Paramedic Protocol 6001.00

Table of Contents

Paramedic Protocol 6001.00

101: GENERAL PROVISIONS

I. GENERAL PROVISIONS

The following paramedic treatment protocols encompass two (2) distinct levels of prehospital patient care protocols. The intent of these protocols is to provide an efficient means of delivering prehospital patient care according to State Regulations, Paramedic Scope of Practice and Kern County Paramedic Policies and Procedures. The following defines the protocol levels applicable to the Kern County Paramedic.

A. LEVEL I: BASE HOSPITAL COMMUNICATIONS NOT REQUIRED PRIOR TO TREATMENT

1. Those prehospital patient care paramedic procedures and medications which are provided prior to establishing or attempting to establish base hospital communications.

2. Level I Protocol, in addition to standard Basic Life Support procedures, shall be provided as applicable prior to base hospital communications or Level II Protocol entry.

B. LEVEL II: ATTEMPTED BASE HOSPITAL COMMUNICATION REQUIRED PRIOR TO TREATMENT

1. Those prehospital patient care paramedic procedures and medications which are provided when base hospital contact, once attempted, cannot be established or once established cannot be maintained.

2. Once base hospital contact has been established, the failure of the base hospital to respond with patient care instruction within three (3) minutes of receiving the patient assessment information may be interpreted as break in communications and Level II protocol shall be used for patient treatment.

3. The treatment sequences of Level II Protocols are intended to provide a standardized sequence of paramedic therapeutics and procedures. If necessary based on physiological justification, a paramedic may modify protocol treatment sequence. Any variation from treatment sequence shall be thoroughly documented on the PCR Narrative.

II. COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS:

The paramedic treatment protocols shall be utilized in direct compliance with the California Code of Regulations (CCR), Title 22, Division 9, Chapter 4 and as specified in County of Kern Paramedic Policies and Procedures.

III. DOCUMENTATION REQUIREMENTS

All documentation will comply with the requirements set forth in the Patient Care Record Policy.

IV. PARAMEDIC TREATMENT PROTOCOL CRITERIA AND SCOPE

A. LEVEL I: BASE HOSPITAL COMMUNICATION NOT REQUIRED PRIOR TO TREATMENT

A Kern County Paramedic may initiate only the following forms of emergency treatment prior to attempting voice and/or telemetry contact with a base hospital physician or mobile intensive care nurse (MICN).

1. Administer intravenous isotonic balanced salt solutions.

2. A saline lock may be used for blood draw or when a patient requires intravenous access but does not require continuous infusion of an intravenous solution. A saline lock may not be used for patients at risk for hypoperfusion (i.e. cardiac arrest, trauma, burn, or signs of physiological shock).

3. Perform pulmonary ventilation by use of endotracheal intubation or by use of a supralaryngeal airway.

    a.) Upon successful completion of a Division approved training program a Kern County Paramedic may use a Bougie, Flexguide, Airtraq, or other airway adjunct device.

4. Administer Continuous Positive Airway Pressure (CPAP)

5. Perform cardiac monitoring using electrocardiographic devices including 12-lead ECG

6. Perform cardiac defibrillation

7. Perform synchronized cardioversion

8. Perform transcutaneous cardiac pacing

9. Perform valsalva procedure

10. Visualize the airway by use of a laryngoscope and remove foreign body(ies) using forceps

11. Perform nasogastric tube insertion and suction when gastric decompression is required.

12. Administer the following medications consistent with protocol indications:

- 10% glucose solution
- Adenosine
- Amiodarone
- Aspirin
- Atropine Sulfate
- Beta-2 Bronchodilator (Albuterol)
- Epinephrine (Adrenaline)
- Fentanyl
- Ipratropium Bromide (Atrovent)
- Lidocaine HCL (Xylocaine)
- Morphine Sulfate
- Naloxone (Narcan)
- Nitroglycerin (spray or tablets)
- Ondansetron (Zofran)

13. Perform intraosseous infusion. For patients that respond to painful stimuli, consider slow administration of **Lidocaine 2%** prior to infusing fluids for pain associated with IO infusion. The initial bolus of lidocaine should be given **prior** to administration of the 10mL saline flush. Allow the lidocaine to work for 30 to 60 seconds before administering fluids. Contact Base Hospital if patient requires additional doses. Adults: 40 mg slow IO/Peds: 0.5mg/kg slow IO, max of 40 mg.

