

**Emergency Medical Technician (EMT) Protocols and Procedures (5002.00)**

**Table of Contents**

Table of Contents .....	1
SECTION 100.....	3
101: GENERAL PROVISIONS .....	3
102: SCOPE OF PRACTICE .....	3
103: OPTIONAL SCOPE OF PRACTICE.....	4
104: EMT AUTHORIZED MEDICATIONS AND DOSAGES.....	8
105: ASSISTING PATIENT’S WITH SELF ADMINISTRATION OF MEDICATION .....	9
106: MONITORING IVS.....	9
107: OXYGEN THERAPY .....	9
108: SPINAL MOTION RESTRICTION .....	10
109: DETERMINATION OF DEATH .....	14
SECTION 200: MEDICAL PROTOCOLS.....	18
201: AIRWAY OBSTUCTION .....	19
202: ALLERGIC REACTION/ANAPHYLAXIS.....	21
203: ALTERED LEVEL OF CONSCIOUSNESS.....	23
204: BITES/STINGS .....	25
205: BURNS .....	27
206: CARDIAC ARREST .....	29
207: CEREBRAL VASCULAR ACCIDENT (CVA).....	32
208: CHEST PAIN/ ACUTE CORONARY SYNDROME.....	34
209: CHILDBIRTH.....	37
210: ENVIRONMENTAL EMERGENCY .....	40
211: POISONING/INGESTION.....	42
212: PSYCHIATRIC/ BEHAVIORAL EMERGENCY .....	44
213: RESPIRATORY DISTRESS.....	46
214: RESTRAINT.....	48
215: SEIZURES .....	50
SECTION 300: TRAUMA PROTOCOLS .....	52
301: ABDOMINAL INJURY.....	53
302: CHEST INJURY .....	53
303: HEAD/EYE/EAR INJURY .....	53
304: NEAR-DROWNING.....	53
305: ORTHOPEDIC INJURY .....	53
306: SHOCK/HYPOPERFUSION.....	53
307: SOFT TISSUE INJURY .....	53

## REVISION LISTING

02/15/2012	Creation of protocols.
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11/14/2013	EMCAB approval
01/01/2014	Implementation date
07/01/2015	Updated Spinal Motion Restriction
11/12/2015	Added narcan, epinephrine, atropine/pralidoxime chloride, hemostatic dressing, titrated oxygen administration, several clarifications. EMCAB approval.
01/01/2017	Added 109: Determination of Death. EMCAB approved.

## SECTION 100

### 101: GENERAL PROVISIONS

The Emergency Medical Technician (EMT) treatment protocols shall be used in direct compliance with the California Code of Regulations (CCR), Title 22, Division 9, Chapter 2, and as specified in Kern County EMS Division (EMS Division) EMT Policies and Procedures.

Documentation of events shall be provided on the Patient Care Report. Documentation shall follow the *Patient Care Record Policies and Procedures*.

### 102: SCOPE OF PRACTICE

- A. During training, while at the scene of an emergency, during transport of the sick or injured, or during interfacility transfer, a certified EMT or supervised EMT student is authorized to do the following:
1. Evaluate the ill and injured
  2. Render basic life support, rescue and emergency medical care to patients.
  3. Obtain diagnostic signs to include, but not be limited to, temperature, blood pressure, pulse and respiration rates, pulse oximetry, level of consciousness, and pupil status.
  4. Perform cardiopulmonary resuscitation (CPR), including the use of mechanical adjuncts to basic cardiopulmonary resuscitation.
  5. Use the following adjunctive airway breathing aids:
    - a. Oropharyngeal airway
    - b. Nasopharyngeal airway
    - c. Suction devices
  6. Administer oxygen using basic oxygen delivery devices for supplemental oxygen therapy including but not limited to:
    - a. Humidifiers
    - b. Nasal cannula
    - c. Partial rebreathers
    - d. Non-rebreathers
    - e. Venturi masks
    - f. Bag-Valve Mask ventilation
  7. Use various types of stretchers and body immobilization devices. Spinal Motion Restrictions shall be performed in accordance with these protocols and procedures, see section 108: Spinal Motion Restriction.
  8. Provide initial prehospital emergency care of trauma, including but not limited to:
    - a. Bleeding control through the application of tourniquets.
    - b. Spinal Motion Restriction.
    - c. Seated spinal Motion Restriction.

- d. Extremity splinting.
  - e. Traction splinting.
9. Administer over the counter medications as approved by the Division, including:
    - a. Oral glucose or sugar solutions
    - b. Aspirin
  10. Extricate entrapped persons
  11. Perform field triage
  12. Transport patients
  13. Mechanical patient restraint
  14. Set up for ALS procedures, under the direction of an Advanced EMT or Paramedic
  15. Perform automated external defibrillation when authorized by an EMT-AED service provider.
  16. Assist patients with the administration of physician prescribed devices, including but not limited to:
    - a. patient operated medication pumps
    - b. sublingual nitroglycerin
    - c. self-administered emergency medications, including epinephrine devices
- B. In addition to the activities authorized in this section a certified EMT or a supervised EMT student in the prehospital setting and/or during interfacility transport may:
1. Monitor intravenous lines delivering isotonic balanced salt solutions for volume replacement including:
    - a. Normal saline
    - b. Ringer's lactate
    - c. Dextrose 5% in water (D5W)
  2. Monitor, and maintain, if necessary, a preset rate of flow and turn off the flow of intravenous fluid.
  3. Transfer a patient, who is deemed appropriate for transfer by the transferring physician, and who has nasogastric (NG) tubes, gastrostomy tubes, heparin locks, foley catheters, tracheostomy tubes and/or indwelling vascular access lines, excluding arterial lines.

### **103: OPTIONAL SCOPE OF PRACTICE**

- A. In addition to the activities authorized in section 102, the EMS Division has established policies and procedures for local accreditation of an EMT student or certified EMT to perform the following optional skill as specified in this section. Accreditation for EMTs to practice the optional skill shall be limited to those whose certificate is active and is employed within Kern County by an employer who is a recognized EMT provider of the optional skill by the EMS Division.

1. Use of supralaryngeal airway adjuncts such as King Airway.
  - a. Supralaryngeal airway procedures in the pre-hospital setting shall only be performed using devices approved by the Division.
  - b. Placement of a supralaryngeal airway may be attempted three times. Ventilations should be interrupted for no more than thirty (30) seconds per attempt. Patients should be ventilated with 100% oxygen for at a minimum one (1) minute via Bag-valve-mask device between attempts. If attempts at placement of an advance airway are unsuccessful after three attempts, BLS airway measures shall be resumed.
  - c. The King Airway is approved for use in three sizes and cuff inflation varies by size. **DO NOT** over-inflate the cuff. It may be customary to hear gurgling around the King Airway when it is properly placed. Over-inflation of the cuff with more air than specified below has been known to decrease circulation through the carotid arteries.
    - i. Size 3- Patients between 4 and 5 feet tall (55mL air)
    - ii. Size 4- Patients between 5 and 6 feet tall (70mL air)
    - iii. Size 5- Patients over 6 feet tall (80mL air)
  - d. Indications
    - i. Cardiac arrest of any cause
    - ii. Inability to ventilate non-arrest patient with other BLS maneuvers
  - e. Contraindications
    - i. Presence of a gag reflex
    - ii. Caustic ingestion
    - iii. Known esophageal disease (e.g. cancer, varices, stricture)
    - iv. Laryngectomy with stoma
    - v. Height less than 4 feet
    - vi. NOTE: Airway deformity due to prior surgery or trauma may limit the ability to adequately ventilate with a supralaryngeal airway due to the potential for poor seal of the pharyngeal cuff.
  - f. Required equipment
    - i. Suction
    - ii. King Airway Kit (size 3,4, or 5)
    - iii. Bag-valve-mask
    - iv. Stethoscope
  - g. Procedure for use
    - i. Assure adequate BLS airway (if possible).
    - ii. Ventilate with 100% oxygen while selecting appropriate size King Airway.
    - iii. Test cuff of device by injecting the recommended amount of air into the cuffs. Fully deflate prior to insertion.
    - iv. Apply water-based lubricant to distal tip and posterior aspect of tube. Avoid application of lubricant into ventilator openings.
    - v. Position the head into the “sniffing position.” Neutral position may be used for suspected cervical spine injury.
    - vi. Hold mouth open and apply chin lift (jaw-thrust for suspected c-spine injury).
    - vii. Insert tube rotated laterally at 45-90 degrees with blue orientation stripe touching corner of mouth. Advance behind base of tongue. Do not force.
    - viii. Once tube has passed under tongue, rotate tube back to midline with the blue orientation stripe midline and up towards chin.
    - ix. Advance tube until base connector aligns with teeth or gums.
    - x. Inflate cuff of tube to required volume.

- xi. Attach bag-valve-mask and ventilate patient, confirm placement by rise and fall of chest and lung sounds.
- xii. Secure tube and note depth marking of tube.
- xiii. Continue monitoring placement of tube throughout pre-hospital treatment and transport
- xiv. Document placement of tube on patient care report.

## 2. Airway removal

- a. Once a supralaryngeal airway is placed, ideally it should not be removed. Circumstances that necessitate removal of the device may include presence of a gag reflex or inadequate ventilation with the device. Removal of the device may cause vomiting and the following steps should be followed:
  - i. Position patient on side, maintain spinal motion restrictions as needed.
  - ii. Have suction available.
  - iii. Deflate cuff/cuffs completely and remove smoothly and quickly.
  - iv. Reassess airway and breathing to evaluate the need for other adjuncts.

## 3. Patient hand-off/Transport procedures

- a. Patients with supralaryngeal airways that have been placed by EMT First Responders may be released to a paramedic or to a transporting EMT with equal training for transport to the hospital
- b. In cases where an EMT ambulance is the transporting unit and the staff is not trained in the use of the device, the first responder must accompany the patient and maintain care responsibility of the airway device until release of the patient at the emergency department. EMT transport personnel will maintain responsibility for all other patient treatment and decisions during the transport to the emergency department.
- c. If the King Airway is inserted prior to arrival of ALS, the King Airway is to be left in place if the device is adequately ventilating and protecting the airway. ALS shall institute end tidal capnography.

## 4. Narcan (naloxone)

- a. Narcan is intended to reverse respiratory depression associated with narcotic use. Narcan may be withheld if respiratory depression is not present or respiratory rate is over 8RPM.
- b. Consider Narcan in situations of potential drug abuse or if no history of seizure disorder
- c. Narcan reverses the effects of narcotics by competing for opiate receptor sites in the central nervous system.
- d. Indications
  - i. Suspected narcotic overdose with respiratory depression
  - ii. Altered level of consciousness with respiratory depression.
- e. Contraindications
  - i. None
- f. Adverse effects
  - i. Hypertension
  - ii. Tremors
  - iii. Nausea/ vomiting
  - iv. Dysrhythmias
  - v. Diaphoresis

- g. Dosage and route of administration
    - i. Adult
      - a) Intranasal
      - b) 1 mg per nostril
      - c) Dosage maximum of 2 mg
    - ii. Pediatric
      - a) Intranasal
      - b) 0.1mg/kg split between nostrils
      - c) Dosage maximum of 2mg
5. Epinephrine auto-injector
- a. Epinephrine is intended to reverse severe allergic reaction (anaphylaxis) or to reverse severe asthma.
  - b. Patient may have history of life-threatening allergic reactions and may be prescribed an EpiPen.
  - c. Indications- Allergic reaction/ Anaphylaxis
  - d. Adverse effects
    - i. Hypertension
    - ii. Tachycardia
    - iii. Increase myocardial oxygen demand and potentially increases myocardial ischemia
  - e. Dosage and route of administration
    - i. IM Auto injector
    - ii. 0.3mg 1:1000 adult dose
    - iii. 0.15mg 1:1000 Pediatric dose
6. Atropine/ Pralidoxime Chloride
- a. Atropine/ Pralidoxime Chloride is for self-administration in organophosphate or nerve agent poisoning.
  - b. Actions
    - i. Removes organophosphate agent from cholinesterase and reactivates the cholinesterase
    - ii. Re-established normal skeletal muscle contractions
  - c. Indications
    - i. Antidote for organophosphate poisoning (not carbamates)
    - ii. Antidote for nerve agent poisoning
  - d. Adverse effects
    - i. Pain at injection site
    - ii. Hypertension
    - iii. Blurry vision
    - iv. Diplopia
    - v. Tachycardia
    - vi. Nausea
    - vii. Increases atropine affects
  - e. Onset 5-15 minutes
  - f. Protocol for use

- i. If dermal exposure has occurred, decontamination is critical and should be done with standard decontamination procedures.
  - ii. Assess for the presence of the signs and symptoms of nerve agent or organophosphate exposure.
  - iii. Mnemonic for Nerve Agent Exposure:
    - a) **S**alivations (excessive production of saliva)
    - b) **L**acrimation (excessive tearing)
    - c) **U**rination (uncontrolled urine production)
    - d) **D**efecation (uncontrolled bowel movements)
    - e) **G**astrointestinal distress (cramps)
    - f) **E**mesis (excessive vomiting)
    - g) **B**reathing difficulty
    - h) **A**rrhythmias (irregular heartbeat)
    - i) **M**yosis (pinpoint pupils)
- g. If signs and symptoms of nerve agent exposure exist, Atropine/Pralidoxime Chloride may be self-administered according to the following dosing regimen.

### 104: EMT AUTHORIZED MEDICATIONS AND DOSAGES

Medication	Adult Dose	Pediatric Dose	Routes & Comments
Aspirin	325 mg PO	Not used	Have patient chew tablet(s), chewable children's aspirin preferred.
Oral Glucose	Full tube given in small doses (15g)	Full tube given in small doses (15g)	<b>Route:</b> Oral <b>Contraindications:</b> <ul style="list-style-type: none"> <li>• Absent gag reflex</li> <li>• Inability to protect their own airway</li> <li>• Inability to swallow</li> </ul>
Oxygen	2-15 liters/min	2-15 liters/min	<b>Route:</b> Blow-by: 15 liters/min Nasal Cannula: 2-6 liters/min Partial rebreather: 6-10 liters/min Non-rebreather Mask: 15 liters/min Bag-Valve-Mask: 15 liters/min Venturi: By transfer order
Narcan	2 mg IN	0.1mg/kg max 2mg IN	<b>Route:</b> Intranasal 1mg in each nostril for a maximum of 2 mg. Respiratory rate must be <8RPM to administer
Epinephrine	0.3mg 1:1000	0.15mg 1:1000	<b>IM Auto Injector</b>
Atropine/ Pralidoxime Chloride	2 mg in 0.7ml/ 600mg in 2ml	Not used	<b>IM Auto Injector</b> <b>Mild exposure-</b> Administer one dose <b>Moderate exposure-</b> Administer 1-2 doses <b>Severe Exposure administer 3 doses in rapid succession</b>



## **105: ASSISTING PATIENT'S WITH SELF ADMINISTRATION OF MEDICATION**

- A. An EMT may assist patients with the administration of physician prescribed devices/medications. The devices/medications must be specifically prescribed for the patient.
1. Medication pumps-If the patient has a PCA (Patient Controlled Analgesia) pump, the EMT place the button into the hand of the patient to allow them to push for medication infusion. If the patient has a nebulizer: The EMT may turn on the nebulizer; open/close the medication chamber, and hand the mask/mouth piece with the medication to the patient for self-administration.
  2. Sublingual Nitroglycerin- The EMT may place the sprayer/pill into the hand of the patient to self-administer sublingual Nitroglycerin. This may be done up to a total of 3 times. Each time, the EMT **shall** obtain a blood pressure and pulse prior to and after administration. CONTRAINDICATED WITH SYSTOLIC BLOOD PRESSURE <90.
  3. Self-Administered Emergency Medication- The EMT may shake, and place the inhaler into the patient's hand. Some emergency inhalers are: Albuterol, Proventil, Pro-Air, Ventolin, or Atrovent (Ipratropium Bromide). Emergency Epinephrine Auto-Injector for severe acute asthma attacks, or anaphylactic type allergic reactions may be assisted by the EMT by locating the patient's auto-injector, removing the safety cap from the end, and handing the auto-injector to the patient for self-administration; ensuring the end the needle ejects from is pointed in the downward direction, so the patient doesn't stab their hand instead of the proper place for injection.

## **106: MONITORING IVS**

- A. The EMT working for an approved provider may monitor peripheral lines delivering intravenous fluids during interfacility transport under the following conditions:
1. The patient is not critical and deemed stable by the transferring physician and the physician approves transport by EMT.
  2. No medication or electrolyte additives have been added to the intravenous fluids.
  3. The patient does not have any other ALS procedures in progress.
  4. The IV set up does not use an IVAC or other flow rate monitor.
- B. The EMT may only monitor and turn off the flow of the IV fluid.
- C. Any patient, who has IV therapy initiated by a paramedic in the field, must be accompanied to the hospital by the paramedic. The patient may not be turned over to an EMT.
- D. Patient controlled therapy or patients with home controlled therapy refer to section IV of these policies.

## **107: OXYGEN THERAPY**

- A. Oxygen therapy is indicated for patient with the following conditions:
1. Acutely altered mental status for any acute neurological symptoms (seizure, syncope, etc.) with pulse ox <94%.

