not already broken
    - 2) Deliver and support the head
    - 3) Suction mouth then nose. If meconium is present, repeat several times
    - 4) Deliver upper shoulder then lower shoulder
    - 5) Deliver remainder of baby
    - 6) Clamp and cut umbilical cord
    - 7) If multiple births, return to step 2 and repeat
    - 8) Deliver placenta
  - b. Limb presentation
    - 1) Place mother in left lateral recumbent position
  - c. Breech presentation
    - 1) Deliver body, supporting baby's weight
  - d. Cord presentation
    - 1) Position mother on elbows and knees, with hips elevated
    - 2) Wrap cord and keep it moist
    - 3) Insert gloved hand to lift baby off the cord
    - 4) Obtain and document cord pulse

### **ILS:**

4. Attempt [Vascular Access](#).
5. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. If patient's condition does not improve, administer additional challenges as needed, not to exceed 2,000 ml.

## TREATMENT PROTOCOL

### **ALS:**

6. If patient is pregnant and seizing, assume eclampsia and administer **Magnesium Sulfate** 4 gm in 50 cc NS over 20 minutes.
7. If patient is refractory to **Magnesium Sulfate**, administer **Midazolam (Versed)** 0.1 mg/kg IN/IM/IV. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.
8. If patient is pregnant and manifesting symptoms of **pre-eclampsia** (significant hypertension, generalized edema, headache, photophobia), administer **Magnesium Sulfate** 2 gm in 50 cc NS over 20 minutes .
9. Continue **General Patient Care**.
10. Patient should be transported to the most appropriate facility based on the patient's condition and provider's judgement.

Hospital	L & D	Level I Nursery	Level II NICU	Level III NICU
Boulder City				
Centennial	X		X	
Desert Springs				
Mesa View	X	X		
Mike O'Callahan Federal Hospital	X	X		
Mountain View	X		X	
North Vista				
Southern Hills	X		X	
Spring Valley	X			X
St Rose- DeLima				
St Rose-San Martin	X		X	
St Rose-Siena	X			X
Summerlin	X			X
Sunrise	X			X
UMC	X			X
Valley	X			X

# OVERDOSE / POISONING

## BLS:

1. Initiate [General Patient Care](#).
2. If possible, identify substance and amount ingested or otherwise exposed to. Collect any empty bottles/containers and transport with the patient.



**If the ingested / exposed substance poses a hazard or potential risk of contaminating EMS personnel, vehicles, or the receiving facility DO NOT transport the material with the patient.**

3. If the ingestion occurred within **ONE HOUR OF EMS ARRIVAL**, administer [Activated Charcoal](#) 50 gm PO.



Pediatric Charcoal dose is 1 gm/kg PO. Minimum dose is 10 gm. Maximum dose is 50 gm.

## ILS:

4. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.



**If patient is suspected to have narcotic overdose/hypoglycemia administer Narcan/Glucose prior to Supraglottic Airway Device/intubation.**

5. Consider [Vascular Access](#).
6. If patient has respiratory depression **AND** is unresponsive, administer [Naloxone \(Narcan\)](#) 2 mg IN/IM/IV. If no change in patient's status or patient is slow to respond, administer Naloxone (Narcan) 2 mg IN/IM/IV, titrated to effect to a total maximum dose of 10 mg.



Pediatric Narcan dose is 0.1 mg/kg IN/IM/IV, not to exceed the adult dose.

7. If patient is experiencing a dystonic reaction, administer [Diphenhydramine \(Benadryl\)](#) 50 mg IV/IM.



Pediatric Benadryl dose is 1 mg/kg IV/IM, not to exceed 50 mg.

## TREATMENT PROTOCOL

### ALS:

8. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
9. Place patient on cardiac monitor.
10. If Tricyclic Antidepressant or Aspirin overdose is suspected **AND** the patient has QRS widening on EKG, administer [Sodium Bicarbonate](#) 1 mEq/kg 50 mEq/50 ml (8.4% solution) IV.



Pediatric Sodium Bicarbonate dose is 1 ml/kg 50 mEq/50 ml (8.4% solution) IV/IO (Use 4.2% solution for neonatal patients).

11. If Calcium Channel Blocker overdose is suspected **AND** the patient is bradycardic and hypotensive, administer [Calcium Chloride](#) 10 ml (1.0 gram) of 10% solution slow IVP.



Pediatric Calcium Chloride dose is 20 mg/kg (0.2 ml/kg of 10% solution) slow IV/IO.



**Calcium Chloride is contraindicated for calcium channel blocker toxicity in patients taking digitalis products.**

12. If Beta Blocker overdose is suspected **AND** the patient is bradycardic and hypotensive, administer [Glucagon](#) 1 mg IV/IM. May repeat dose in 3-5 minutes if no improvement.



Pediatric Glucagon dose is 0.5 mg IV/IM.

13. If Organophosphate toxicity is suspected, administer [Atropine](#) 2 mg IV every 15 minutes as necessary to decrease secretions and ventilatory resistance.



Pediatric Atropine is 0.02 mg/kg IV every 15 minutes as necessary to decrease secretions and ventilatory resistance. Minimum dose: 0.1 mg.

14. Continue [General Patient Care](#).

## PULMONARY EDEMA / CHF (ADULT)

### **BLS:**

1. Initiate [General Patient Care](#).
2. Place patient in position of comfort.

### **ILS:**

3. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.
4. Attempt [Vascular Access](#).

### **ALS:**

5. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
6. Place patient on cardiac monitor.
7. Treat any underlying dysrhythmia according to the appropriate protocol.
8. Administer [Nitroglycerin](#) 0.4 mg SL. May be repeated every 5 minutes if **SYSTOLIC** blood pressure is greater than 100 mmHg, and pulse is greater than 60 bpm.
9. Administer [High Dose Nitroglycerin](#) 1.6 mg SL if **DIASTOLIC** blood pressure is greater than 100 mmHg. May be repeated every 5 minutes as long as **DIASTOLIC** blood pressure is greater than 100 mmHg.



**Nitroglycerin is contraindicated for any patient having taken Viagra, or similar medication, in the last 24 hours.**

10. If wheezing is present, administer [Albuterol \(Proventil\)](#) 2.5 mg in 3.0 ml NS (0.083% solution) for nebulizer. Continue treatments until clinical condition improves.
11. If patient is in cardiogenic shock, administer [Dopamine \(Intropin\)](#) starting at 5 mcg/kg/min via continuous IV infusion. Titrate to a **SYSTOLIC** blood pressure of 100 mmHg not to exceed 20 mcg/kg/min.

## TREATMENT PROTOCOL

12. Continue [General Patient Care](#).

## RESPIRATORY DISTRESS WITH BRONCHOSPASM

**BLS:**

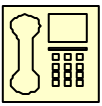
1. Initiate [General Patient Care](#).
2. Assist the patient in administering his or her own [Bronchodilator Metered Dose Inhaler](#) exactly as prescribed.

**ILS:**

3. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.
4. For severe distress, attempt [Vascular Access](#).
5. Administer [Albuterol \(Proventil\)](#) 2.5 mg in 3.0 ml NS (0.083% solution) for nebulizer. Continue treatments until clinical condition improves.

**ALS:**

6. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
7. For severe distress, place patient on cardiac monitor.
8. Administer nebulized [Albuterol \(Proventil\)](#) 2.5 mg in 3.0 ml NS (0.083% solution) via endotracheal tube, if indicated. Continue treatments until clinical condition improves.



9. For suspected Croup in the pediatric patient with stridor, increased work of breathing, poor air movement, SpO<sub>2</sub> <94%, or altered mental status, administer [Epinephrine](#) 1:1,000 3-5 mg (3-5 ml) via nebulizer.

10. If patient is refractory to treatment and in status asthmaticus administer [Magnesium Sulfate](#) 2 gm in 50 cc NS over 10 minutes.



Magnesium Sulfate not recommended for use in children.

11. Continue [General Patient Care](#).

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## SHOCK (NON-TRAUMATIC)

### BLS:

1. Initiate [General Patient Care](#).

### ILS:

2. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.
3. Attempt [Vascular Access](#).
4. If lung fields are clear, administer initial fluid challenge of 500 ml NS. Administer additional challenges as needed, to maintain cerebral perfusion, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

### ALS:

5. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
6. Place patient on cardiac monitor.
7. Administer [Dopamine \(Intropin\)](#) starting at 5 mcg/kg/min via continuous IV infusion. Titrate to a **SYSTOLIC** blood pressure of 100 mmHg not to exceed 20 mcg/kg/min.
8. Continue [General Patient Care](#).

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# TRAUMA

## BLS:

1. Initiate [General Patient Care](#).
2. Control hemorrhage utilizing direct pressure or tourniquet, as indicated.
3. Immobilize suspected fractures and dislocations. In the case of severe deformity with distal cyanosis or pulselessness, apply gentle in-line traction before splinting. Document presence/absence of pulse before and after immobilization.
4. If a sucking chest wound is suspected, seal the wound with an occlusive dressing taped down on three sides. If the patient's breathing becomes worse, lift one corner of the dressing to release pressure, and then re-seal.
5. Impaled objects must be left in place, and should be stabilized by building up around object with multi-trauma dressings, etc., taking care that the penetrating object is not allowed to do further damage.

## ILS:

6. If airway is not manageable by BLS methods, consider use of the [Supraglottic Airway Device](#) as indicated by patient condition.
7. Attempt [Vascular Access](#).
8. If vital signs and patient's condition indicate hypoperfusion, administer initial fluid challenge of 500 ml NS. Administer additional challenges as needed, to maintain cerebral perfusion, not to exceed 2,000 ml.



Pediatric fluid bolus is 20 ml/kg. May repeat as clinically indicated to a maximum of 60 ml/kg.

## ALS:

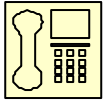
9. If airway is not manageable by BLS methods, follow [Advanced Airway Management](#) protocol, as indicated by patient's condition.
10. Place patient on cardiac monitor.
11. Perform [Needle Thoracentesis](#) if there is evidence of a tension pneumothorax, demonstrated by the presence of:
  - a. Progressive respiratory distress and/or increased resistance to bagging, **AND**

## TREATMENT PROTOCOL

- b. Unilateral diminished/absent breath sounds, associated with
- 1) Tracheal deviation, or
  - 2) Jugular venous distension, or
  - 3) Signs of shock, low BP with chest trauma present
12. For isolated extremity trauma, consider [Morphine Sulfate](#) 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals until pain is relieved or respiratory/mental status depression occur.



Pediatric Morphine ***first*** dose is 0.1 mg/kg slow IV to a maximum single dose of 10 mg.



Additional pediatric Morphine doses by telemetry physician order only.

13. Continue [General Patient Care](#).

# OPERATIONS PROTOCOLS

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**CHRONIC PUBLIC INEBRIATE**

- 1. A person who is suspected to be under the influence of alcohol and has no other emergent medical need may be transported to an approved alcohol and drug abuse facility rather than a hospital's emergency department **IF** the patient meets **ALL** of the following criteria:
  - a. Patient is able to stand with minimal assistance of one or two people
  - b. Vitals as follows:
    - 1) Blood Pressure: Systolic: 90 – 180  
Diastolic: 60 – 100
    - 2) Pulse rate of 60 – 120
    - 3) Respiratory rate of 16 – 28
    - 4) Glucose between 50 – 250
    - 5) Glasgow Coma Score  $\geq 14$
  - c. No acute medical complications
  - d. No signs of trauma
  - e. No suspected head injury
  - f. Approval of the physician or medical staff upon assessment of the patient after he/she arrives at the alternative facility.



**All of the above parameters must be met and the patient must be clinically stable other than signs and symptoms of withdrawal from alcohol and/or substance abuse.**

- 2. If there is **ANY** doubt whether the person is in need of emergency medical care, they should be transported to the **CLOSEST** hospital's emergency department.

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**DO NOT RESUSCITATE**

1. All patients with absent vital signs who do not have conclusive signs of death (refer to [Prehospital Death Determination](#) protocol) shall be treated with life-resuscitating measures unless EMS personnel are presented with a valid Do-Not Resuscitate (DNR) Identification or Order.



- **A valid DNR Identification is a form, wallet card or medallion issued by the Southern Nevada Health District, Nevada State Health Division or an identification issued by another state indicating a person’s desire and qualification to have life resuscitating treatment withheld.**
- **A valid DNR Order is a written directive issued by a physician licensed in this state that life-resuscitating treatment is not to be administered to a qualified patient. The term also includes a valid do-not-resuscitate order issued under the laws of another state.**

**Note: Verbal instructions from friends or family members do NOT constitute a valid DNR.**

2. In preparation for, or during an inter-facility transfer, a valid DNR Order in the qualified patient’s medical record shall be honored in accordance with this protocol.
3. If the EMS provider is presented with a DNR Order or Identification, he shall attempt to verify the validity of the Order or Identification by confirming the patient’s name, age, and condition of identification.
4. The DNR Order or Identification shall be determined invalid if at any time the patient indicates that he/she wishes to receive life-resuscitating treatment. The EMS provider shall document the presence of the DNR Order or Identification and how the patient indicated that he/she wanted the Order or Identification to be revoked. EMS personnel shall relay this information to any subsequent medical providers including but not limited to flight crews and staff at the receiving medical facility.
5. Once the DNR Order or Identification is determined to be valid and has not been revoked by the patient, the emergency care provider shall provide ONLY supportive care and withhold life-resuscitating measures.

## **OPERATIONS PROTOCOL**

6. EMS personnel will document on the PCR the presence of the DNR Order or Identification. Documentation should include the patient's name, physician's name and identification number, which are found on the DNR Order or Identification.
7. An EMS provider who is unwilling or unable to comply with the DNR protocol shall take all reasonable measures to transfer a patient with a DNR Order or Identification to another provider or facility in which the DNR protocol may be followed.

## INTER-FACILITY TRANSFER OF PATIENTS BY AMBULANCE

1. Prior to the transfer, the transferring physician is responsible for notifying the receiving physician of the following:
  - a. Reason for transfer
  - b. Patient condition
  - c. Estimated time of arrival
2. The transferring physician must provide the ambulance attendants with the name of the receiving facility and receiving physician, copies of any available diagnostic tests, X-rays, medical records, and the EMTALA form prior to releasing the patient.
3. Ambulance attendants should only transfer a patient whose therapy required during the transfer lies within the ambulance attendant's capabilities, unless capable personnel accompany the patient.
  - a. Ambulance attendants are authorized to administer or monitor all medications listed on the Official Drug Inventory as appropriate for their level of licensure and as per protocol.
  - b. ILS and ALS ambulance attendants are authorized to administer or monitor any crystalloid IV solution during transport.
  - c. Arterial lines should be discontinued unless appropriate personnel from the initiating facility accompany the patient.
  - d. Heparin locks/implantable catheters with/without reservoirs may be closed off and left in place. If they are to be used during transport, then an IV drip should be established if tolerated by the patient.
  - e. IV pump systems should be discontinued unless capable personnel accompany the patient.
  - f. Orogastic or nasogastric tubes may be left in place and should either be closed off or left to suction per order of transferring physician.
  - g. Orthopedic devices may be left in place at the ambulance attendant's discretion as to ability to properly transport the patient with existing device(s) in place.
  - h. Trained personnel authorized to operate the apparatus should accompany any patient requiring mechanical ventilation during transport. If the patient will require manual ventilatory assistance, then at least two persons shall be available to attend to the patient.
4. If during the transfer the patient becomes unstable, the patient may be transported to the closest facility, at the ambulance attendant's discretion, regardless of the pre-arranged destination.