2. Respiratory distress, cyanosis, significantly altered respiratory rate, inhalation injuries, or exposures
  3. Any chest pain of cardiac or respiratory etiology with pulse ox <94%
  4. Shock
  5. Significant abnormal heart rate with pulse ox <94%
  6. Significant multiple system trauma or patient meeting trauma activation criteria with pulse ox <94%
  7. Any other condition specifically covered in BLS protocols with pulse ox <94%
- B. Oxygen delivery and dose: Titrate for pulse ox of 94% or greater.
1. Low concentration- Nasal Cannula (2-6 liters per min)
  2. Medium concentration- Partial rebreather (6-10 liters per min)
  3. High concentration- Non-rebreathing mask (15 liters/min). Be sure to keep the reservoir bag inflated. If the patient has a history of COPD: Start oxygen at 2 liters/min by nasal cannula. If cyanotic, gradually increase oxygen flow until cyanosis resolves. If still cyanotic on 6 liters/min by nasal cannula, change to 15 liters/min by non-rebreathing mask. Prepare to assist ventilations with bag-valve-mask, since oxygen may cause sleepiness and hypoventilation in COPD patients.
  4. Bag-valve-mask with supplemental oxygen (15 liters/min) or oxygen powered breathing device. Patient is not breathing or patient's breathing is too shallow to ventilate adequately. DO NOT use oxygen powered breathing device on patients five (5) years old or less.
  5. Humidifier- Humidified oxygen may be used when patient transport times are greater than one (1) hour. Humidified oxygen in patients with extended transport times helps to prevent the drying of the mucus membranes associated with prolonged oxygen delivery which can damage airway tissue.
  6. Venturi Mask- Venturi masks may be used during emergency transports from a medical facility and interfacility transports where the patient has the mask in place prior to arrival. Use the same concentration and liter flow rate as set by the transferring medical personnel.

### **108: SPINAL MOTION RESTRICTION**

- A. Implement spinal motion restriction in the following circumstances in the setting of significant trauma:
1. Posterior midline spinal pain or tenderness with a history of or suspicion of trauma.
  2. Numbness or weakness in any extremity after trauma.
  3. Unreliable exam including:

- a. Injuries distracting patient from distinguishing spinal pain (e.g., pelvic fracture, multi-system trauma, crush injury to hands or feet, long bone fracture proximal to the knee/elbow, or to the humerus/femur, severe head or facial trauma, etc.)
  - b. Penetrating trauma does not require spinal motion restriction unless injury is suspected
  - c. Altered Mental Status GCS <15
  - d. Intoxication
  - e. Language barrier, unless reliable translation is available
  - f. Age less than 3 or greater than 65
- B. Examples of significant trauma include but are not limited to MVC>40 MPH, MVC rollover and/or ejection, fall > 3 feet or 5 stairs, axial loading, recreational vehicle crash (motorcycles, ATVs, etc.), car vs pedestrian or bicycle, vehicle intrusion > 12 inches to occupant side > 18 inches to any site.
- C. Patients who require spinal motion restriction are determined by the above criteria, **not mechanism of injury alone.**
- D. Complete spinal motion restriction includes cervical collar (C-Collar) and gurney straps or seatbelts only. Head blocks may be used to prevent rotation.
- E. Backboard or rigid extrication device shall not be used for spinal motion restriction. No patient shall be transported on backboard or rigid extrication device unless removing patient from device interferes with critical treatments or interventions. Vacuum splint is acceptable.
- F. If neurologically intact patient can safely self-extricate assist the patient to the gurney after C-Collar has been applied. If ambulatory instruct patient to sit on the gurney. Do not use standing takedown on ambulatory patients.
- G. Providers should use a slide board to facilitate movement between gurney and other surfaces such as ambulance bench seat or hospital bed.
- H. Football helmets should be removed in the field only under the following circumstances: (note: if the helmet is removed, the shoulder pads should also be removed and/or the head should be supported to maintain neutral stabilization):
- 1. If the helmet and chin strap fail to hold the head securely.
  - 2. If the helmet and chin strap design prevent adequate airway control, even after facemask removal.
  - 3. If the facemask cannot be removed.
  - 4. If the helmet prevents adequate proper for transport spinal motion restriction.
- I. Patients with isolated **non-traumatic** mid-to-low back pain do not need spinal motion restriction of the cervical spine with a cervical collar.
- J. Infants or children restrained in a front or rear-facing car seat (excludes booster seats) may be immobilized and extricated in the car seat. The infant or child may remain in the car seat if the immobilization is secure and his/her condition allows (no signs of respiratory distress or shock).

Children restrained in booster seat (with or without a back) need to be extricated and immobilized following standard spinal motion restriction procedures.

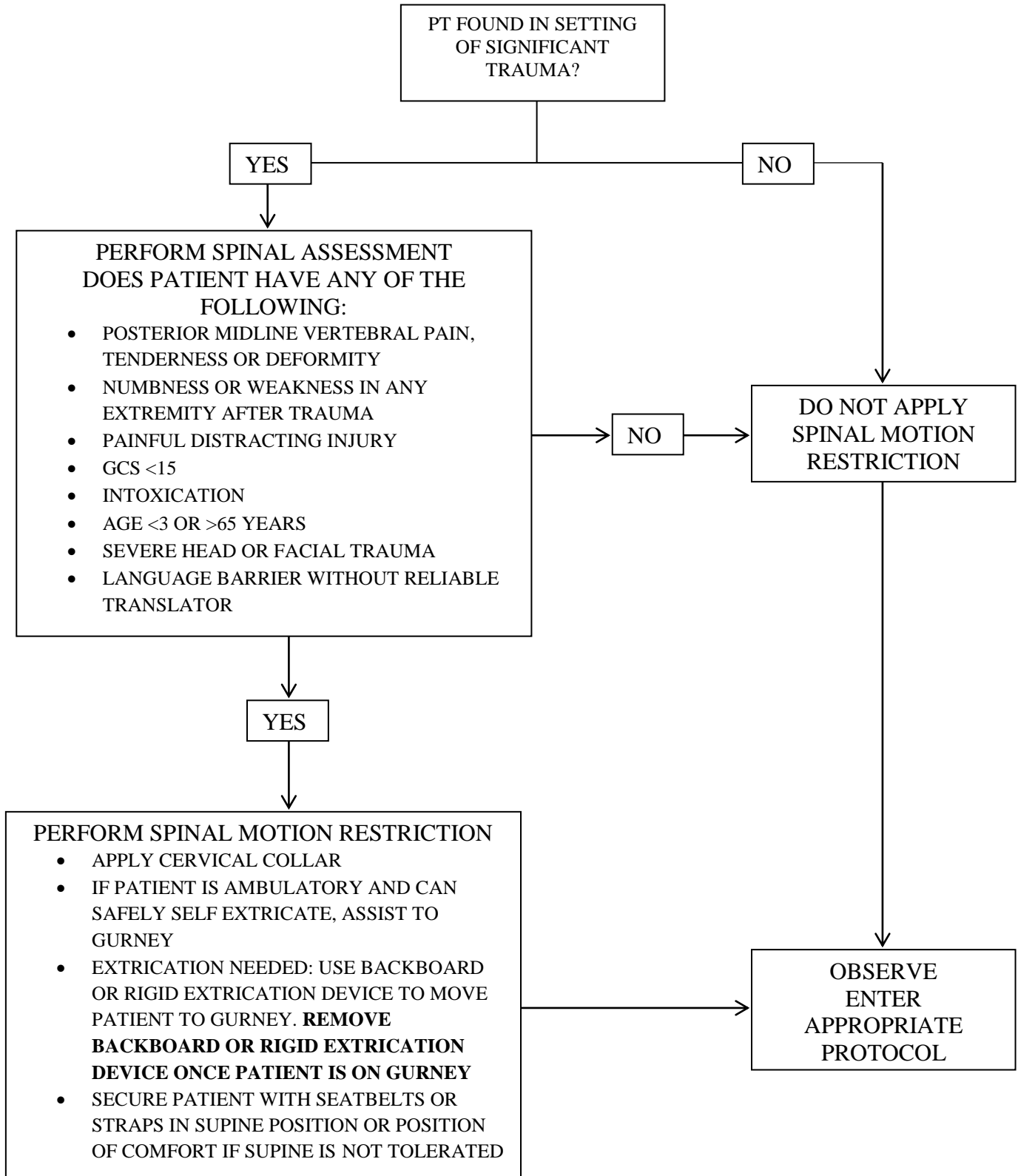
- K. A paramedic may remove spinal motion restriction precautions previously placed on patients based on patient assessment using the standards stated in Section 1 above.

**SPINAL MOTION RESTRICTION**

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**DETERMINATION OF DEATH**

Policy Number: 109

Effective Date: May 23, 2003

Revision Date: January 1, 2017

**PATIENT ASSESSMENT**

- ASSURE PATIENT HAS A PATENT AIRWAY
- LOOK, LISTEN AND FEEL TO CONFIRM APNEA
- CHECK FOR PULSE FOR MINIMUM OF 60 SECONDS TO CONFIRM PULSELESS
- CHECK PUPILLARY RESPONSE

DOES PATIENT MEET OBVIOUS DEATH CRITERIA?  
**OR**  
HAS PATIENT (WITHOUT SPECIAL CIRCUMSTANCES) BEEN CONFIRMED PULSELESS AND APNEIC FOR AT LEAST 10 MINUTES?  
**OR**  
DOES PATIENT HAVE A SIGNED DNR OR POLST DNR?  
**OR**  
BLUNT TRAUMA PATIENT IN CARDIAC ARREST PRIOR TO ARRIVAL

NO

YES

**DO NOT PROCEED WITH RESUSCITATION**

INITIATE APPROPRIATE RESUSCITATION PER POLICY/PROTOCOL  
PENETRATING TRAUMA PATIENT IN CARDIAC ARREST BLS RESPONDERS INITIATE RESUSCITATION UNTIL ALS ARRIVAL/ALS RESPONDERS SEE SPECIAL CONSIDERATIONS  
**IF PATIENT IS LESS THAN 18 YEARS OLD (A MINOR) INITIATE RESUSCITATION AND RAPID TRANSPORT**  
CONTINUE RESUSCITATIVE EFFORTS FOR **THIRTY (30) MINUTES**

ROSC

**RAPID TRANSPORT TO THE CLOSEST, MOST APPROPRIATE ED**

PATIENT FAILS TO RESPOND TO APPROPRIATE LIFE SUPPORT TREATMENT

**DISCONTINUE RESUSCITATION EFFORTS**

**DETERMINATION OF DEATH**Policy Number: **109**Effective Date: **May 23, 2003**Revision Date: **January 1, 2017**

## Special Considerations:

- A. Resuscitative efforts are of no benefit to patients whose physical condition precludes any possibility of successful resuscitation.
- B. Drowning, hypothermia and barbiturate ingestion all prolong brain life and therefore treatment and transport should be considered on these patients.
- C. Prehospital Care Personnel have the discretion to initiate resuscitation in those cases where resuscitation may not be warranted by patient condition, but necessary for crew safety or considered the best course of action in any given situation.
- D. **Obvious Death Criteria**: A patient may be determined obviously dead by Prehospital Care Personnel if, in addition to the absence of respiration, cardiac activity, and fixed pupils, one or more of the following physical or circumstantial conditions exists:
  1. Decapitation
  2. Massive crush injury to the head, neck, or trunk
  3. Penetrating or blunt injury with evisceration of the heart, lung or brain
  4. Decomposition
  5. Incineration
  6. Rigor Mortis
  7. Post-Mortem Lividity
- E. **When not to initiate CPR**:
  1. Primary assessment reveals a pulseless, non-breathing patient who has signs of prolonged lifelessness in accordance with obvious death criteria or confirmed pulseless for 10 minutes. This does not apply to drownings, hypothermia and barbiturate overdoses.
  2. Blunt trauma patient, who on the arrival of EMS personnel, is found to be apneic, pulseless and with fixed pupils.
    - a. When the mechanism of injury does not correlate with the clinical condition, suggesting a medical cause of cardiac arrest, standard resuscitative measures should be followed.
  3. Penetrating trauma patient who on the arrival of BLS EMS personnel shall initiate resuscitation until arrival of ALS personnel. ALS EMS personnel, if patient is found to be pulseless, apneic, and there are no other signs of life, including spontaneous movement, electrocardiographic activity, or pupillary response. If resuscitation initiated by BLS, cease resuscitative efforts.
  4. A patient with an approved "Do-Not-Resuscitate" (DNR) document in accordance with Division policy.
- F. **Termination of CPR by EMT Personnel** may be considered under the following circumstances for adult patients:
  1. Arrest was not witnessed by EMS provider or first responder; AND
  2. No return of spontaneous circulation (ROSC) after 30 minutes of CPR and automated

**DETERMINATION OF DEATH**Policy Number: **109**Effective Date: **May 23, 2003**Revision Date: **January 1, 2017**

external defibrillator (AED) analysis; AND

3. No AED shocks were delivered

**G. Termination of CPR by Paramedic Personnel:**

1. Paramedic personnel may discontinue resuscitative efforts as outlined below:
  - a. Any case in which information becomes available that would have prevented initiation of CPR had that information been available before CPR was initiated, CPR should be terminated.
  - b. If patient does not meet above criteria, initiate CPR. Consider termination of resuscitation after 30 minutes of resuscitation without ROSC.
  - c. Personnel may consider further resuscitative efforts in the following situations:
    - i. Persistent PEA with End Tidal Carbon Dioxide >20 or trending upwards.
    - ii. Persistent shockable rhythm
    - iii. Paramedic judgement
  - d. Termination of resuscitation and determination of death should be considered for witnessed traumatic cardiopulmonary arrest patients with a fifteen (15) minute or greater transport time to an ED or Trauma Center with effective airway management (effective bag valve mask ventilations with OPA and NPA (unless contraindicated) successful intubation, or supraglottic airway), thoracic needle decompression (if appropriate), and IV therapy.
    - i. Does not apply to lightning strike injuries or drownings
    - ii. If transport time to an ED or Trauma Center is less than fifteen (15) minutes, transport should be initiated immediately. Resuscitation while in transport.
  - e. EMS personnel shall initiate transport and continue resuscitation ONLY when one of the following factors are present:
    - i. ROSC occurs following cardiac arrest
    - ii. Hypothermia
    - iii. Barbituate overdose
    - iv. Drownings
    - v. Patient age <18 years (Patient is a minor)
    - vi. Extreme, unusual or dangerous social or scene situations.
    - vii. Provider discretion with base order.

H. **Documentation**: An ePCR shall be completed in accordance with existing Division policy. All appropriate patient information must be included in the ePCR, and shall describe the patient assessment and the time the patient was determined to be dead.

**I. Disposition of the Decedent:**

1. If a determination of death has occurred and the decedent has not been moved from the original place of death:



**DETERMINATION OF DEATH**

Policy Number: **109**

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- a. The decedent shall remain at scene and not be transported by Prehospital Care Personnel;
  - b. Any treatment items, such as endotracheal tubes, intravenous catheters, ECG or defibrillation electrodes, shall be left in place;
  - c. Resuscitation equipment, such as bag-valve-mask devices ECG monitoring equipment, etc., may be removed from the decedent;
  - d. Prehospital Care Personnel should ensure that the agency with primary investigative authority has notified the Kern County Coroner's Office of the incident;
  - e. The agency on-scene with primary investigative authority should remain at the scene until released by the Kern County Coroner's Department;
  - f. If public safety personnel are not present at the scene, Prehospital Care Personnel shall remain at scene until public safety personnel or Coroner Investigator arrival; and
  - g. Prehospital Care Personnel shall complete a PCR in accordance with existing Department policy; ensuring to include the time the determination of death was made.
2. If the patient has been moved from the original place of death (i.e. transport has been started; or the patient has been loaded into an ambulance), Prehospital Care Personnel shall inform on-board patient family members of the determination of death and shall cease all resuscitation efforts.
  3. Prehospital Care Personnel are not responsible to find and inform family members inside a residence or away from the ambulance if the patient has been loaded and a Base Hospital Physician order to terminate resuscitation has been received.
  4. If the patient has been placed into an ambulance but transport has not been started, the ambulance shall remain on the scene with the patient loaded inside the vehicle until released by the law enforcement agency with primary investigative authority.
  5. If the patient has been loaded into an ambulance and transport has been started, the patient shall be transported to the closest and most appropriate authorized Receiving Hospital or Base Hospital, but without further resuscitation efforts (termination of resuscitation effort only). Transport should be provided without emergency lights and siren (Code-2 transport).
  6. If the patient is to be transported to an emergency department that did not order termination of resuscitation, Prehospital Care Personnel shall make immediate contact and inform the receiving hospital emergency department physician of the situation.

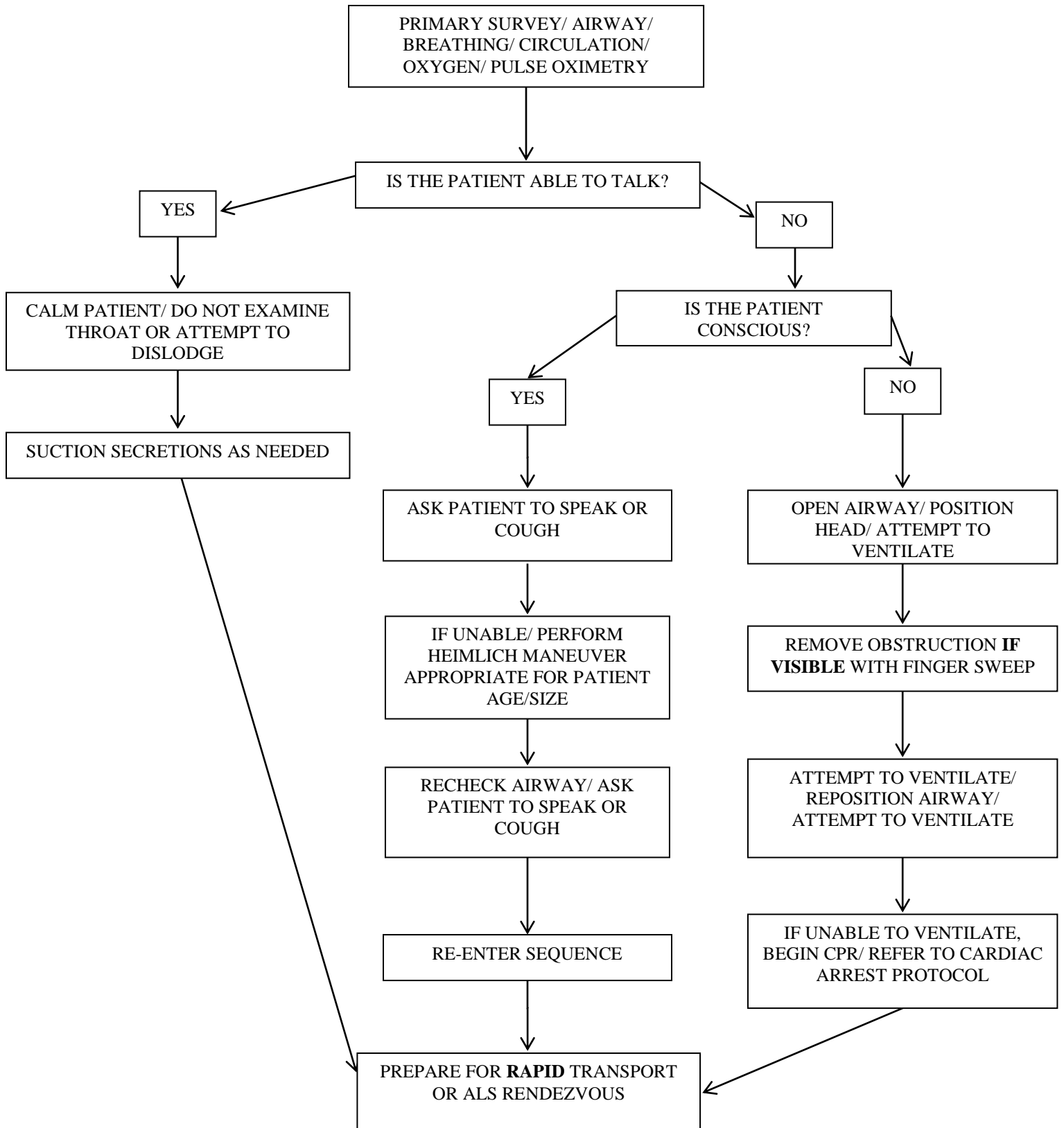
## **SECTION 200: MEDICAL PROTOCOLS**

**AIRWAY OBSTRUCTION**

Policy Number: 201

Effective Date: January 1, 2014

Revision Date: January 1, 2014



**AIRWAY OBSTRUCTION**

Policy Number: **201**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2014**

**SPECIAL CONSIDERATIONS**

**A. Appropriate Heimlich Maneuver**

1. Infant Less than 1 year old- 5 back blows with patient in a dependent position followed by 5 chest thrusts.
  - i. Dependent position is with the patient torso on the length of the forearm with the patient head in the palm. The patient head should be lower than the body.
2. Obese or late stages of pregnancy- chest thrusts.
3. Adults and children 1 year old and over- subdiaphragmatic abdominal thrusts.

**B. Severity of Airway Obstruction**

1. Partial Airway Obstruction- Patient usually in distress but is moving some air, conscious and can talk.
2. Complete Airway Obstruction- Patient may be awake, cyanotic, moving little to no air, unable to speak.

**C. Consider causes:**

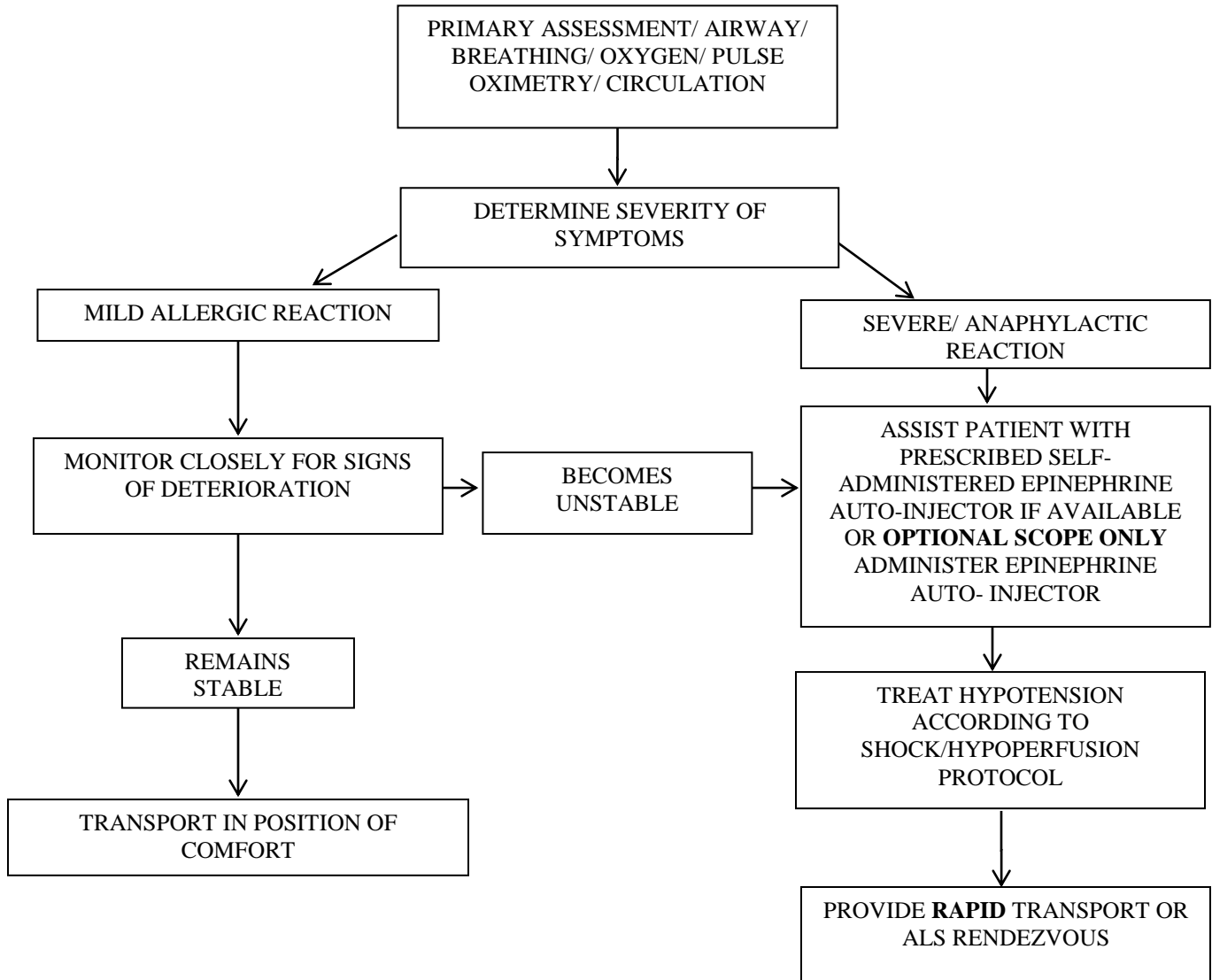
1. Foreign body
2. Croup/Epiglottitis
3. Trauma
4. Anaphylaxis

**ALLERGIC REACTION/ ANAPHYLAXIS**

Policy Number: 202

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**ALLERGIC REACTION/ ANAPHYLAXIS**

Policy Number: **202**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

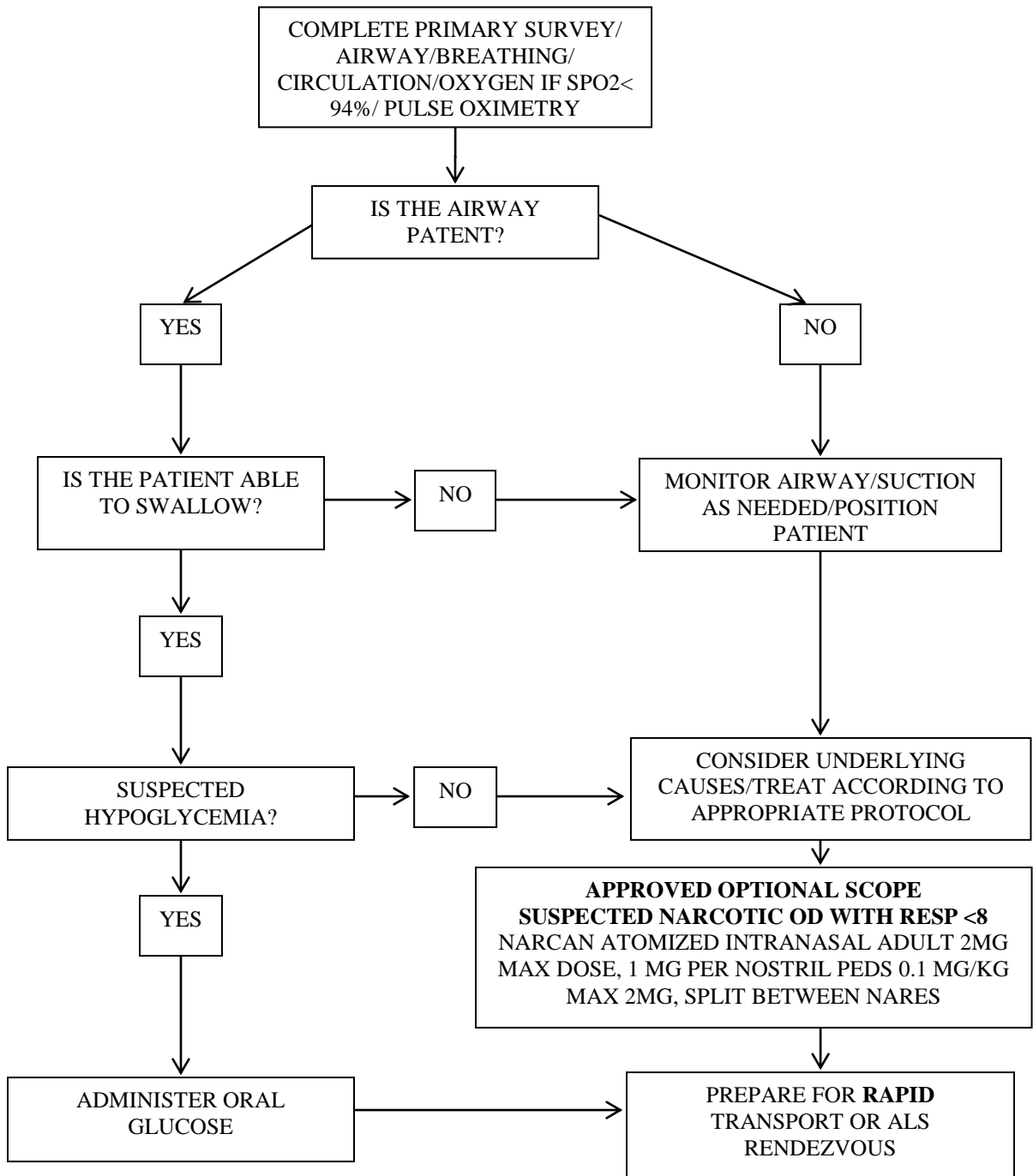
**A. Signs and symptoms of anaphylaxis:**

1. Itching and hives
2. Respiratory distress
3. Airway occlusion
4. Swelling to face and/or tongue
5. Tightness in throat and/or chest
6. Loss of voice
7. Hypotension/shock

**B. If treatment is not effective, rapid transport and thorough reassessment of patient and history leading up to event are indicated.**

**C. Allergic reactions and anaphylaxis commonly present with extreme variation of signs and symptoms between patients.**

**ALTERED LEVEL OF CONSCIOUSNESS**



**ALTERED LEVEL OF CONSCIOUSNESS**

Policy Number: **203**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

**A. TESTING FOR GAG REFLEX**

1. First have patient swallow. If patient is able to swallow then administer oral glucose.

**B. POSITION PATIENT**

1. No trauma and decreased gag reflex- Transport on side.
2. No trauma and good gag reflex- Position patient for comfort.

**C. UNDERLYING CAUSES**

A- Alcohol

E- Epilepsy

I- Insulin

O- Overdose

U- Uremia

T- Trauma/Tumor

I- Infection

P- Psychiatric/Poisoning

S- Stroke/Shock/Seizures

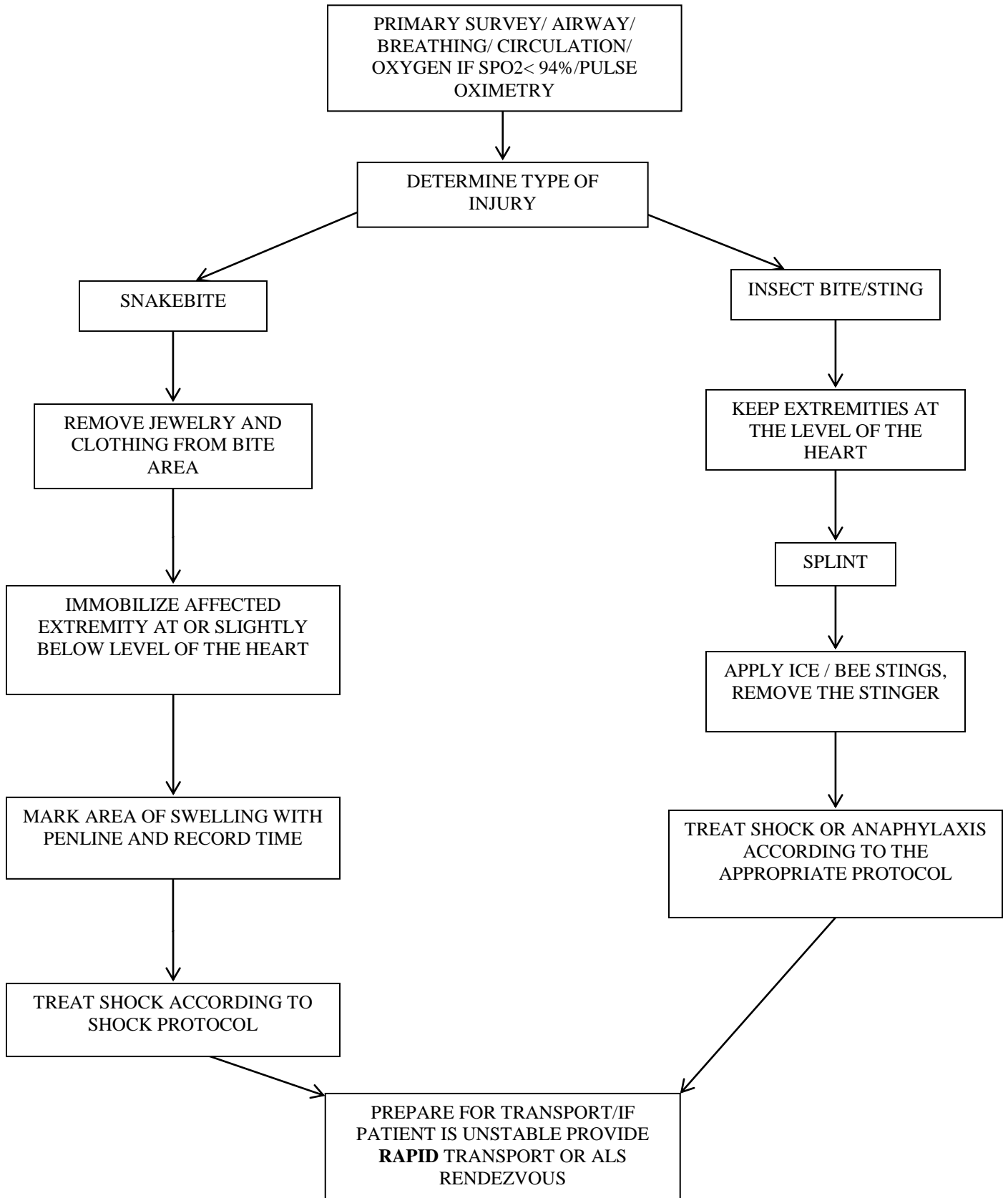


**BITES/STINGS**

Policy Number: **204**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**BITES/STINGS**

Policy Number: **204**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

SPECIAL CONSIDERATIONS

- A. Tourniquets should not be used.
- B. Remove any tight fitting jewelry or clothing near the envenomation site.
- C. Keep patient at rest.
- D. Snakebite
  - 1. If snake was exotic pet or zoo animal, neurologic or respiratory depression may precede local reaction. Observe for changes to mental status, respiratory status, convulsions, or paralysis.
  - 2. **DO NOT** apply ice or cooling. **DO NOT** allow incision of the wound.
  - 3. The EMT should try to safely ascertain the type of snake if possible, however **DO NOT** transport or bring the snake to the hospital.
- E. Bites/Stings
  - 4. Bring animal or insect to the hospital only if dead.
  - 5. **DO NOT** touch a bee stinger that is still in place. Use an object to scrape the stinger off of the skin (i.e. hard piece of plastic, credit card, etc.).
  - 6. **DO NOT** submerge extremities in ice. Apply an ice pack, or cooling compress localized to the area of the bites/stings.