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## PEDIATRIC PATIENT DESTINATION

Pediatric patients (age <18 years of age) shall be transported in accordance with the following criteria:

1. Pediatric patients (including psychiatric patients) shall be transported, based on the preference of the parent or legal guardian, to one of the following facilities:
  - a. St. Rose Hospital – Siena Campus
  - b. Summerlin Hospital
  - c. Sunrise Hospital and Medical Center
  - d. University Medical Center
2. If the parent or legal guardian does not have a preference, the patient shall be transported to the closest of the above facilities.
3. If, in the judgment of prehospital personnel, the transport time to one of the above facilities would be detrimental to a critically ill / unstable pediatric patient, the patient should be transported to the closest Emergency Department.
4. The patient may be transported to a non-designated facility:
  - a. At the request of the parent or legal guardian and if the child is deemed stable by the EMS provider; or
  - b. The incident is greater than 50 miles from the closest pediatric facility; and
  - c. The receiving facility and physician are contacted and agree to accept the patient.
5. Pediatric trauma patients are to be transported in accordance with the [Trauma Field Triage Criteria Protocol](#).
6. Pediatric sexual assault victims are to be transported in accordance with Section H of the [General Patient Care Protocol](#).

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# PREHOSPITAL DEATH DETERMINATION



For all emergency scenes where patient needs exceed available EMS resources, initial assessment and treatment shall be in accordance with an approved triage methodology.

1. Patients who appear to have expired will not be resuscitated or transported by Clark County EMS personnel if any of the following obvious signs of death are present:
  - a) Body decomposition
  - b) Decapitation
  - c) Transection of thorax (hemicorpectomy)
  - d) Incineration

**OR** if **ALL** four (4) presumptive signs of death **AND AT LEAST** one (1) conclusive sign of death are identified.



<p><b>The four (4) presumptive signs of death that MUST be present are:</b></p> <ol style="list-style-type: none"> <li>1) Unresponsiveness</li> <li>2) Apnea</li> <li>3) Pulselessness</li> <li>4) Fixed dilated pupils</li> </ol>	<p><b>Conclusive signs of death include:</b></p> <ol style="list-style-type: none"> <li>1) Dependent lividity of any degree</li> <li>2) Rigor mortis</li> <li>3) Massive trauma to the head, neck or chest with visible organ destruction</li> </ol>
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2. If there is any question regarding patient viability, to include potential hypothermia, resuscitation will be initiated.
3. Once it has been determined that the patient has expired and resuscitation will not be attempted:
  - a) Cover the body with a clean sheet or other suitable item;
  - b) Immediately notify the appropriate authority;
  - c) **DO NOT** leave a body unattended. You may be excused once a responsible person (i.e. Coroner's investigator, police, security, or family member) is present;
  - d) **DO NOT** remove any property from the body or the scene for any purpose;
  - e) **NEVER** transport / move a body without permission from the Coroner's office except for assessment or its protection.



If the scene is a potential crime scene, e.g. possible homicide and the body is in an area that can be isolated from public view ***DO NOT*** cover the body. If the body cannot be isolated from public view, ***ONLY*** cover the body with a clean sheet obtained from the EMS vehicle.


## QUALITY IMPROVEMENT REVIEW

When EMS or hospital personnel wish to have an incident involving patient care reviewed within the Clark County Emergency Medical Services System, the following steps shall be taken:

1. The person requesting a review of an incident should contact the designated representative of the agency/hospital involved to initiate the process. If after gathering appropriate information and discussing the incident, both parties are satisfied a problem does not exist, nothing further needs to be done.
2. If either party would like to pursue an investigation of the incident, the “Southern Nevada Health District EMS Incident Report” should be completed and a copy should be forwarded to the OEMSTS.
3. Upon receipt of the “Southern Nevada Health District EMS Incident Report” OEMSTS staff will review the case, gather information from the agencies/hospitals involved and evaluate the need for further investigation. The agency/hospital may be asked to conduct an internal investigation, involving their medical director when appropriate, and provide a summary of their findings to the OEMSTS.
4. The personnel involved in the incident may be interviewed by the EMS Medical Director or his designee and their agency/hospital medical director to gather additional information.
5. Upon completion of the investigation, a report will be prepared and given to the agency/hospital representatives involved. Direct communication between the agency/hospital and complainant is recommended with a brief written summary of actions taken provided to the OEMSTS.
6. A quarterly aggregate summary of the incidents reviewed by the OEMSTS will be prepared and reported at the Quality Improvement Directors’ and MAB meetings.
7. All documentation and correspondence regarding this quality improvement activity; to monitor, review, evaluate and report on the necessity, quality, and level of care provided a patient is confidential pursuant to NRS 49.117 – 49.123, NRS 49.265, NRS 450B.810 and NRS 629.061.

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## TERMINATION OF RESUSCITATION

1. Resuscitation that is started in the field by Licensed EMS personnel **CANNOT** be discontinued without a physician order. Licensed EMS personnel are not obligated to continue resuscitation efforts that have been started by other persons at the scene if the patient meets the criteria listed in the [Prehospital Death Determination](#) protocol. This includes telephone CPR initiated by Emergency Medical Dispatchers.
- 
 2. Resuscitation started in the field may be discontinued only by physician order when the following conditions have been met:
  - a. For Medical Arrest:
    - 1) The patient remains in persistent asystole or agonal rhythm after twenty (20) minutes of appropriate ALS resuscitation, to include:
      1. CPR
      2. Effective ventilation with 100% oxygenation
      3. Administration of appropriate ACLS medications
  - b. For Traumatic Arrest:
    - 1) Open airway with basic life support measures
    - 2) Provide effective ventilation with 100% oxygenation for two minutes
    - 3) Perform bilateral needle thoracentesis if tension pneumothorax suspected
  - c. The patient develops, or is found to have one of the following conclusive signs of death at any point during the resuscitative effort:
    - 1) Lividity of any degree
    - 2) Rigor mortis of any degree
3. When resuscitation has been terminated in the field, all medical interventions shall be left in place.
4. If possible, do not leave a body unattended. Once a responsible person (i.e. coroner's investigator, police, security, or family member) is present at the scene, you may be excused.
5. **NEVER** transport/move a body without permission from the coroner's office, except for assessment or its protection.



**If the scene is a potential crime scene, e.g. possible homicide and the body is in an area that can be isolated from public view *DO NOT* cover the body. If the body cannot be isolated from public view, *ONLY* cover the body with a clean sheet obtained from the EMS vehicle.**

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## TRAUMA FIELD TRIAGE CRITERIA

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

1. Step 1 – Assess Physiologic Criteria. If the patient's:
  - (a) Glasgow Coma Scale is <14;
  - (b) Systolic blood pressure is <90 mmHg; or
  - (c) Respiratory rate is <10 or >29 (<20 in infant <1 year),
 the patient **MUST** be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated.
  
2. Step 2 – Assess Anatomic Criteria. If the patient has:
  - (a) Penetrating injuries to head, neck, torso or extremities proximal to elbow or knee;
  - (b) Flail chest;
  - (c) Two or more proximal long-bone fractures;
  - (d) Crushed, degloved or mangled extremity;
  - (e) Amputation proximal to wrist and ankle;
  - (f) Pelvic fractures;
  - (g) Open or depressed skull fractures; or
  - (h) Paralysis,
 the patient **MUST** be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated.
  
3. Step 3 – Assess Mechanism of Injury. If the patient has experienced a high-impact blow to the body which may include:
  - (a) A fall from a height of at least 20 feet;
  - (b) A motor vehicle accident in which:
    - (1) The motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the accident occurred;
    - (2) There was at least 20 inches of severe damage to the body of the motor vehicle;
    - (3) There was a 12-inch intrusion into the passenger's compartment;
    - (4) The patient was ejected from the motor vehicle;
    - (5) The period required to extricate the patient from the motor vehicle was more than 20 minutes;
    - (6) The motor vehicle rolled over;
    - (7) A person riding in the motor vehicle with the patient died as a result of the accident;
    - (8) The patient was riding on a motorcycle that was traveling at a speed of at least 20 miles per hour when the accident occurred; or
    - (9) The patient was thrown from a motorcycle driven by him;
  - (c) As a pedestrian, being run over by a vehicle or thrown any distance by the impact of a vehicle, regardless of the rate of speed of the vehicle; or

## OPERATIONS PROTOCOL

(d) Being struck as a pedestrian or bicyclist by a vehicle traveling at a speed of at least 6 miles per hour,

the patient **MUST** be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50 mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:

### St. Rose Siena Hospital (Level 3 Trauma Center) Catchment Area

Trauma calls that meet Step 3 only of the Trauma Field Triage Criteria protocol and occur within the City of Henderson or the geographical area bordered by I-15 to the west and Sunset Road to the north and the county line to the east are to be transported to St. Rose Siena Hospital and the medical directions for the treatment of the patient must originate at that center;

### Sunrise Hospital (Level 2 Trauma Center) Catchment Area

Trauma calls that meet Trauma Field Triage Criteria protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south and the county line to the east are to be transported to Sunrise Hospital and Medical Center and the medical directions for the treatment of the patient must originate at that center;

In addition, trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria protocol and occur within the St. Rose Siena Hospital Catchment Area, City of Henderson or the geographical area bordered by Paradise Road to the west continuing along that portion where it becomes Maryland Parkway, Sunset Road to the north, and the county line to the east are to be transported to Sunrise Hospital and Medical Center and the medical directions for the treatment of the patient must originate at that center.

### University Medical Center (Level 1 Trauma Center) Catchment Area

Trauma calls that meet Trauma Field Triage Criteria protocol and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All trauma calls that meet Trauma Field Triage Criteria protocol, regardless of location, that are transported by Air Ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

Trauma calls that meet both the Trauma Field Triage Criteria and Burns protocols should be transported to UMC Trauma Center.

## OPERATIONS PROTOCOL

### EXCEPTIONS:

1. Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and / or weather conditions and might jeopardize the patient's condition.
2. Additionally, nothing contained within these guidelines precludes transport to the closest facility if, in the provider's judgment, an inability to adequately ventilate the patient might result in increased patient mortality.

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# PROCEDURE PROTOCOLS

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# DEFIBRILLATION

## ALS:

### Indication(s):

This procedure may be performed on any patient who is in:

- Ventricular fibrillation
- Ventricular tachycardia and who is pulseless
- Ventricular tachycardia and who has inadequate perfusion, and for whom effective and rapid synchronized cardioversion is impossible.

### Contraindication(s):

- None

### Consideration(s):

- Defibrillation should be immediately provided in an arrest **WITNESSED** by EMS personnel. In an arrest that is **UNWITNESSED** by EMS personnel, two **(2) minutes of CPR** should be provided prior to defibrillation.
- Patients with automatic implantable cardioverter-defibrillators (AICD) will need external defibrillation if the AICD is ineffective.
- If defibrillation is needed on a patient with a permanent implanted pacemaker, the defibrillator paddles or self adhesive electrodes should be placed at least 1 inch from the pulse generator of the pacemaker.
- Initial attempt at pediatric defibrillation shall be at 2 J/kg. If unsuccessful, defibrillation should be attempted at 4 J/kg and continue at 4 J/kg until conversion occurs. Adult paddles / pads may be used in children weighing more than 15 kg.



### Adjunctive Therapy:

- Consider sedation prior to defibrillation in the awake patient. Administer **Etomidate (Amidate)** 0.15 mg/kg IV.

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# ENDOTRACHEAL INTUBATION

## ALS:



1. All intubations **MUST** have initial, en route, and at transfer of care End-Tidal CO<sub>2</sub> detection/capnography performed and recorded on the PCR.
2. All intubation attempts **MUST** be documented on the PCR.

## Indication(s):

This procedure may be performed on any patient in whom attempts at basic airway and ventilatory support are unsuccessful **AND** who has at least one of the following:

- Hypoxia
- Respiratory Arrest/Failure
- Obtundation

## Contraindication(s):

### Absolute Contraindications:

- None

### Relative Contraindications:

- Presence of gag reflex
- Suspected narcotic overdose / hypoglycemia prior to administration of Narcan / Glucose 50%

## Additional Contraindications for Nasotracheal Intubations:

- Apnea or Near-apnea
- Suspected basilar skull, nasal, or midface fractures
- Coumadin anticoagulation therapy or hemostatic disorders
- Upper neck hematomas
- Should **NOT** be attempted in children

## Adjunctive Therapy:

- For Nasotracheal Intubation prep the nostrils with [Phenylephrine \(Neo-Synephrine\)](#) 2-3 drops or 1-2 sprays in each nostril, and [Lidocaine 2% Lubricant](#).
- If patient is 12 years of age or greater, administer [Etomidate \(Amidate\)](#) 0.5 mg/kg IV for induction.

## PROCEDURES



- If patient is less than 12 years of age, administer [Midazolam \(Versed\)](#) 0.1 mg/kg IV/IN titrated to effect. Maximum single dose: 5 mg. Must be given slowly over a period of 3-5 minutes. Additional pediatric Versed doses by telemetry physician order only.
- Maintain patient sedation. Administer [Midazolam \(Versed\)](#) 0.1 mg/kg IV/IN.. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.

# NEEDLE CRICOTHYROIDOTOMY

## ALS:

### Indication(s):

This procedure may be performed in any patient with:

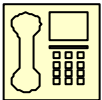
- Total airway obstruction not relieved by any BLS or ALS procedures, **OR**
- Inability to be adequately ventilated with any BLS, ILS, or ALS procedures prior to the attempt.

### Contraindication(s):

#### Absolute Contraindications:

- Inability to identify landmarks (cricothyroid membrane)
- Underlying anatomical abnormality (tumor)
- Tracheal transection
- Acute laryngeal disease due to infection or trauma

### Considerations:



- Pediatric Needle Cricothyroidotomy is by Telemetry Physician order only.
- You **MUST** use a 14 gauge over-the-needle catheter attached to a 10 cc syringe or commercial cricothyroidotomy device.

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# NEEDLE THORACENTESIS

## ALS:

### Indication(s):

This procedure may be performed on any patient who has evidence of a tension pneumothorax, demonstrated by the presence of:

- Progressive respiratory distress and/or increased resistance to bagging, **AND** Unilateral diminished/absent breath sounds, associated with
  - 1) Tracheal deviation, or
  - 2) Jugular venous distension, or
  - 3) Signs of shock, low BP with chest trauma present

### Contraindication(s):

- None

### Consideration(s):

- Primary site is the 2nd intercostal space midclavicular line of the affected side. Alternate location is the 4<sup>th</sup> – 5<sup>th</sup> intercostal space in the mid-axillary line of the affected side
- You **MUST** use at least a 14 gauge, 2.5 inch over-the needle catheter.
- Needle Thoracentesis is permitted in pediatric patients.



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# SPINAL IMMOBILIZATION

**BLS:**



**If a trauma patient is unable to communicate or appropriately respond to Indications a-g below, perform a complete spinal immobilization.**

**Indication(s):**

This procedure may be performed in any patient with a mechanism of injury that may cause spinal injury.

Assess patient for the presence of the following (**ANY** positives **REQUIRE** spinal immobilization):

- a. Evidence of blunt trauma and meets Trauma Field Triage Criteria;
- b. Numbness or weakness on neurological exam;
- c. Any alteration in mental status;
- d. Any evidence of drug and/or alcohol intoxication;
- e. Any painful injury that might distract the patient from the pain of a C-spine injury;
- f. Any point tenderness on palpation of the spine;
- g. Any pain or numbness with cervical spine range of motion.

**Contraindication(s):**

- None

**Considerations:**

- If a through g, above, are **ALL NEGATIVE**, spinal immobilization is not required.
- The above steps in the evaluation to determine the necessity of spinal immobilization shall be done in the order listed.