**BURNS**

Policy Number: **205**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2014**

REMOVE BURNED CLOTHING/JEWELRY,  
**EXCEPT** CLOTHING THAT HAS BEEN  
MELTED TO THE SKIN/ PRIMARY  
ASSESSMENT/ AIRWAY/ BREATHING/  
CIRCULATION/ APPLY OXYGEN/PULSE  
OXIMETRY

DETERMINE TYPE OF  
BURN

THERMAL BURN

CHEMICAL BURN

LESS THAN 10% TBSA

GREATER THAN 10% TBSA

DETERMINE CHEMICAL/  
REFER TO LABEL OR MSDS  
FOR DECONTAMINATION

IF UNAVAILABLE/ BRUSH OFF  
DRY CHEMICAL/ BLOT EXCESS  
LIQUID CHEMICAL

WASH WITH COPIOUS  
AMOUNTS OF WATER

STOP THE BURNING  
PROCESS/ COVER WITH  
**MOIST** STERILE  
DRESSING

STOP THE BURNING  
PROCESS/ COVER WITH  
**DRY** STERILE  
DRESSING

APPLY STERILE  
DRESSINGS

CHECK FOR ASSOCIATED  
INJURIES/ TREAT SHOCK AS  
NEEDED/ **DO NOT** APPLY ICE  
OR CREAMS TO BURNED  
AREAS

PREPARE FOR TRANSPORT  
OR ALS RENDEZVOUS

**BURNS**

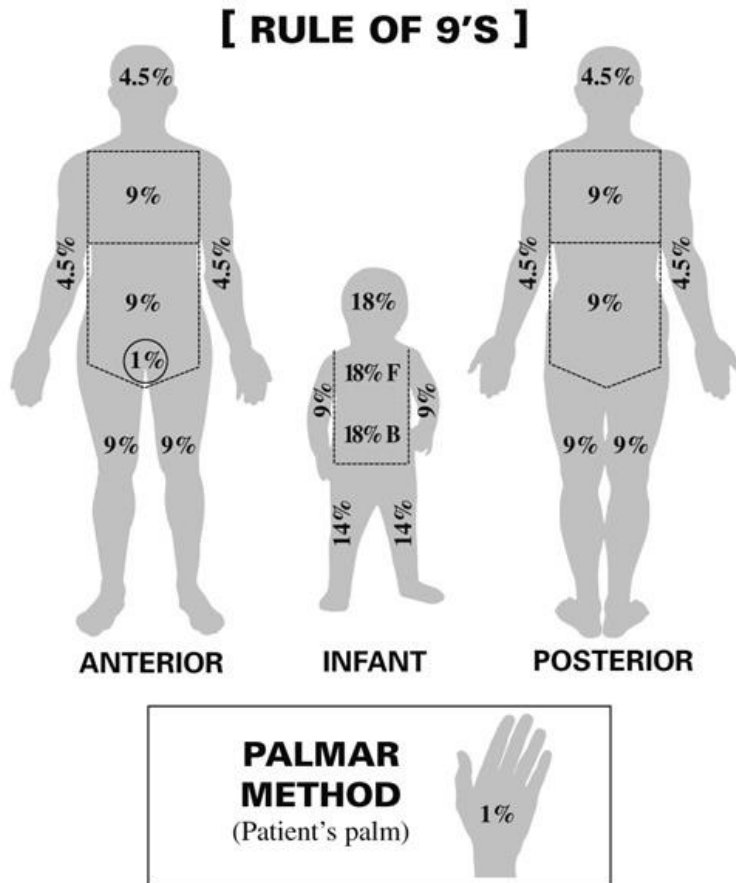
Policy Number: 205

Effective Date: January 1, 2014

Revision Date: January 1, 2014

**SPECIAL CONSIDERATIONS**

- A. Carefully assess the patient for airway burns, singed nose or facial hair, lung sounds, nature and extent of the burn, mental status, smoke inhalation, duration of exposure.
  - 1. Prepare for rapid deterioration if patient has signs or symptoms of airway burns. Have suction readily available.
  - 2. Precautions must be taken to prevent hypothermia in the severely burned patient.

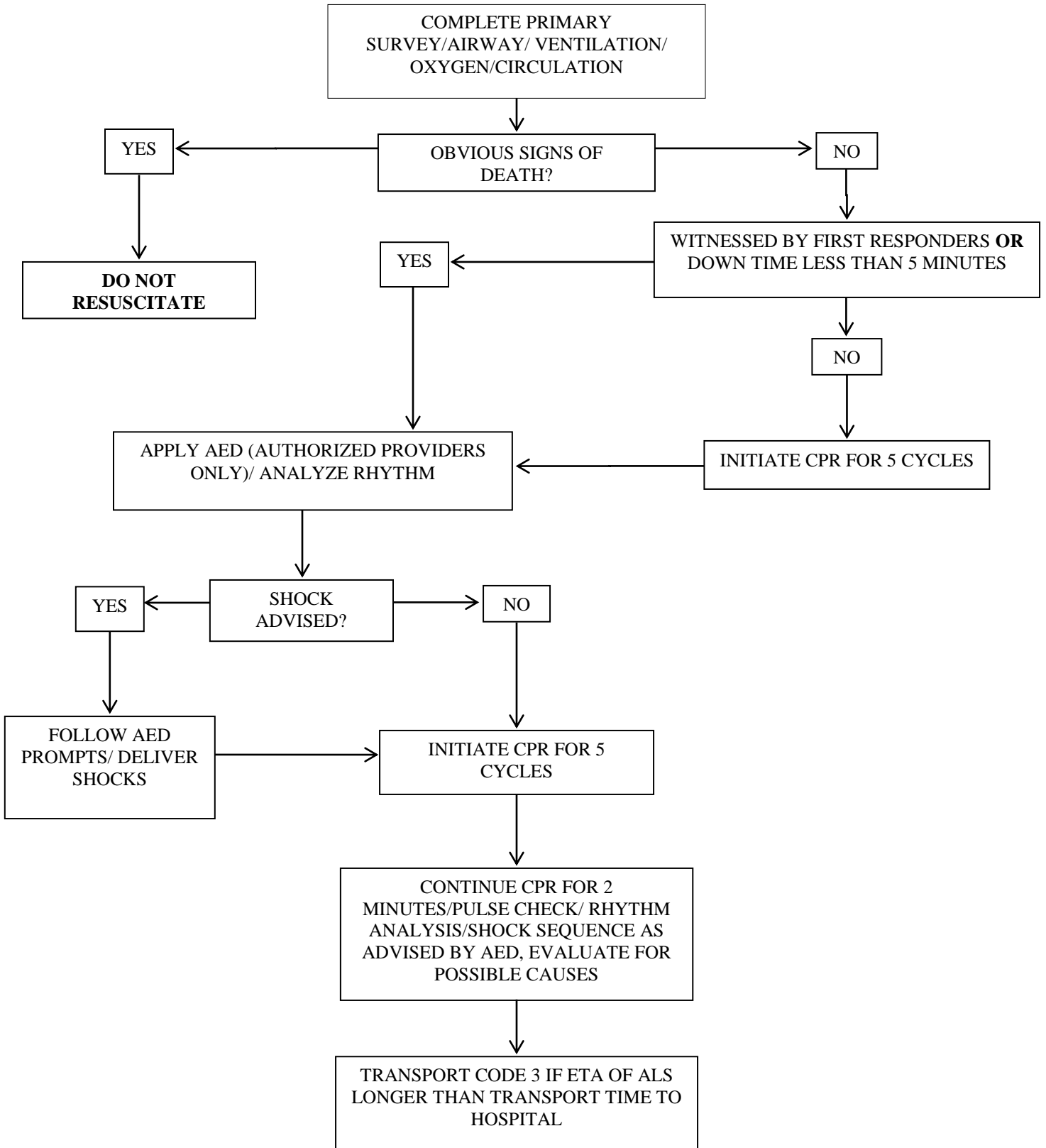


**CARDIAC ARREST**

Policy Number: 206

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**CARDIAC ARREST**

Policy Number: **206**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**AED PLACEMENT**

A. AED is used only in the following circumstances:

1. Unconscious, pulseless, with agonal or absent respirations.
2. Patients less than eight (8) years old should be defibrillated with pediatric pads. If pediatric pads not available use adult pads.

**SPECIAL CONSIDERATIONS:**

- A. If the patient has emesis while the AED is analyzing or charged and ready to shock, clear the airway and do not deliver a shock and immediately resume 2 minutes of CPR. The AED will automatically re-analyze the rhythm and will voice prompt the proper action afterward.
- B. Once applied to a patient, the AED shall remain applied until care is assumed by advanced life support personnel with necessary ECG monitoring and manual defibrillation equipment. ALS personnel may leave the AED in place if appropriate.
- C. Administer shock when advised by AED and immediately resume CPR. There is not a maximum number of shocks allowed. Transport does not need to be stopped to deliver a shock.
- D. Chest compressions in the newborn should be performed with the 2 thumb-encircling hands technique. Compressions should be centered over the lower third of the sternum and should compress the chest one third of the diameter of the chest. The compression to ventilation ratio should be 3:1.
- E. Infants and children require a compression to ventilation ratio of 15:2 with two rescuer CPR, or 30:2 for single rescuer CPR.

**CARDIAC ARREST**

Policy Number: **206**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**POSSIBLE CAUSES OF NON-SHOCKABLE RHYTHM:**

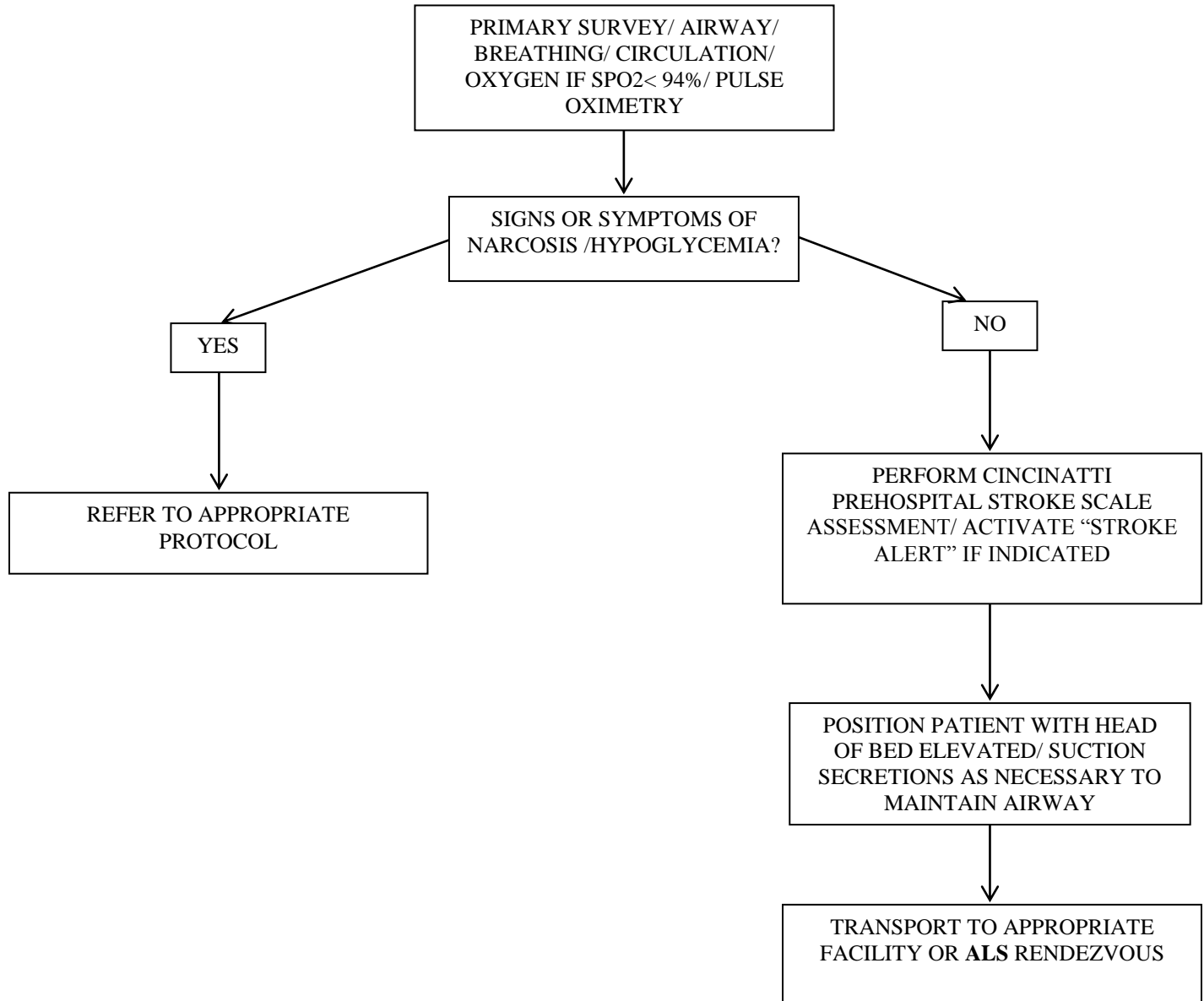
<b>H's</b>	<b>T's</b>
Hypovolemia	Toxins
Hypoxia	Tamponade (cardiac)
Hydrogen ion (acidosis)	Tension Pneumothorax
Hyper/hypokalemia	Thrombosis (coronary and pulmonary)
Hypoglycemia	Trauma
Hypothermia	

**CEREBRAL VASCULAR ACCIDENT (CVA)**

Policy Number: 207

Effective Date: January 1, 2014

Revision Date: January 1, 2016





**CEREBRAL VASCULAR ACCIDENT (CVA)**

Policy Number: **207**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS:**

**A. Cincinnati Pre-hospital Stroke Scale**

<b>Test</b>	<b>Findings</b>
<b>Facial Droop:</b> Have the patient show teeth or smile	<b>Normal</b> – both sides of face move equally <b>Abnormal</b> – one side of face does not move as well as the other side
<b>Arm Drift:</b> Patient closes eyes and extends both arms straight out, with palms up, for 10 seconds	<b>Normal</b> – both arms move the same or both arms do not move at all <b>Abnormal</b> – one arm does not move or one arm drifts down compared with the other
<b>Abnormal Speech:</b> Have the patient say “you can’t teach an old dog new tricks”	<b>Normal</b> – patient uses correct words with no slurring of words <b>Abnormal</b> – patient slurs words, uses the wrong words, or is unable to speak

**B. Positioning of patient**

1. Position patient with head of bed elevated unless not tolerated.
2. Shock position if patient is hypotensive.

**C. Special notes**

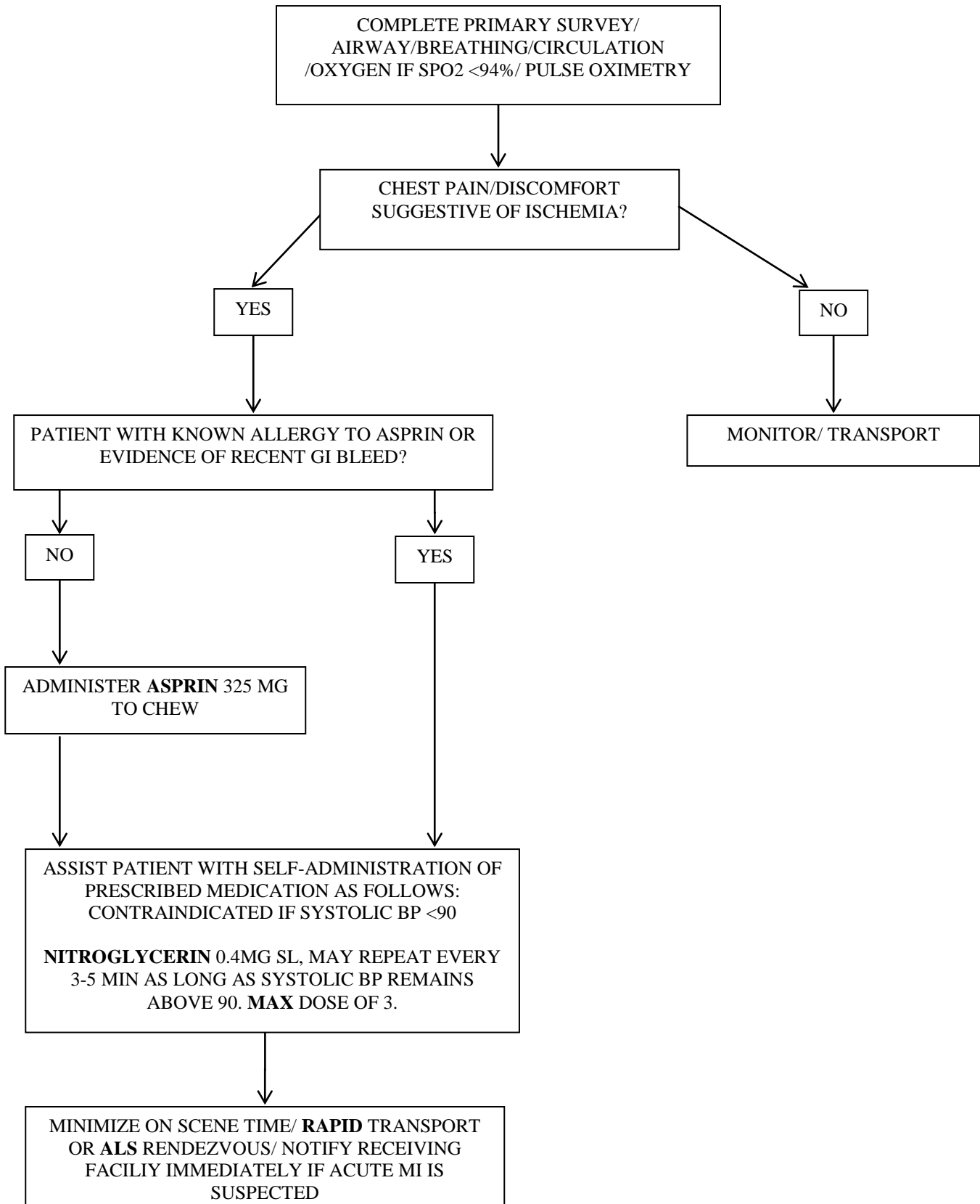
1. Document the duration of the deficit by identifying the last time the patient showed normal neurological function.
2. Those with transient neurological deficits or TIAs also need to be transported to the hospital for further evaluation, in order to avoid a complete stroke.
3. Best effort shall be made to provide the receiving facility early notification of a “Stroke Alert” in accordance with Division stroke policies.
4. Minimize on scene times.
5. Apply Oxygen only if pulse ox is <94% and titrate for pulse ox of 94-96%
6. If Bakersfield is the closest destination patient shall be transported to the closest stroke center. If last known normal is greater than 4 hours consider transport to closest stroke center. If patient is a thrombolytic candidate and Bakersfield IS NOT the closest destination transport to the closest paramedic receiving facility.

**CHEST PAIN/ACUTE CORONARY SYNDROME**

Policy Number: 208

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**CHEST PAIN/ACUTE CORONARY SYNDROME**

Policy Number: 208

Effective Date: January 1, 2014

Revision Date: January 1, 2016

SPECIAL CONSIDERATIONS

- A. Patients in the metropolitan Bakersfield area with chest pain/discomfort of suspected cardiac origin shall be transported to a cardiac or STEMI receiving facility.
- B. Best effort shall be made to notify receiving facility early of suspected acute MI.
- C. If the patient has not taken aspirin and has no history of aspirin allergy or evidence of recent GI bleeding, administer **ASPIRIN** (325mg) to chew.
- D. Administer oxygen only if pulse oximetry <94%. Titrate oxygen to pulse oximetry 94-96%.
- E. Contraindications for nitroglycerin:
  - 1. Suspected or known that the patient has taken sildenafil (Viagra) or vardenafil (Levitra) within the previous twenty four (24) hours or tadalafil (Cialis) within the previous forty eight (48) hours.
  - 2. Systolic blood pressure less than 90mmHg or heart rate less than 50 beats per minute.

**\*\*IF THE PATIENT BECOMES HYPOTENSIVE AFTER SELF-ADMINISTRATION OF NITROGLYCERIN, PLACE PATIENT IN SHOCK POSITION\*\***

- F. Use Mnemonic- "OPQRST"

O- Onset

P- Provoked

Q- Quality

R- Radiation

S- Severity

T- Time

- G. Obtain "SAMPLE" history

S- Signs/Symptoms

A- Allergies

M- Medications

P- Past medical history

**CHEST PAIN/ACUTE CORONARY SYNDROME**

Policy Number: **208**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

L- Last oral intake

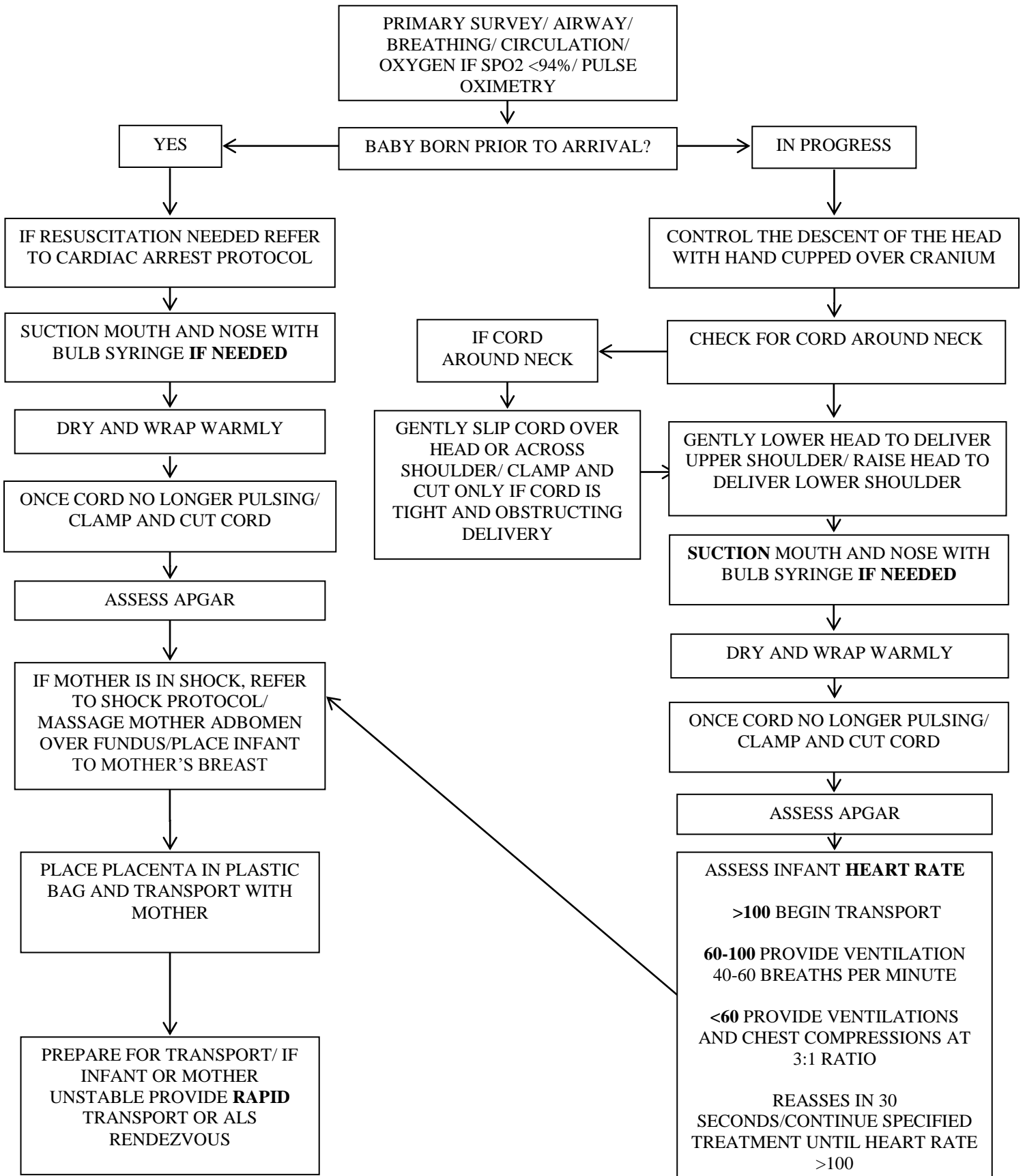
E- Events leading to present emergency

**CHILDBIRTH**

Policy Number: **209**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**CHILDBIRTH**

Policy Number: **209**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS:**

**A. Clamp and cut the cord**

1. Use sterile scissors or scalpel.
2. Leave minimum of 6 inches of cord from the umbilicus.

**B. Always consider the possibility of twins.**

**C. Prolapsed cord**

1. If cord visible at perineum, immediately place mother in Trendelenberg position.
2. Place mother on high flow oxygen IF SPO2 <94%.
3. Cover cord with wet sterile dressing.
4. Provide constant manual pressure on presenting part to avoid cord compression.
5. Rapid transport or ALS rendezvous.
6. If crowning with prolapsed cord, immediate delivery is the most rapid means of restoring oxygen to infant.

**D. Breech presentation**

1. Provide rapid transport or ALS rendezvous.
2. If extended transport time and frank or double footling presentation, contact base hospital physician for possible directed delivery.
3. Any hand or shoulder presentation should be rapidly transported regardless of distance from hospital.

**E. Assessment**

1. Examine infant first- vital signs, lung sounds, color, muscle tone, response to suctioning or flicking foot.
2. Assess APGAR on all newborns. Evaluate at 1 minute and 5 minutes. If obvious distress, begin resuscitation immediately.

**Kern County Emergency Medical Services Division - EMT Treatment Protocols**

**CHILDBIRTH**

Policy Number: **209**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

3. Maternal vital signs. Estimate blood loss. Placenta delivered?

F. APGAR Chart

1. APGAR score will be equal to 10 or less

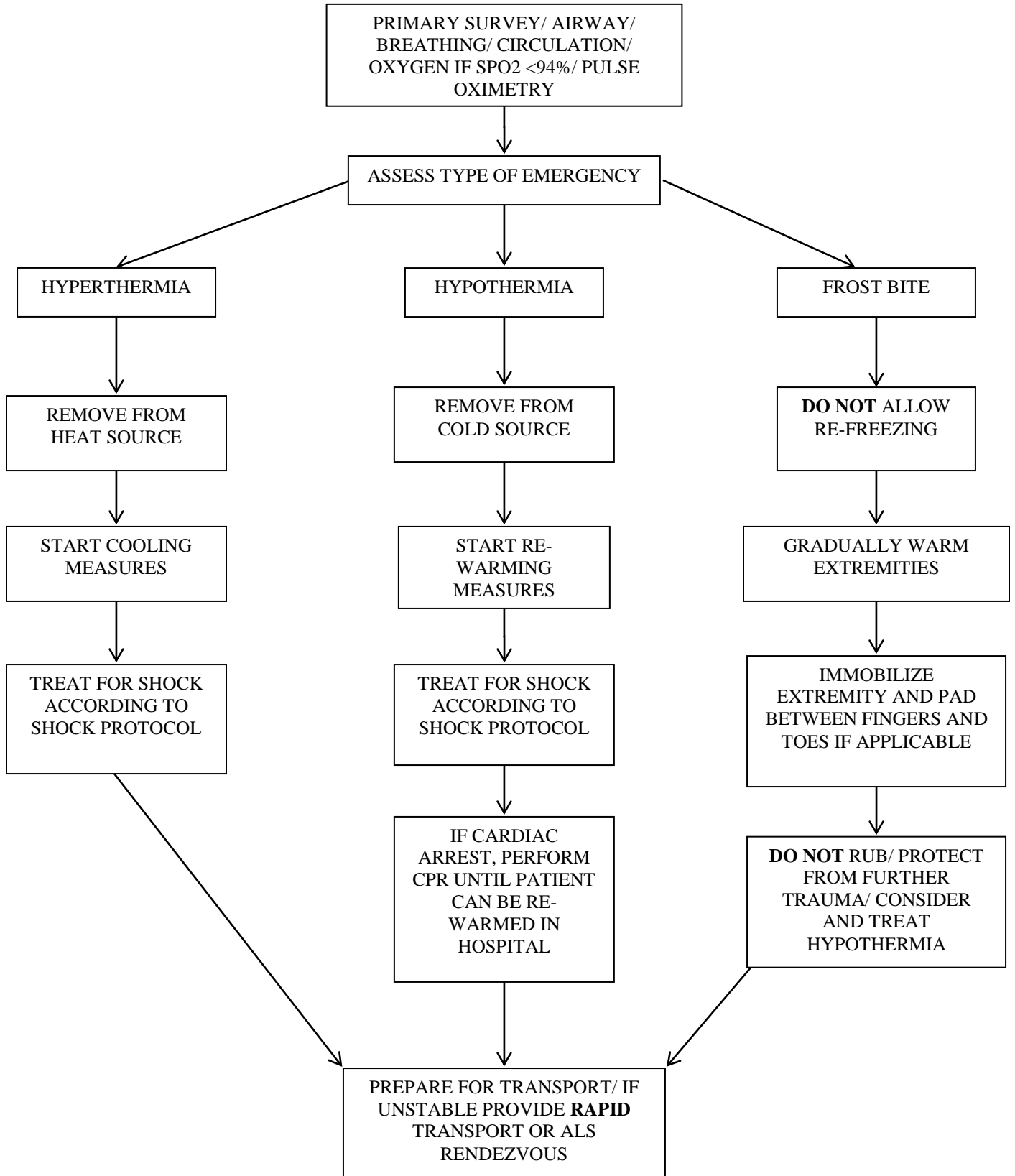
	0	1	2
Appearance	Blue or Pale	Body Pink, Limbs Blue	Complete Pink
Pulse	0	Less than 100	100 or greater
Grimace	No Response	Grimace	Cough, Sneeze, Cry
Activity	Flaccid	Some Flexion	Active Movement
Respiratory Effort	Absent	Slow, Irregular, Weak Cry	Strong Cry

**ENVIRONMENTAL EMERGENCY**

Policy Number: **210**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**





**ENVIRONMENTAL EMERGENCY**

Policy Number: **210**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

SPECIAL CONSIDERATIONS

A. Passive/active cooling measures:

1. Remove clothing.
2. Fan.
3. Water.
4. Ice, if available. **DO NOT** submerge any portion of the body in ice. Apply ice packs or cooling compresses as available.

B. Consider drug ingestion for hyperthermia

C. Re-warming measures:

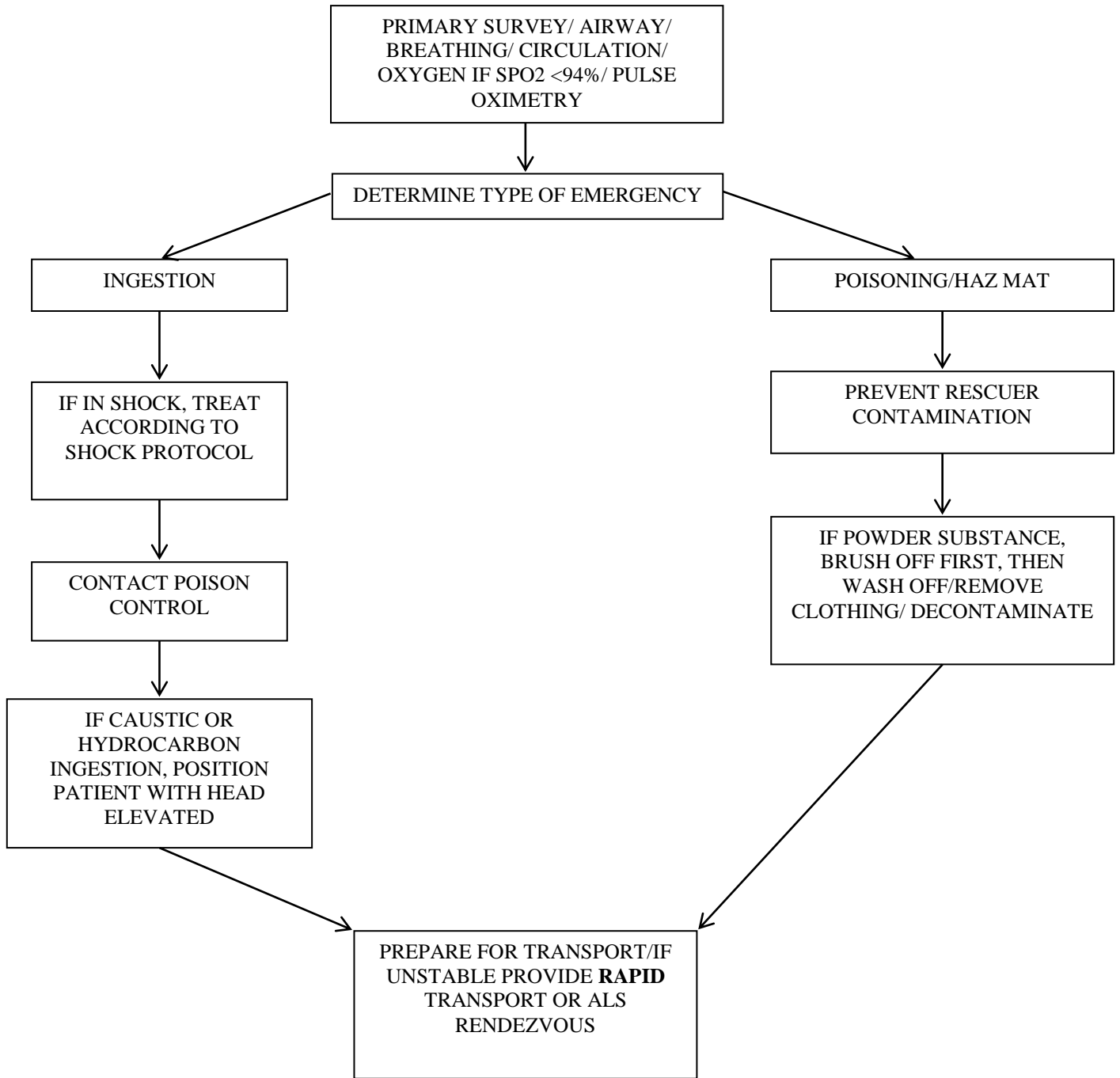
1. Remove wet clothes.
2. Provide warm blanket or sheet.
3. Warm interior of ambulance.
4. **DO NOT** rub or massage areas of injury. Handle as gently as possible.
5. **DO NOT** allow patient to smoke.