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# SUPRAGLOTTIC AIRWAY DEVICE

## ILS:

### Indication(s):

This procedure may be performed in any patient in which attempts at basic airway and ventilatory support are unsuccessful **AND** who has at least one of the following:

- Hypoxia
- Respiratory Arrest/Failure
- Obtundation
- Failed endotracheal intubation

### Contraindication(s):

#### Absolute Contraindications:

- Gag reflex
- History of esophageal trauma, or known esophageal disease
- Recent ingestion of a caustic substance
- Tracheostomy or laryngectomy
- Suspected foreign body obstruction

#### Relative Contraindications:

- Suspected narcotic overdose / hypoglycemia prior to administration of [Naloxone \(Narcan\)](#) / [Glucose](#) 50%.

### Consideration(s):

- Position the patient's head in a neutral or slightly flexed position if no suspected spinal injury (if a spine injury is suspected, maintain a neutral, in-line head position).
- Never force the device; if it does not advance, simply readjust the insertion.

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# SYNCHRONIZED CARADIOVERSION

## ALS:



The patient **MUST** be on a cardiac monitor and **SHOULD** have [Vascular Access](#).

## Indication(s):

This procedure may be performed on any patient who is in:

- Ventricular tachycardia with inadequate perfusion
- Supraventricular tachycardia with inadequate perfusion
- Ventricular tachycardia with adequate perfusion, but refractory to drug therapy.

## Contraindication(s):

- None

## Consideration(s):

If cardioversion is needed on a patient with a permanent implanted pacemaker, the defibrillator paddles or self adhesive electrodes should be placed at least 1 inch from the pulse generator of the pacemaker.

### Ventricular dysrhythmias:

- When using a monophasic device, the initial attempt at cardioversion shall be at 100 joules, and subsequent attempts should escalate to 200, 300 and 360 joules.
- When using a biphasic device, the initial and subsequent attempts shall be at the energy level(s) suggested by the device manufacturer and/or the agency's medical director.

### Supraventricular dysrhythmias:

- When using a monophasic device, the initial attempt at cardioversion shall be at 50 joules, and subsequent attempts shall be at 100 joules.
- When using a biphasic device, the initial and subsequent attempts shall be at the energy level(s) suggested by the device manufacturer and/or the agency's medical director.

### Pediatric Cardioversion:

## PROCEDURES



- Pediatric cardioversion should begin at 0.5 to 1 J/kg and may increase to 2 J/kg if initial dose is unsuccessful. Adult paddles / pads may be used in children weighing more than 15 kg.

### **Adjunctive Therapy:**

- Consider sedation prior to defibrillation. Administer [Etomidate \(Amidate\)](#) 0.15 mg/kg IV.

# TRACHEOSTOMY TUBE REPLACEMENT

## ALS:

### Indication(s):

This procedure may be performed on any patient who has a tracheostomy tube **AND** who has:

- Hypoxia
- Respiratory Arrest/Failure
- Obtundation
- Secretions unable to be cleared by suctioning

### Contraindication(s):

- None

### Considerations:

- If the patient or family has a replacement tube available, it may be used. If a replacement tube is not available, an endotracheal tube of a similar outer diameter may be used.
- Premoisten the tube with water soluble lubricant.
- Extend the neck and, if necessary, place a roll between the patient's shoulder blades to aid in visualizing the stoma.
- If the tube cannot be placed easily, withdraw the tube; administer oxygen and positive pressure ventilation. **NEVER** force the tube.
- If the tube cannot be easily placed, a suction catheter may be used as a guide.

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# TRANSCUTANEOUS PACING

**ALS:****Indication(s):**

This procedure may be performed on any patient who is in:

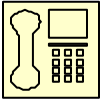
- Symptomatic / hemodynamically unstable bradycardia

**Contraindication(s):**

- None

**Considerations:**

- After attaching the electrodes, begin pacing at **60** beats per minute and the minimum available current.
- Increase current by **20** milliamp increments until electrical capture occurs.
- In the event of electrical capture and no pulses, continue pacing and CPR.
- Pediatric Pacing is by Telemetry Physician order only.

**Adjunctive Therapy:**

In the conscious patient with a systolic blood pressure >90, provide:

**Sedation:**

**Midazolam (Versed)** 0.1 mg/kg IN/IM/IV. Allow at least 5 minutes before repeating dose to fully evaluate sedative effect.

**Analgesia:**

**Morphine Sulfate** 0.1 mg/kg slow IV to a maximum single dose of 10 mg. May repeat at 5 minute intervals or until pain is relieved or respiratory/mental status depression occur.

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## VAGAL MANEUVERS

**ALS:**



The patient ***MUST*** be attached to a cardiac monitor and ***MUST*** have [Vascular Access](#) prior to performing the procedure.

**Indication(s):**

This procedure may be performed on any patient who is in:

- Supraventricular Tachycardia with adequate perfusion.

**Contraindication(s):**

- None

**Consideration(s):**

- Approved methods include:
  - a. Valsalva maneuver
  - b. Head-down tilt with deep inspiration
  - c. Activation of the “diving reflex” by facial immersion in ice water (unless ischemic heart disease is suspected)
  - d. Carotid massage (only on patients under 40 years of age).



- In infants and young children, the most effective vagal maneuver is the application of ice to the face. IV access is not mandatory prior to vagal maneuvers in children.

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## VASCULAR ACCESS

### ILS:



Vascular Access attempts should not unnecessarily delay transport: attempts should be completed en route. All attempts are to be documented on the PCR.

### Indication(s) Peripheral Vascular Access:

This procedure may be performed on any patient whenever there is a potential need for:

- Intravenous drug administration
- Need to administer IV fluids for volume expansion.

### Contraindication(s):

- None

### Consideration(s):

- Saline locks may be used when appropriate and flushed with a 3 cc bolus of NS, as needed.
- Extension tubing should be utilized on **ALL** IV lines.

### Indication(s) Intraosseous Access (ALS Only):

This procedure may be performed on any patient who requires IV drugs or IV fluids **AND** who is:

- Unconscious and unresponsive and;
- Peripheral line cannot be immediately established.

### Contraindication(s):

- Placement in, or distal to a fractured bone.

### Consideration(s):

- Only **1 (one)** attempt is permitted per extremity.

**Indication(s) Previously established Central Line Access (ALS Only):**

- This procedure may be performed on any critically ill or injured patient who requires IV drugs or IV fluids **AND** in whom a peripheral line cannot be established.

**Contraindication(s):**

- Inability to freely aspirate blood out of the catheter.

**Consideration(s):**

**Central Line Access (Implantable Ports, Port-A-Caths, Mediports)**

- May only be used if the device has already been accessed and IV fluid set-up has been established and is running.



**These devices require special needles (non-coring type) for access. The device may be irreparably damaged if standard jumper (conventional) needles are used to access the ports.**

# FORMULARY

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## ACETYLSALICYLIC ACID (Aspirin)

**FORM:** 81 mg chewable tablet  
**CLASS:** Nonsteroidal anti-inflammatory (NSAID)  
**ACTION:** Platelet inhibition  
**PROTOCOL(S):** [Acute Coronary Syndrome \(Suspected\)](#)  
**ROUTE:** **Adults:** PO (chew and swallow)  
**Pediatrics:** Not recommended for use  
**SIDE EFFECTS:** None  
**CONTRAINDICATIONS:** Allergy to Aspirin

## ACTIVATED CHARCOAL

**FORM:** 25 grams in 4 ounces  
**CLASS:** Adsorbent  
**ACTION:** Inhibits gastrointestinal absorption of toxic substances  
**PROTOCOL(S):** [Overdose / Poisoning](#)  
**ROUTE:** **Adults:** PO (swallow with water)  
**Pediatrics:** PO (swallow with water)  
**SIDE EFFECTS:** May cause nausea and vomiting  
**CONTRAINDICATIONS:** Altered mental status; ingestion of acids, alkalis or petroleum distillates; inability to swallow; previous administration of an emetic

## ADENOSINE (Adenocard)

**FORM:** 6 mg/2 ml  
**CLASS:** Antiarrhythmic  
**ACTION:** Slows conduction through the AV Node and can interrupt re-entry pathways  
**PROTOCOL(S):** [Cardiac Dysrhythmia: Supraventricular Tachycardia \(Narrow Complex\)](#)  
**ROUTE:** **Adult:** Rapid IVP  
**Pediatric:** Rapid IVP  
**SIDE EFFECTS:** Facial flushing, headache, sweating, palpitations, and chest pain.  
**CONTRAINDICATIONS:** Second or third-degree AV block or sick sinus syndrome unless patient with a functional artificial pacemaker. Atrial flutter and atrial fibrillation. Repeat doses of Adenosine are not indicated if the dysrhythmia reoccurs after conversion. Alternate pharmacological therapy may be necessary.

## ALBUTEROL (Proventil)

**FORM:** 2.5 mg/3 ml unit dose

**CLASS:** Sympathomimetic

**ACTION:** Bronchodilator

**PROTOCOL(S):** [Allergy / Anaphylaxis](#)  
[Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)  
[Hyperkalemia \(Adult\)](#)  
[Pulmonary Edema / CHF \(Adult\)](#)  
[Respiratory Distress with Bronchospasm](#)

**ROUTE:** **Adult:** Inhalation by oxygen nebulization

**Pediatric:** Inhalation by oxygen nebulization

**SIDE EFFECTS:** Tachycardia, palpitations, anxiousness, and headache

**CONTRAINDICATIONS:** Hypersensitivity to this drug

## AMIODARONE (Cordarone)

**FORM:** 150 mg/3 ml

**CLASS:** Antiarrhythmic

**ACTION:** Suppresses ventricular ectopy; Increases ventricular fibrillation threshold

**PROTOCOL(S):** [Cardiac Dysrhythmia: Monomorphic Ventricular Tachycardia](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)

**ROUTE:** **Adult:** IV

**Pediatric:** IV

**SIDE EFFECTS:** Seizures, respiratory depression, dizziness, restlessness, confusion, tinnitus, blurred vision, numbness, muscle twitching, hypotension, bradycardia, heart block, nausea and vomiting.

**CONTRAINDICATIONS:** Hypersensitivity to the drug, Cardiogenic shock, High grade AV block, Marked sinus bradycardia, or bradycardia with ventricular escape beats.

## ATROPINE SULFATE

**FORM:** 1 mg/10 ml  
**CLASS:** Parasympathetic blocker  
**ACTION:** Cholinergic blocking agent; Increases rate of SA node discharge;  
 Increases conduction through AV node  
**PROTOCOL(S):** [Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Bradycardia](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Overdose / Poisoning](#)  
**ROUTE:** **Adult:** IV or ETT  
**Pediatric:** IV or ETT  
**SIDE EFFECTS:** None  
**CONTRAINDICATIONS:** None

## BRONCHODILATOR METERED DOSE INHALER

**FORM:** Dependent upon medication (e.g. Proventil, Alupent, Ventolin)  
**CLASS:** Sympathomimetic  
**ACTION:** Bronchodilator  
**PROTOCOL(S):** [Allergy / Anaphylaxis](#)  
[Respiratory Distress with Bronchospasm](#)  
**ROUTE:** **Adult:** Inhalation  
**Pediatric:** Inhalation  
**SIDE EFFECTS:** Tachycardia, palpitations, anxiousness, and headache  
**CONTRAINDICATIONS:** Hypersensitivity to this drug

## CALCIUM CHLORIDE

**FORM:** 1 gm/10 ml  
**CLASS:** Electrolyte  
**ACTION:** Increases myocardial contractility; Increases myocardial excitability;  
 Decreases heart rate  
**PROTOCOL(S):** [Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless](#)  
[Ventricular Tachycardia](#)  
[Hyperkalemia \(Adult\)](#)  
[Overdose / Poisoning](#)  
**ROUTE:** **Adult:** Slow IVP  
**Pediatric:** Slow IVP  
**SIDE EFFECTS:** None  
**CONTRAINDICATIONS:** Patients receiving digitalis

## DIPHENHYDRAMINE HYDROCHLORIDE (Benadryl)

**FORM:** 50 mg/ml  
**CLASS:** Antihistamine  
**ACTION:** Blocks histamine receptors; Has some sedative effects; Anticholinergic  
**PROTOCOL(S):** [Allergy / Anaphylaxis](#)  
[Overdose / Poisoning](#)  
**ROUTE:** **Adult:** IV or deep IM  
**Pediatric:** IV or deep IM  
**SIDE EFFECTS:** Sedation, palpitations, decreased blood pressure, headache, dries (thickens) bronchial secretions, blurred vision  
**CONTRAINDICATIONS:** Hypersensitivity to the drug

## DOPAMINE HYDROCHLORIDE (Intropin)

**FORM:** 400 mg/5 ml (400 mg/250 ml Pre-mix bag)  
**CLASS:** Sympathomimetic  
**ACTION:** Positive inotrope with dose-related vascular effects  
**PROTOCOL(S):** [Cardiac Arrest](#)  
[Cardiac Dysrhythmia: Bradycardia](#)  
[Pulmonary Edema / CHF \(Adult\)](#)  
[Shock \(Non-Traumatic\)](#)  
**ROUTE:** **Adult:** IV by continuous infusion  
**Pediatric:** IV by continuous infusion  
**SIDE EFFECTS:** Ventricular tachycardia, ectopic beats, nausea and vomiting, dyspnea, hypertension and extreme vasoconstriction may occur with high infusion rates, and hypotension may occur with low infusion rates.  
**CONTRAINDICATIONS:** Hypovolemic shock

## EPINEPHRINE

**FORM:** 1 mg/1 ml (1:1,000); 1 mg/10 ml (1:10,000)  
**CLASS:** Sympathomimetic  
**ACTION:** Bronchodilation; Positive chronotrope; Positive inotrope  
**PROTOCOL(S):** [Allergy / Anaphylaxis](#)  
[Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Bradycardia](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)  
[Respiratory Distress with Bronchospasm](#)  
**ROUTE:** **Adult:** IV, IM or ETT  
**Pediatric:** IV, IM, Nebulized or ETT, not to exceed adult dose

**SIDE EFFECTS:** Palpitation due to tachycardia or ectopic beats, may produce arrhythmia if cardiac disease present, elevation of blood pressure, headache, anxiousness

**RELATIVE CONTRAINDICATIONS:** Underlying cardiovascular disease / angina, hypertension, pregnancy, patient over 40 years of age, hyperthyroidism

## EPINEPHRINE AUTO-INJECTOR

**FORM:** 0.3 mg (0.3 ml) 1:1,000 Adult OR 0.15 mg (0.3 ml) 1:2,000 Pediatric

**CLASS:** Sympathomimetic

**ACTION:** Bronchodilation; Positive chronotrope; Positive inotrope

**PROTOCOL(S):** [Allergy / Anaphylaxis](#)

**ROUTE:** **Adult:** IM ONLY

**Pediatric:** IM ONLY

**SIDE EFFECTS:** Palpitations due to tachycardia or ectopic beats, may produce arrhythmia if cardiac disease present, elevation of blood pressure, headache, anxiousness

**RELATIVE CONTRAINDICATIONS:** Underlying cardiovascular disease / angina, hypertension, pregnancy, patient over 40 years of age, hyperthyroidism

## ETOMIDATE (Amidate)

**FORM:** 2 mg / 1 ml (10 ml)

**CLASS:** Sedative / Hypnotic

**ACTION:** CNS depressant

**PROTOCOL(S):** [Advanced Airway Management](#)

[Cardiac Dysrhythmia: Monomorphic Ventricular Tachycardia](#)

[Cardiac Dysrhythmia: Supraventricular Tachycardia \(Narrow Complex\)](#)

[Cardiac Dysrhythmia: Torsades de Pointes Defibrillation](#)