**POISONING/INGESTION**

Policy Number: 211

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**POISONING/INGESTION**

Policy Number: **211**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS:**

**A. Ingestions**

1. Obtain accurate history:
  - a. Name of product or substance
  - b. Quantity ingested
  - c. Time of ingestion
  - d. Pertinent medical history
  - e. Pill bottles/ description of pills

**B. Haz-Mat**

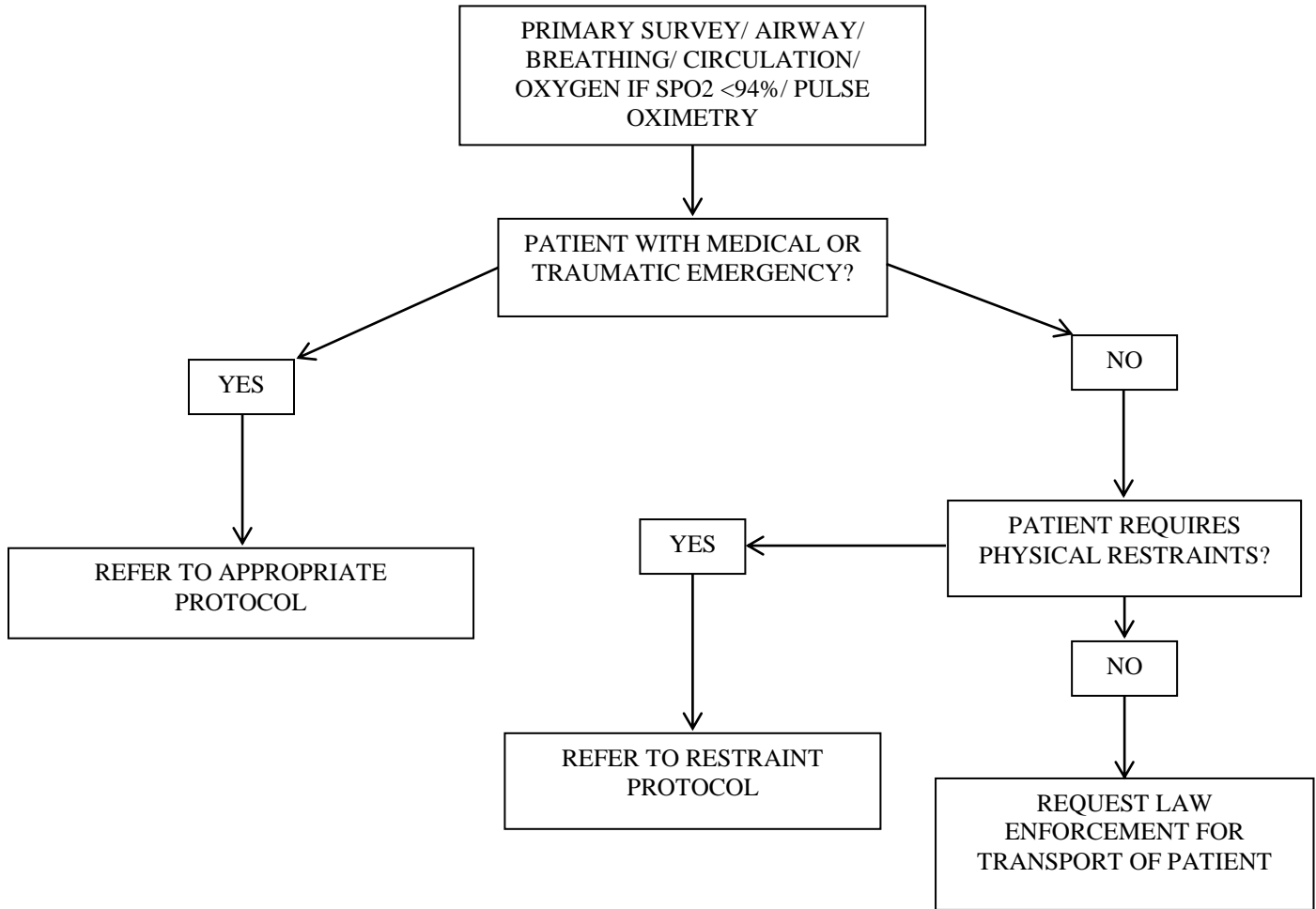
1. Cholinergic crisis:
  - a. Initially patients may experience tachycardia.
  - b. Bradycardia, salivation, tearing, urination, defecation, sweating, twitching, abdominal cramps, vomiting, pinpoint pupils, smell of pesticides, hypoxia, seizure, coma.
2. Obtain name of product or substance.
3. Determine time of exposure.
4. Obtain route of exposure (i.e. inhalation, absorption, etc).

**PSYCHIATRIC/BEHAVIORAL EMERGENCY**

Policy Number: 212

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**PSYCHIATRIC/BEHAVIORAL EMERGENCY**

Policy Number: **212**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

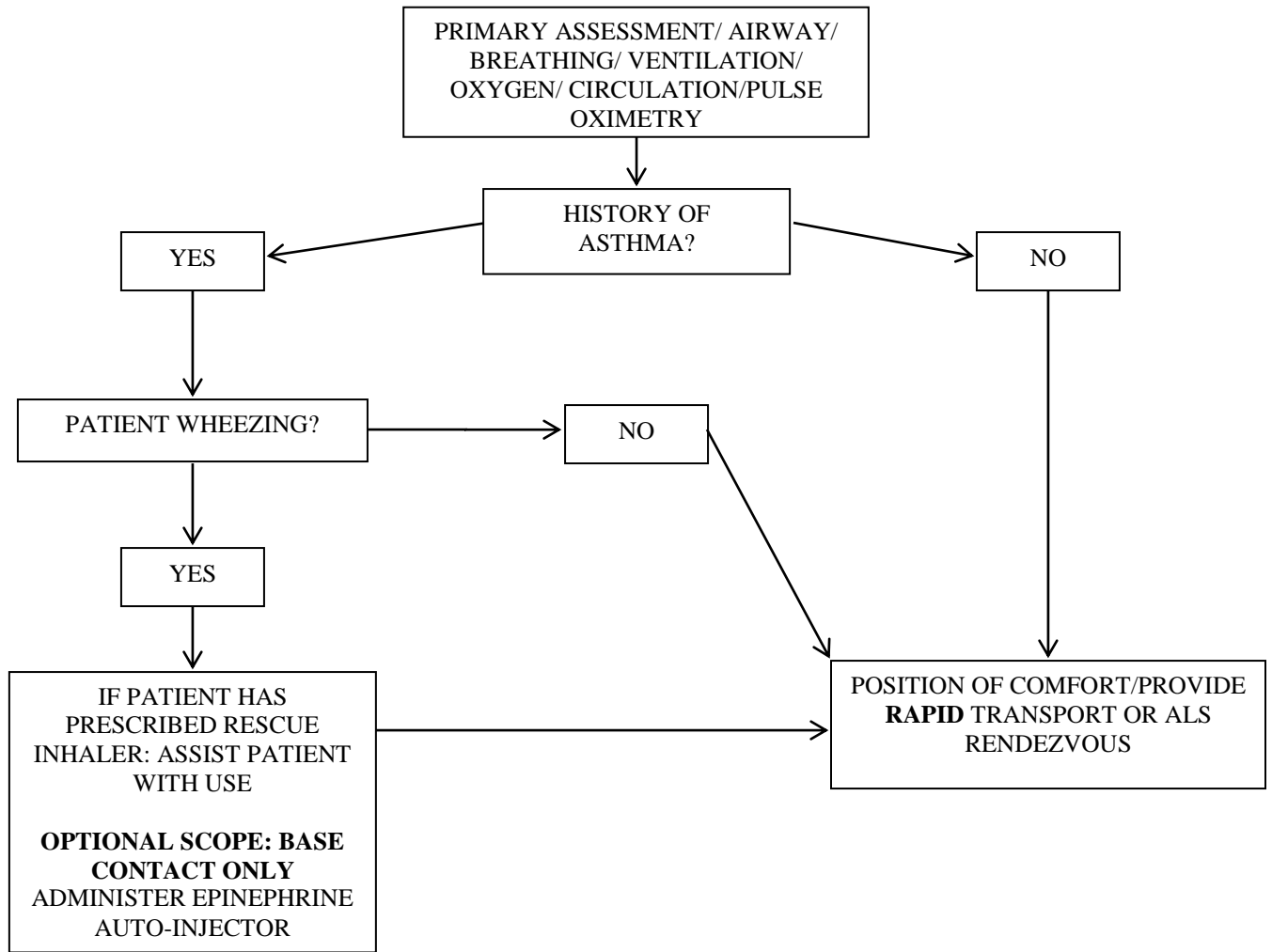
- A. Patients with a medical or trauma complaint in addition to the psychiatric complaint shall be treated according to the protocol that best fits the complaint.
- B. Transportation of patients shall be in accordance with the Destination Policies and Procedures.
- C. Patients requiring restraints create a medical condition and shall be closely monitored.
- D. Consider hypoglycemia treat with appropriate protocol.
- E. Ambulances shall not be used to transport 5150 patients that do not have a medical condition.

**RESPIRATORY DISTRESS**

Policy Number: 213

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**RESPIRATORY DISTRESS**

Policy Number: 213

Effective Date: January 1, 2014

Revision Date: January 1, 2016

SPECIAL CONSIDERATIONS:

A. Patient position

1. Thoroughly document the position you find your patient in. Many patients in severe respiratory distress will assume a tri-pod position.
2. Patients should be transported sitting fully upright, and in the most comfortable possible position.

B. Assist ventilations with bag-valve-mask for patients with altered mental status, unable to speak, or severe cyanosis.

C. If hyperventilation is suspected and patient is experiencing tingling around the mouth or in extremities, reassure the patient, and DO NOT use paper bag breathing.

D. If smoke or gas inhalation ALWAYS ensure personal safety, and remove the patient from the harmful environment.

E. If child has evidence of epiglottitis, recent infection, high fever, stridor, quiet crying, drooling, or use of accessory muscles:

1. Allow the parent or guardian to hold the child.
2. Have the parent or guardian administer high flow oxygen to child either by direct mask to face, or blow by technique.
3. Immediate transport, but not with code 3 unless child deteriorates. Avoid increasing stress of the child.
4. If child over five (5) years of age, and has a complete obstruction, use positive pressure ventilation.
5. If child under five (5) years of age, and has a complete obstruction, assist ventilations with bag-valve-mask.

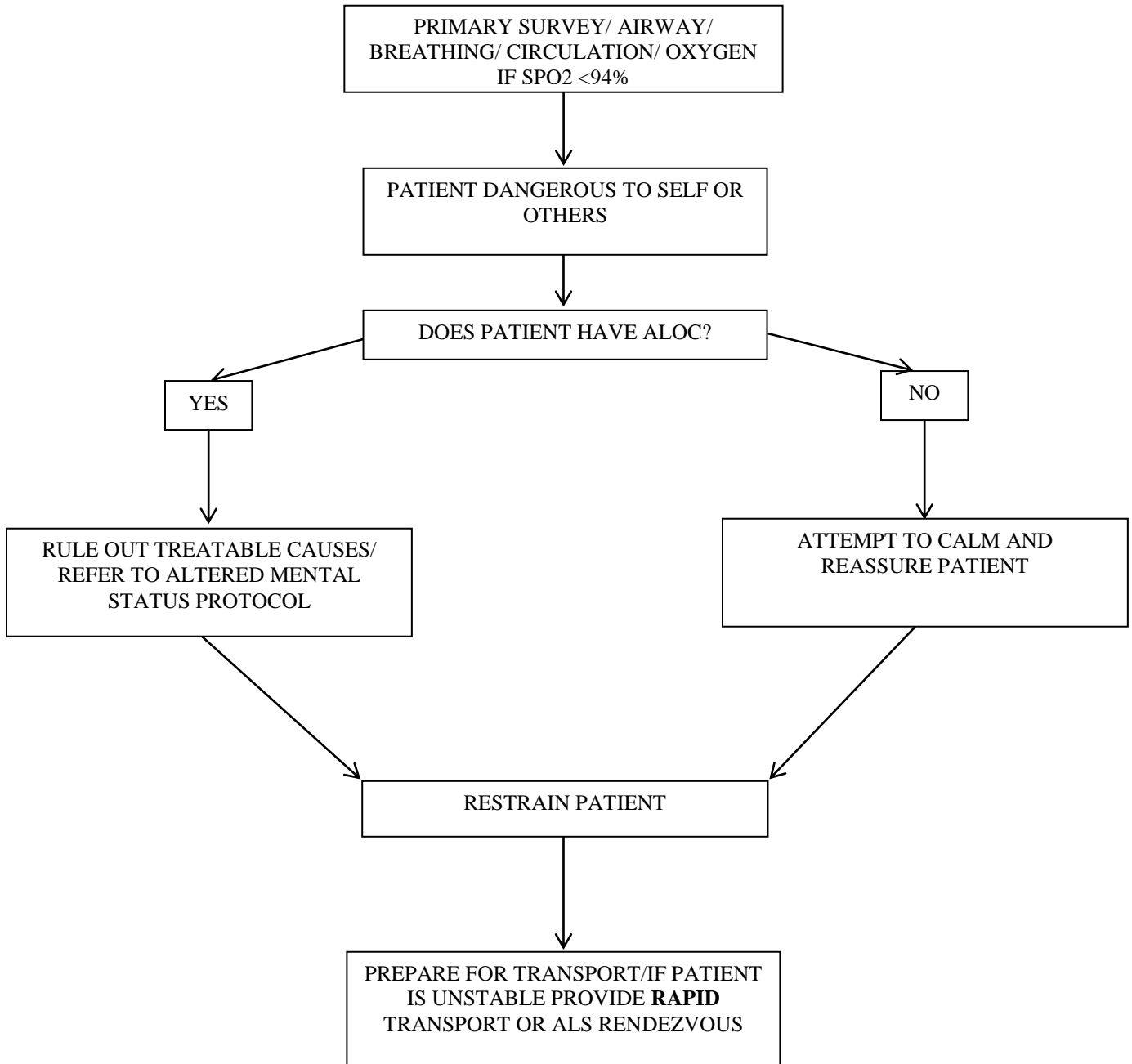
F. Causes of respiratory distress are: asthma, croup, epiglottitis, hyperventilation, pulmonary edema, smoke/gas inhalation, COPD, allergic reaction.

**RESTRAINT**

Policy Number: **214**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**





**RESTRAINT**

Policy Number: **214**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

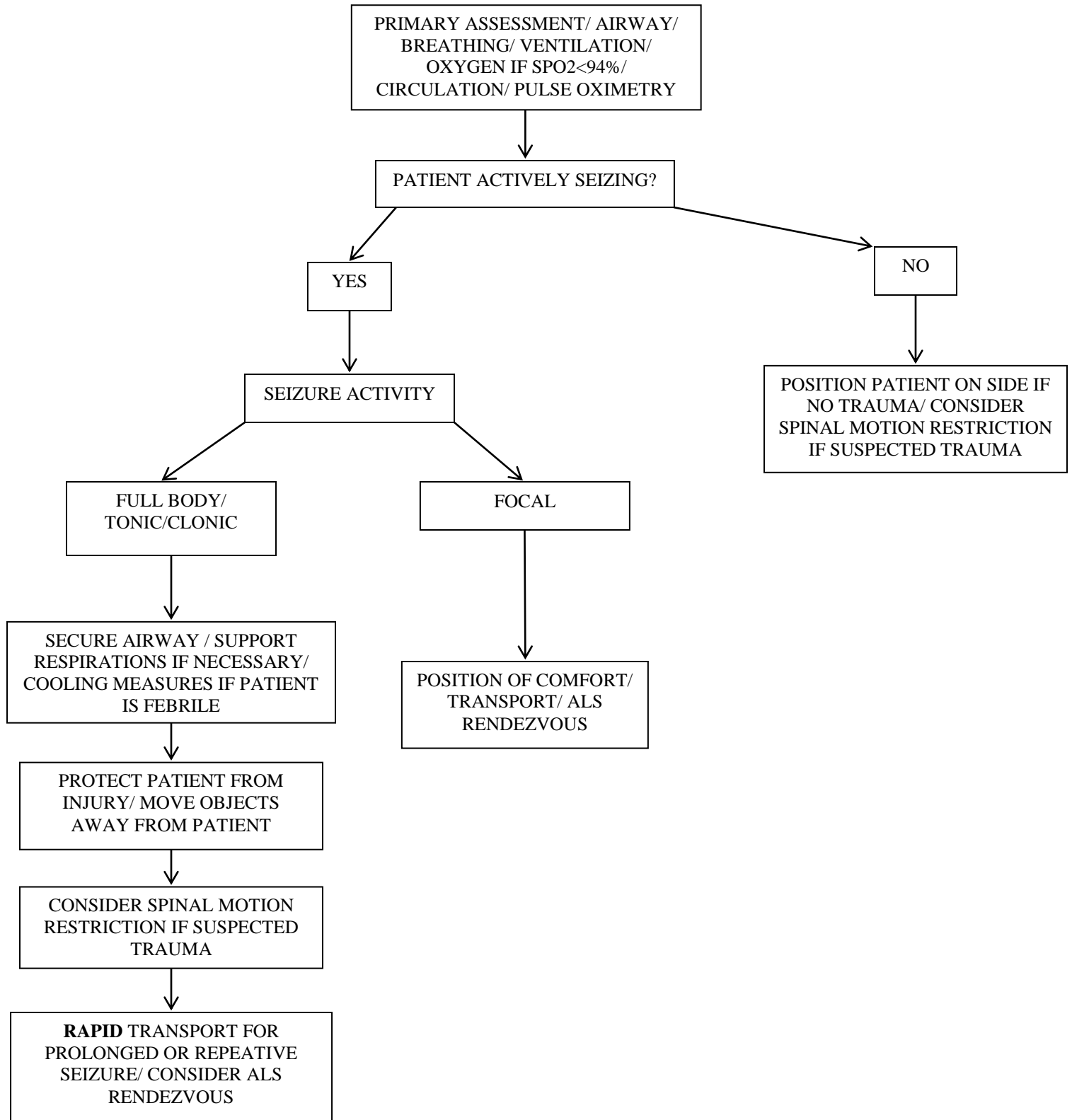
- A. Patients should be reassured and their cooperation enlisted whenever possible. Restraint should only be used when the patient poses a danger to self or others and all measures to control patient behavior are inadequate.
- B. Patients should be restrained using least restrictive means possible to provide for the safety of the patient and persons providing care during treatment and transport. Two-point restrains may be used to secure the patient's arms at the wrists or four-point restraints may be used to secure the patient's arms at the wrists and legs at the ankles.
- C. Only commercially manufactured devices intended for restraint may be used to restrain a patient.
- D. Restrained patients must be transported in a position that allows for monitoring and protection of the patient's airway.
- E. Restraints should be secured to a non-moving part of a gurney and tied in a fashion that will allow for quick release.
- F. When a patient is restrained, gurney safety belts may be used to secure the legs above the knees and across the chest without impeding expansion of respiration. The patient's arms should be on the outside of the chest straps.
- G. Handcuffs may only be used as restraint devices when a law enforcement officer accompanies the patient in the ambulance.
- H. Transfer of patients that have been restrained required careful and frequent monitoring of airway, breathing, and circulation. Capillary refill, warmth, and movement distal to the restraint must be assessed every fifteen (15) minutes after restraint application and documented on the ePCR.
- I. Transferring physicians that order the application or maintenance of restraints must provide a written order.
- J. Additional documentation requirements specific to this protocol include:
  - 1. Reasons restraints were applied.
  - 2. Agencies and individuals involved in the application of the restrains.
  - 3. Capillary refill, warmth, and movement distal to the restraint.