[Endotracheal Intubation](#)

[Synchronized Cardioversion](#)

**ROUTE:** **Adult:** IV

**Pediatric:** IV

**SIDE EFFECTS:** Pain, transient skeletal movements, nausea, vomiting, hypoventilation, hypotension

**CONTRAINDICATIONS:** Known hypersensitivity to the drug

## GLUCAGON

**FORM:** 1 mg/ml  
**CLASS:** Insulin antagonist  
**ACTION:** Reverses the effects of hypoglycemia  
**PROTOCOL(S):** [Altered Mental Status](#)  
[Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)  
[Endotracheal Intubation](#)  
[Overdose / Poisoning](#)

**ROUTE:** **Adult:** IM or IV  
**Pediatric:** IM

**SIDE EFFECTS:** May cause nausea and vomiting  
**CONTRAINDICATIONS:** None

## GLUCOSE

**FORM:** 25 gm/50 ml (50%); 25 gm in oral suspension  
**CLASS:** Carbohydrate  
**ACTION:** Quick infusion of sugar into blood for metabolism  
**PROTOCOL(S):** [Altered Mental Status](#)  
[Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)  
[Chronic Public Inebriate](#)  
[Hyperkalemia \(Adult\)](#)  
[Overdose / Poisoning](#)  
[Supraglottic Airway Device](#)

**ROUTE:** **Adult:** Slow IVP or PO  
**Pediatric:** Slow IVP or PO

**SIDE EFFECTS:** None  
**CONTRAINDICATIONS:** None

## LIDOCAINE (Xylocaine) 2% LUBRICANT

**FORM:** Jelly: 2%  
**CLASS:** Topical Anesthetic  
**ACTION:** Produces anesthesia by interfering with nervous system transmission  
**PROTOCOL(S):** [Advanced Airway Management](#)  
[Endotracheal Intubation](#)

**ROUTE:** **Adult:** Topical Use Only

**Pediatric:** Topical Use Only

**SIDE EFFECTS:** Seizures, respiratory depression, dizziness, restlessness, confusion, tinnitus, blurred vision, numbness, muscle twitching, hypotension, bradycardia, heart block, nausea and vomiting

**CONTRAINDICATIONS:** Hypersensitivity to the drug

## MAGNESIUM SULFATE

**FORM:** 1 gm vial or 5 gm/10 ml. multidose vial

**CLASS:** Electrolyte

**ACTION:** Membrane stabilization; Raises seizure threshold

**PROTOCOL(S):** [Cardiac Dysrhythmia: Torsades de Pointes](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)

[Obstetrical / Gynecological Emergencies](#)

[Respiratory Distress with Bronchospasm](#)

**ROUTE:** **Adult:** Medical: Mixed in 50 cc NS IV piggyback  
 Cardiac: Slow IVP

**Pediatric:** Medical: Not recommended for use  
 Cardiac: Slow IVP

**SIDE EFFECTS:** Hypotension, asystole, respiratory depression, weakness

**CONTRAINDICATIONS:** Hypersensitivity to the drug, high degree heart block, renal failure

## MIDAZOLAM (Versed)

**FORM:** 5 mg/1 ml

**CLASS:** Anxiolytic

**ACTION:** CNS Depressant

**PROTOCOL(S):** [Advanced Airway Management](#)

[Altered Mental Status](#)

[Behavioral Emergencies](#)

[Cardiac Dysrhythmia: Bradycardia](#)

[Endotracheal Intubation](#)

[Obstetrical / Gynecological Emergencies](#)

[Transcutaneous Pacing](#)

**ROUTE:** **Adult:** Slow IVP, IM or IN

**Pediatric:** Slow IVP, IM or IN

**SIDE EFFECTS:** CNS depression, hypotension, respiratory depression

**CONTRAINDICATIONS:** Hypersensitivity to the drug, hypotension, clinical signs of shock

## MORPHINE SULFATE

**FORM:** 10 mg/ml  
**CLASS:** Narcotic  
**ACTION:** CNS depressant  
**PROTOCOL(S):** [Abdominal Pain, Back Pain, Flank Pain \(Non-Traumatic\)](#)  
[Acute Coronary Syndrome \(Suspected\)](#)  
[Burns](#)  
[Cardiac Dysrhythmia: Bradycardia](#)  
[Trauma](#)  
[Transcutaneous Pacing](#)

**ROUTE:** **Adult:** Slow IVP  
**Pediatric:** Slow IVP

**SIDE EFFECTS:** Respiratory depression, nausea, vomiting, bradycardia, orthostatic hypotension, altered level of consciousness

**CONTRAINDICATIONS:** Hypersensitivity to opiates, head injuries, chest or abdominal injury, clinical signs of shock

## NALOXONE HYDROCHLORIDE (Narcan)

**FORM:** 2 mg/2 ml  
**CLASS:** Narcotic antagonist  
**ACTION:** Reverses effects of narcotics  
**PROTOCOL(S):** [Altered Mental Status](#)  
[Overdose / Poisoning](#)

**ROUTE:** **Adult:** IV, IM or IN  
**Pediatric:** IV, IM, IN

**SIDE EFFECTS:** Rapid administration causes projectile vomiting

**CONTRAINDICATIONS:** Patients with a history of hypersensitivity to this drug; intubated patients

## NITROGLYCERIN

**FORM:** Sublingual spray or tablet  
**CLASS:** Vasodilator  
**ACTION:** Dilates systemic arteries and veins; Reduces both preload and afterload  
**PROTOCOL(S):** [Acute Coronary Syndrome \(Suspected\)](#)  
[Pulmonary Edema / CHF \(Adult\)](#)

**ROUTE:** **Adult:** Sublingual  
**Pediatric:** Not recommended for use

**SIDE EFFECTS:** Hypotension

**CONTRAINDICATIONS:** Hypotension (do not administer if systolic pressure below 100 mmHg unless ordered by a physician). Use of Viagra (Sildenafil) or similar

medication within the past 24 hours. Patients with demonstrated hypersensitivity to nitrates or nitrites

## ONDANSETRON HYDROCHLORIDE (Zofran)

**FORM:** 4mg/2 ml  
**CLASS:** Selective serotonin blocking agent  
**ACTION:** Antiemetic  
**PROTOCOL(S):** [Abdominal Pain, Back Pain, Flank Pain \(Non-Traumatic\)](#)  
[Acute Coronary Syndrome \(Suspected\)](#)  
**ROUTE:** **Adult:** Slow IVP or IM  
**Pediatric:** Slow IVP or IM (Recommended for use in children greater than 2 years of age)  
**SIDE EFFECTS:** Headache, chest pain, dizziness, hypotension  
**CONTRAINDICATIONS:** Patients with a known hypersensitivity to Zofran

## PHENYLEPHRINE (Neo-Synephrine)

**FORM:** 0.25 – 0.5% Solution  
**CLASS:** Sympathomimetic  
**ACTION:** Direct local vasoconstriction  
**PROTOCOL(S):** [Advanced Airway Management](#)  
[Endotracheal Intubation](#)  
**ROUTE:** **Adult:** Intranasal  
**Pediatric:** Intranasal  
**SIDE EFFECTS:** None  
**CONTRAINDICATIONS:** Ventricular tachycardia, severe coronary artery disease  
**RELATIVE CONTRAINDICATIONS:** Head injured patients with altered mental status

## SODIUM BICARBONATE

**FORM:** 50 mEq/50 ml (8.4% solution)  
**CLASS:** Alkalinizing agent  
**ACTION:** Increases blood pH  
**PROTOCOL(S):** [Cardiac Dysrhythmia: Asystole](#)  
[Cardiac Dysrhythmia: Pulseless Electrical Activity](#)  
[Cardiac Dysrhythmia: Ventricular Fibrillation or Pulseless Ventricular Tachycardia](#)  
[Hyperkalemia \(Adult\) – Dosing variant \(50 mEq dose – NOT per kg\)](#)  
[Overdose / Poisoning](#)

## FORMULARY

**ROUTE:**     **Adult:** 1 mEq/kg IV  
              **Pediatric:** 1 ml/kg IV

**SIDE EFFECTS:** None

**CONTRAINDICATIONS:** Alkalotic states, respiratory acidosis

# APPENDICES

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**SAMPLE  
RELEASE OF MEDICAL ASSISTANCE**

1. I (or my guardian) have been informed of the reason I should go to the hospital for further emergency care.
2. I (or my guardian) have been informed that only an initial evaluation has been rendered to me and have been advised that I seek the advice of a physician as soon as possible.
3. I (or my guardian) have been informed of the potential consequences and/or complications that may result in my (or my guardian's) refusal to go to the hospital for further emergency care.
4. I (or my guardian), the undersigned, have been advised that emergency medical care on my/the patient's behalf is necessary, and that refusal of recommended care and transport to a hospital facility may result in death, or imperil my/the patient's health by increasing the opportunity for consequences or complications. Nevertheless, and understanding all of the above, I (or my guardian), refuse to:

- accept emergency medical care
- accept transport to a hospital facility
- accept transport to \_\_\_\_\_ Hospital as directed by Southern Nevada EMS protocols, but request transport to \_\_\_\_\_ Hospital; and

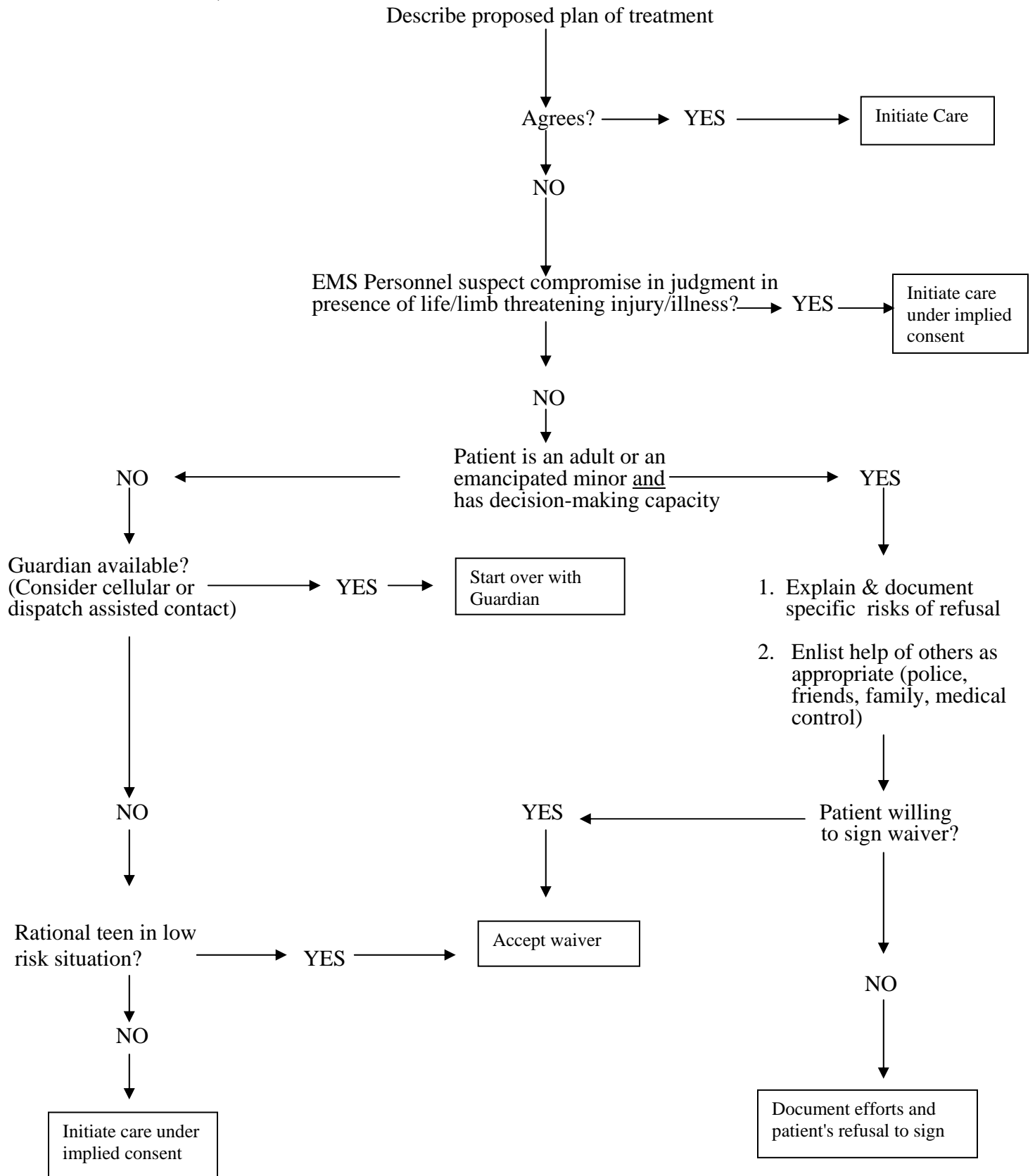
assume all risks and consequences resulting from my (or my guardian's) decision, and release Clark County provider agencies, and all personnel directly or indirectly involved in my care from any and all liability resulting from my (or my guardian's) refusal. I have had the opportunity to ask all of the questions I feel necessary to provide this informed refusal.

5. The reason for this refusal is as follows: (to be completed by patient/guardian) \_\_\_\_\_  
\_\_\_\_\_

Patient's Name:	DOB:	
Patient's Address:		
Patient's Phone Number:		
Signature (Patient/Guardian):		
Witness:		
Witness:		
Date:	Time:	Incident #:
Refused to Sign (Patient/Guardian):		
Telemetry Physician:		Hospital:

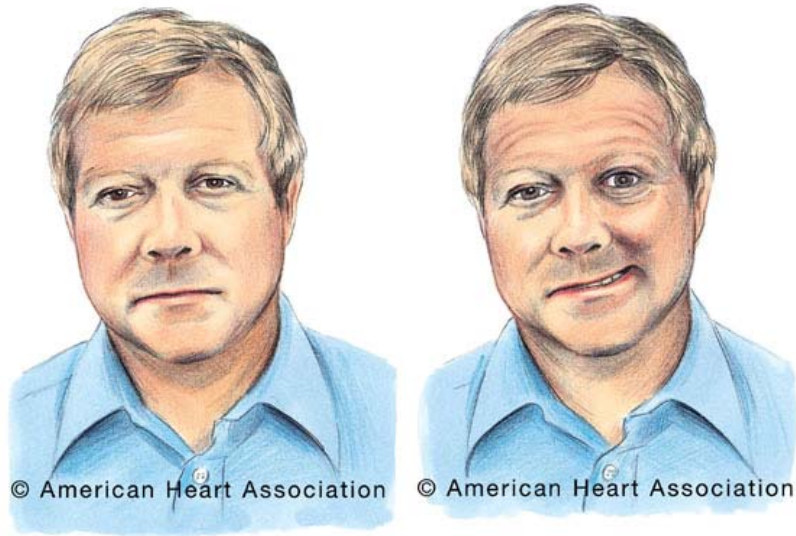
## APPENDIX A – RELEASE OF MEDICAL ASSISTANCE

(SAMPLE ALGORITHM)



**NOTE:**

1. For all patients refusing transport who meet TRAUMA FIELD TRIAGE CRITERIA Protocol, contact a Trauma Center.
2. EMS personnel may make telemetry contact for further guidance at any time.



**Facial Droop**

- *Normal:* Both sides of face move equally
  - *Abnormal:* One side of face does not move at all
- 



**Arm Drift**

- *Normal:* Both arms move equally or not at all
  - *Abnormal:* One arm drifts compared to the other
- 

**Speech**

- *Normal:* Patient uses correct words with no slurring
- *Abnormal:* Slurred or inappropriate words or mute