**SEIZURES**

Policy Number: **215**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**SEIZURES**

Policy Number: **215**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

- A. Status epilepticus- More than one seizure without regaining consciousness in between or one seizure lasting greater than 20 minutes.
- B. Assessment- Airway, vital signs, mental status, pupils, needle tracks, head or spine trauma, pill bottles, ETOH, neuro deficits, focal seizure, postictal paralysis, medications, known seizure disorder.
- C. History from witnesses: Seizure activity? Length of unconsciousness, mental status on arousal, focal neurological deficits on arousal? Trauma? Length of seizure? Patient change color?
- D. DO NOT delay therapy or transport to obtain detailed history.
- E. Patients with known seizure disorder may have another cause for the present seizure. Always consider trauma in patients prone to sudden loss of consciousness (Did this patient fall to the ground?)
- F. Consider Hypoglycemia and treat with appropriate protocol.
- G. "FACTS" mnemonic for seizures:
  - F- Focus
  - A- Activity
  - C- Color
  - T- Time (Onset and duration)
  - S- Supplemental history (medication compliance, trauma, last seizure)

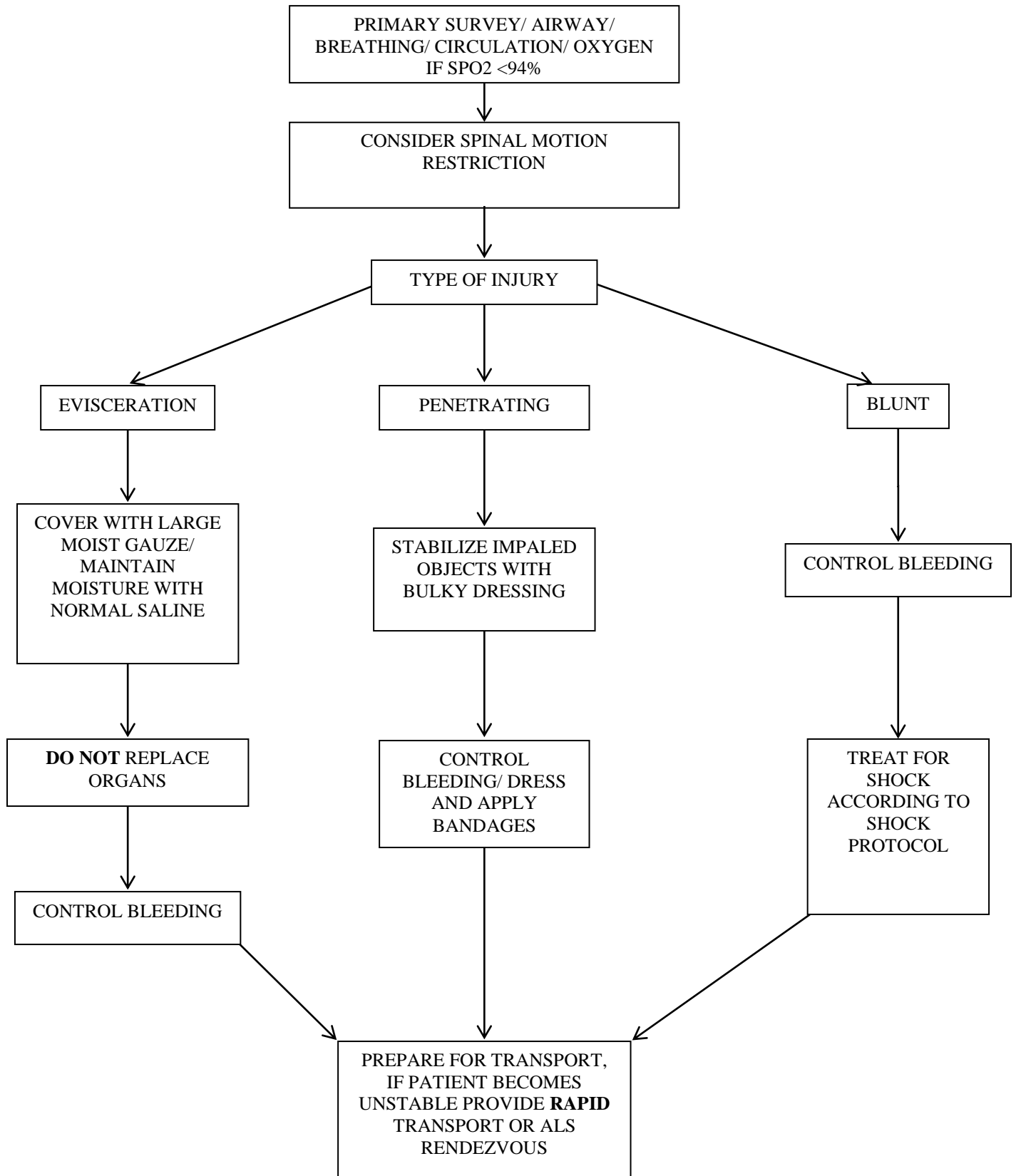
## **SECTION 300: TRAUMA PROTOCOLS**

**ABDOMINAL INJURY**

Policy Number: 301

Effective Date: January 1, 2014

Revision Date: January 1, 2016

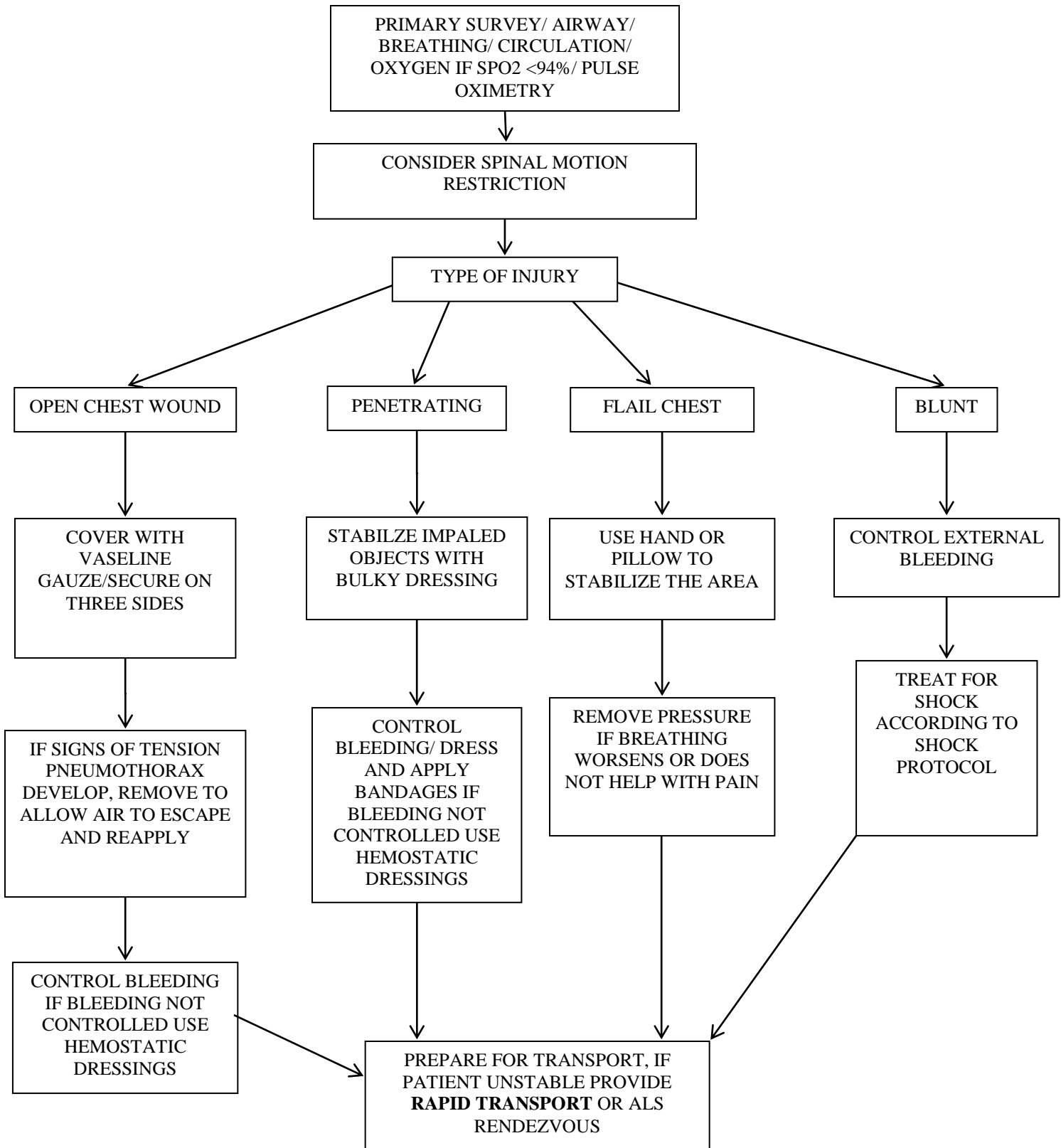


**CHEST INJURY**

Policy Number: **302**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**CHEST INJURY**

Policy Number: **302**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

SPECIAL CONSIDERATIONS

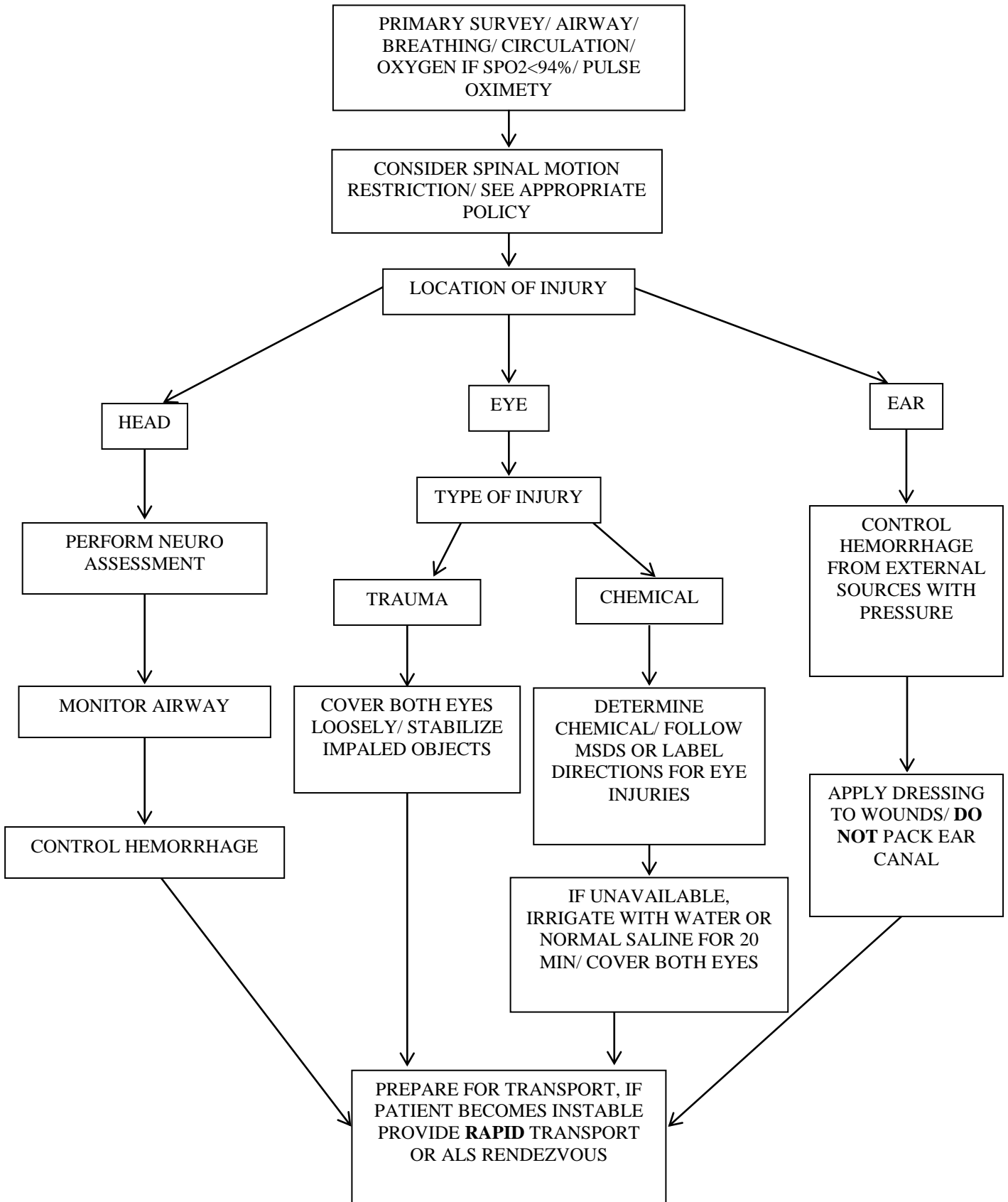
- A. Signs and symptoms of tension pneumothorax
  - 1. Distended neck veins
  - 2. Cyanosis
  - 3. Tracheal shift
  - 4. Absent breath sounds on one side
  - 5. Falling blood pressure
  - 6. Dyspnea
- B. Control of bleeding
  - 1. Direct Pressure
  - 2. Pressure Dressing
  - 3. Hemostatic gauze dressing for uncontrolled torso hemorrhage.
    - i. Direct pressure should be applied with the hemostatic dressing.
    - ii. Use only hemostatic gauze. DO NOT use granular type hemostatic agents.

**HEAD/EYE/EAR INJURY**

Policy Number: 303

Effective Date: January 1, 2014

Revision Date: January 1, 2016





**HEAD/EYE/EAR INJURY**

Policy Number: **303**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

**A. Signs and Symptoms of Cushing's Triad associated with increased intracranial pressure:**

1. Decreased heart rate.
2. Increased blood pressure.
3. Increased respiratory rate.
4. Decompensation can be rapid once blood pressure and respiratory rate begin to drop.

**B. Signs of impending herniation:**

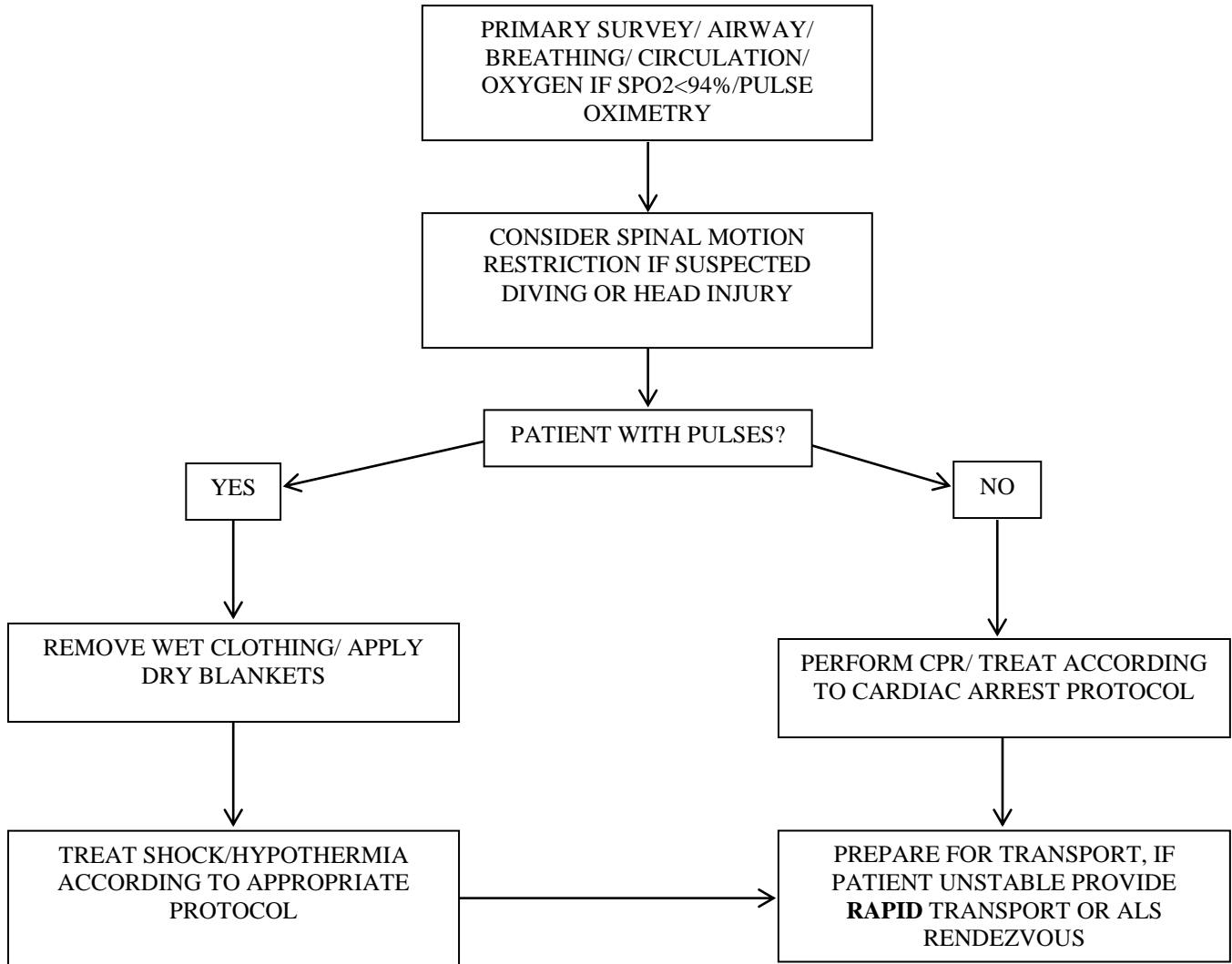
1. Rapidly deteriorating mental status.
2. Contralateral paralysis/weakness.
3. Unilateral pupil dilation.
4. Decerebrate or decorticate posturing.

**DROWNING**

Policy Number: **304**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**DROWNING**

Policy Number: **304**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

**A. History**

1. Time of submersion, water temperature, and water quality.
2. Consider trauma for diving, skiing, or boating.

**B. Determining water temperature**

1. All unheated bodies of water should be considered as cold water.
2. Resuscitate all patients with unknown time of submersion regardless of water temperature.

**C. If patient requires manual ventilations use BVM.**

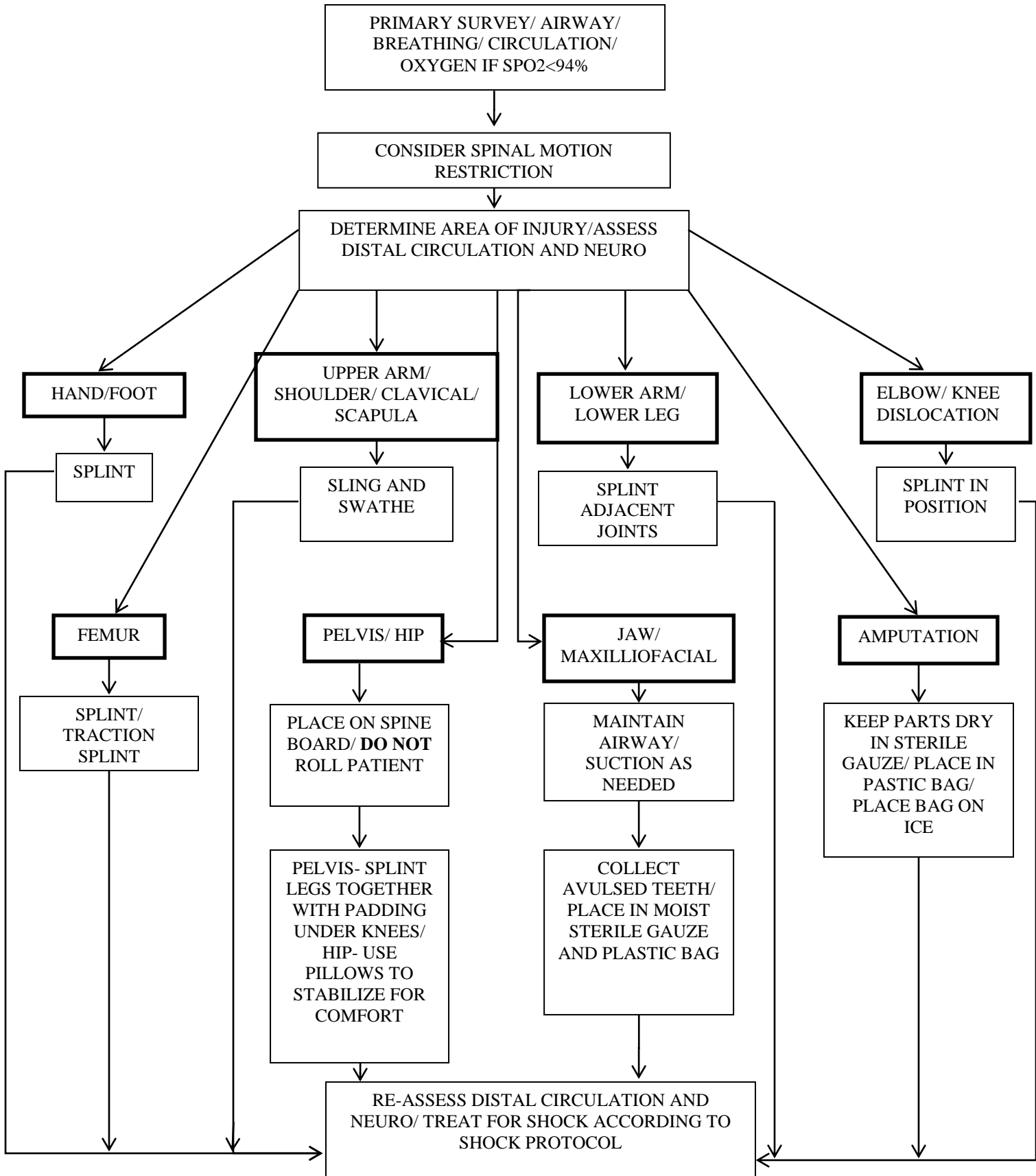
**D. If patient meets trauma activation criteria contact and/or transport to trauma center. All others and if in cardiac arrest transport to closest paramedic receiving center.**

**ORTHOPEDIC INJURY**

Policy Number: 305

Effective Date: January 1, 2014

Revision Date: January 1, 2016



**ORTHOPEDIC INJURY**

Policy Number: **305**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

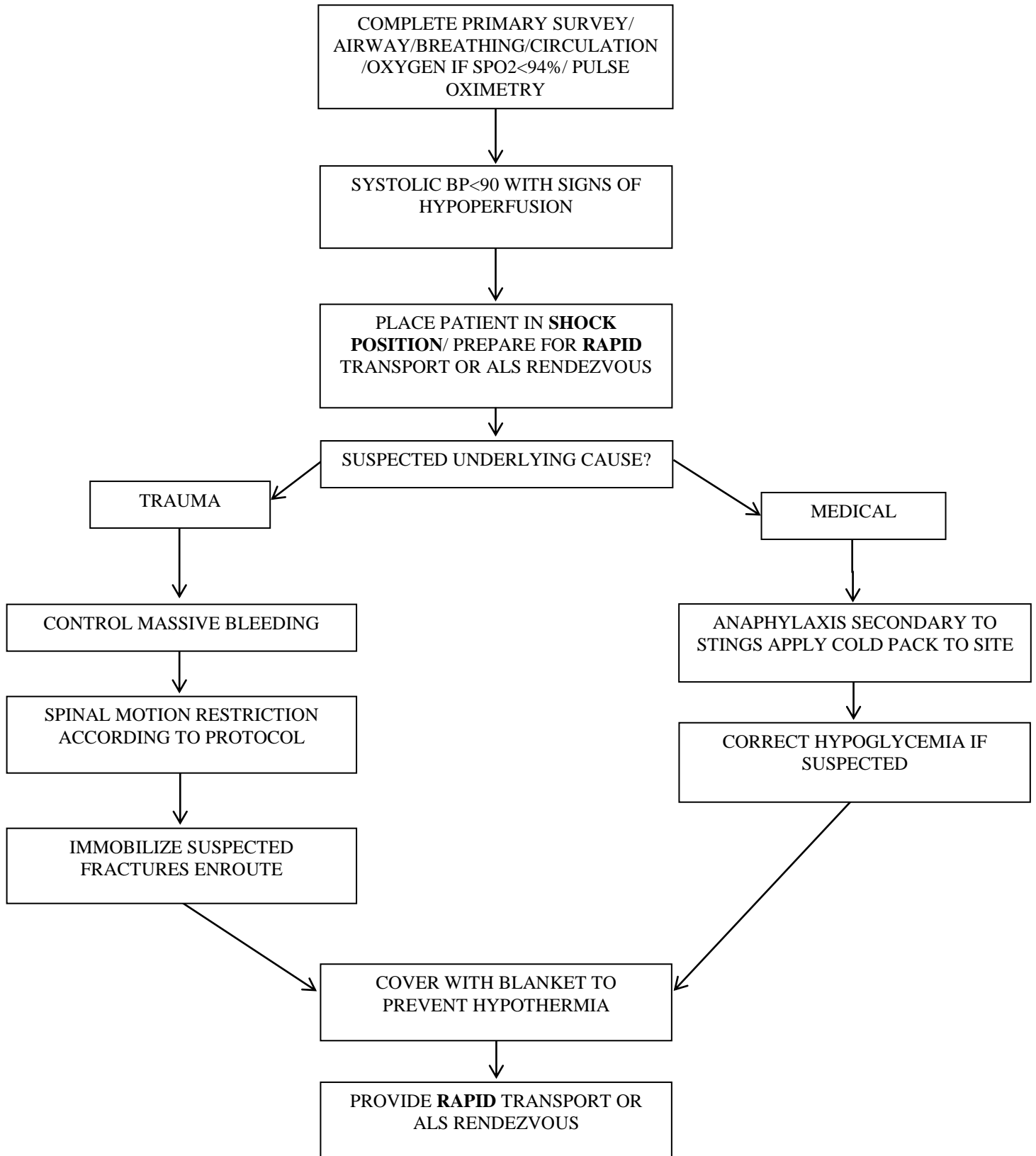
- A. Assess distal circulation and neuro before and after any treatment.
- B. Treat other life threatening injuries as indicated (i.e. shock, chest trauma).
- C. Splinting
  - 1. In angulated and unstable with no pulses, straighten gently then splint and rapid transport. Assess for pulse before and after positioning. Consider rendezvous with ALS if long transport time.
  - 2. If angulated, stable and GOOD pulse, splint in position unless transport would be compromised.
- D. Open fractures should be treated with moist, sterile dressings and not reduced.
- E. Traction splint should be applied to closed mid-shaft femur fractures only.

**SHOCK/HYPOPERFUSION**

Policy Number: **306**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**



**SHOCK/HYPOPERFUSION**

Policy Number: **306**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS:**

**A. SIGNS AND SYMPTOMS:**

1. Altered Mental Status
2. Tachycardia
3. Tachypnea
4. Skin pale, cool, diaphoretic, mottled
5. Delayed capillary refill
6. Weak peripheral pulses
7. Narrowed pulse pressure
8. Hypotension

**B. SPECIAL TREATMENT SITUATIONS:**

1. Open chest wounds- Cover with Vaseline gauze and tape three (3) sides loosely. If signs of tension pneumothorax develop (distended neck veins, cyanosis, tracheal shift, absent breath sounds on one side, falling BP, dyspnea), remove dressing, allow air to escape, and reapply dressing.
2. External hemorrhage control should include:
  - a. Direct pressure
  - b. Compression dressings
    - i. Gauze pad and elastic bandage
    - ii. Blood pressure cuff
    - iii. Air splint
  - c. Tourniquet for extremity injuries
    - i. Use tourniquet with windlass such as CAT Tourniquet
    - ii. Apply 2-3 inches proximal to the wound.
    - iii. Tighten enough to occlude distal pulse
    - iv. Time and date must be written on tourniquet when applied.
    - v. Once applied do not remove until arrival at the hospital. Due to possible surgical needs attempt to transport to a trauma center.

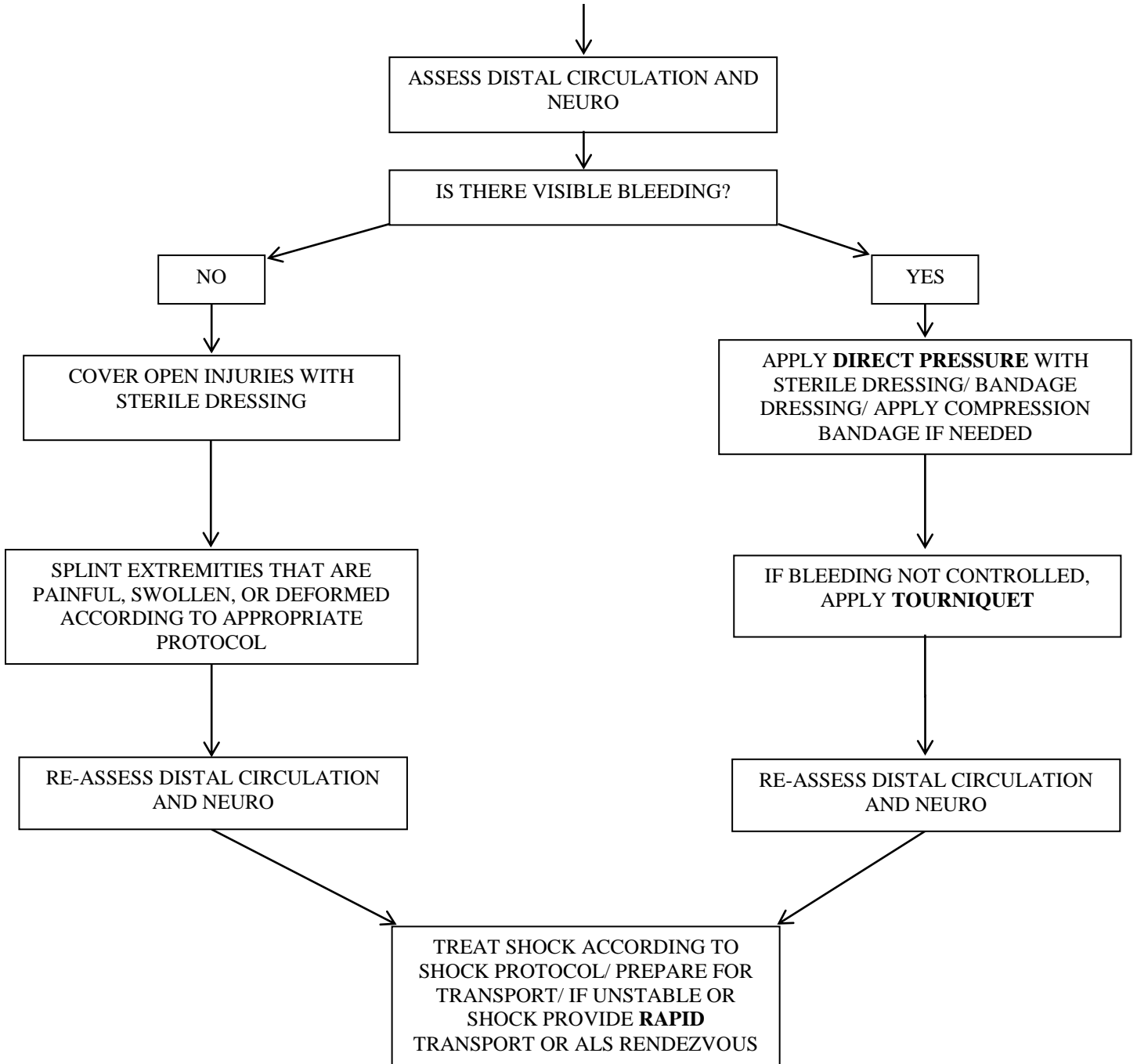
PRIMARY SURVEY/ AIRWAY/  
BREATHING/ CIRCULATION/  
OXYGEN IF SPO<sub>2</sub><94%

**SOFT TISSUE INJURY**

Policy Number: 307

Effective Date: January 1, 2014

Revision Date: January 1, 2016





**SOFT TISSUE INJURY**

Policy Number: **307**

Effective Date: **January 1, 2014**

Revision Date: **January 1, 2016**

**SPECIAL CONSIDERATIONS**

**A. Types of closed wounds**

1. Contusion- Bruise
2. Hematoma
3. Crush injury

**B. Types of open wounds**

1. Abrasions
2. Lacerations
3. Puncture- Penetrating or Perforating
4. Avulsion
5. Degloving
6. Amputation (Treat according to Ortho Protocol)
7. Open crush injury

**C. External hemorrhage control should include:**

1. Direct pressure
2. Compression dressings
  - i. Gauze pad and elastic bandage
  - ii. Blood pressure cuff
  - iii. Air splint
3. Tourniquet for extremity injuries
  - i. Use tourniquet with windlass such as CAT Tourniquet
  - ii. Apply 2-3 inches proximal to the wound.
  - iii. Tighten enough to occlude distal pulse.
  - iv. Time and date must be written on tourniquet when applied.
  - v. Once applied do not remove until arrival at the hospital. Due to possible surgical needs attempt to transport to a trauma center.
4. Hemostatic gauze dressing for uncontrolled torso hemorrhage.
  - i. Direct pressure should be applied with the hemostatic dressing.
  - ii. Use only hemostatic gauze. **DO NOT** use granular type hemostatic agents.