14. Use devices to measure lab values including: glucose, capnography, and capnometry

15. May perform all EMT-I basic life support procedures (BLS)

16. Perform any other paramedic scope of practice as authorized by the Division

17. Consider Narcan, blood glucose analysis and Dextrose (if hypoglycemic) in all unresponsive patients including cardiopulmonary arrest. When possible, blood glucose analysis is indicated prior to administration of 10% Dextrose.

18. Base hospital communications should be attempted as soon after level I protocol use or during their use as patient condition permits.

B. LEVEL II: ATTEMPTED BASE HOSPITAL COMMUNICATION REQUIRED PRIOR TO EMT- PARAMEDIC TREATMENT WITH LEVEL II PROTOCOL

In the event a paramedic at the scene of an emergency or during transport cannot establish or maintain direct voice contact with a base hospital physician or MICN and reasonably determines that a delay in treatment may jeopardize the patient, the paramedic is authorized to provide any LEVEL I Paramedic treatment protocol as well as any LEVEL II Paramedic treatment protocol. These Paramedic treatment protocols, once activated, will remain in effect until direct voice communication with a base hospital can be established and maintained or until the patient is delivered to a general acute care hospital. Base hospital communications shall be established as soon as possible even though LEVEL II Paramedic treatment protocol has been activated.

In each instance where LEVEL II Advanced Life Support (ALS) procedures are initiated and immediately upon the ability to establish and maintain voice contact, the paramedic who initiated such procedures shall make a verbal report to the base hospital physician or mobile intensive care nurse.

Under LEVEL II protocol, the paramedic may:

1. Perform cricothyrotomy using approved device

2. Perform thoracic decompression. The correct placement for the county approved device for the purpose of thoracic decompression is 2nd intercostal space, mid-clavicular line or 4th intercostal space, mid-axillary line. The approved thoracic decompression device is a 10 gauge IV needle with catheter at least 3.25 inches in length.

3. Administer the following medications according to approved protocol:

- Activated Charcoal
- Calcium Chloride
- Diazepam
- Diphenhydramine
- Dopamine
- Glucagon
- Magnesium Sulfate
- Midazolam
- Sodium Bicarbonate

C. PARAMEDIC SCOPE OF PRACTICE FOR INTERFACILITY PATIENT TRANSFERS

A paramedic may provide interfacility patient transfers upon patient physician or responsible party request. The paramedic is authorized to provide patient treatment within the paramedic scope of practice procedures and medications as listed in these protocols during interfacility patient transfer. These procedures and medications may be administered through written orders of the transferring physician, through communications with a Kern County designated paramedic Base Hospital, or through treatment protocol in the event Base Hospital communications cannot be established or maintained.

In addition to the advanced life procedures and medications listed by protocol within paramedic scope of practice, the paramedic is authorized during interfacility patient transfers to provide the following:

1. Monitor and administer paramedic scope of practice medications through pre-existing vascular access including and limited to peripheral venous and central venous IV access where no special procedures out of paramedic scope of practice are required. During an interfacility transfer, a locally accredited paramedic may give medications within the local scope of practice at doses greater than the max dose as long as there is a written physician order and the paramedic is comfortable with the orders. The written physician order must include the dosage drip rate, and clearly allow for the medication to be discontinued if the patient begins to deteriorate.

2. Monitor arterial vascular access lines, not for use in the administration of vascular fluids or medications.

3. Monitor pre-existing thoracostomy tubes.

4. Monitor vascular infusion of IV solution containing Potassium Chloride with concentration equal to or less than 40 mEq, per liter of IV solution.

5. Monitor naso-gastric infusions.

6. Provide interfacility transfer of patients with whole blood or blood product infusions.

7. Provide interfacility transfer of patients with heparin or nitroglycerin infusions.

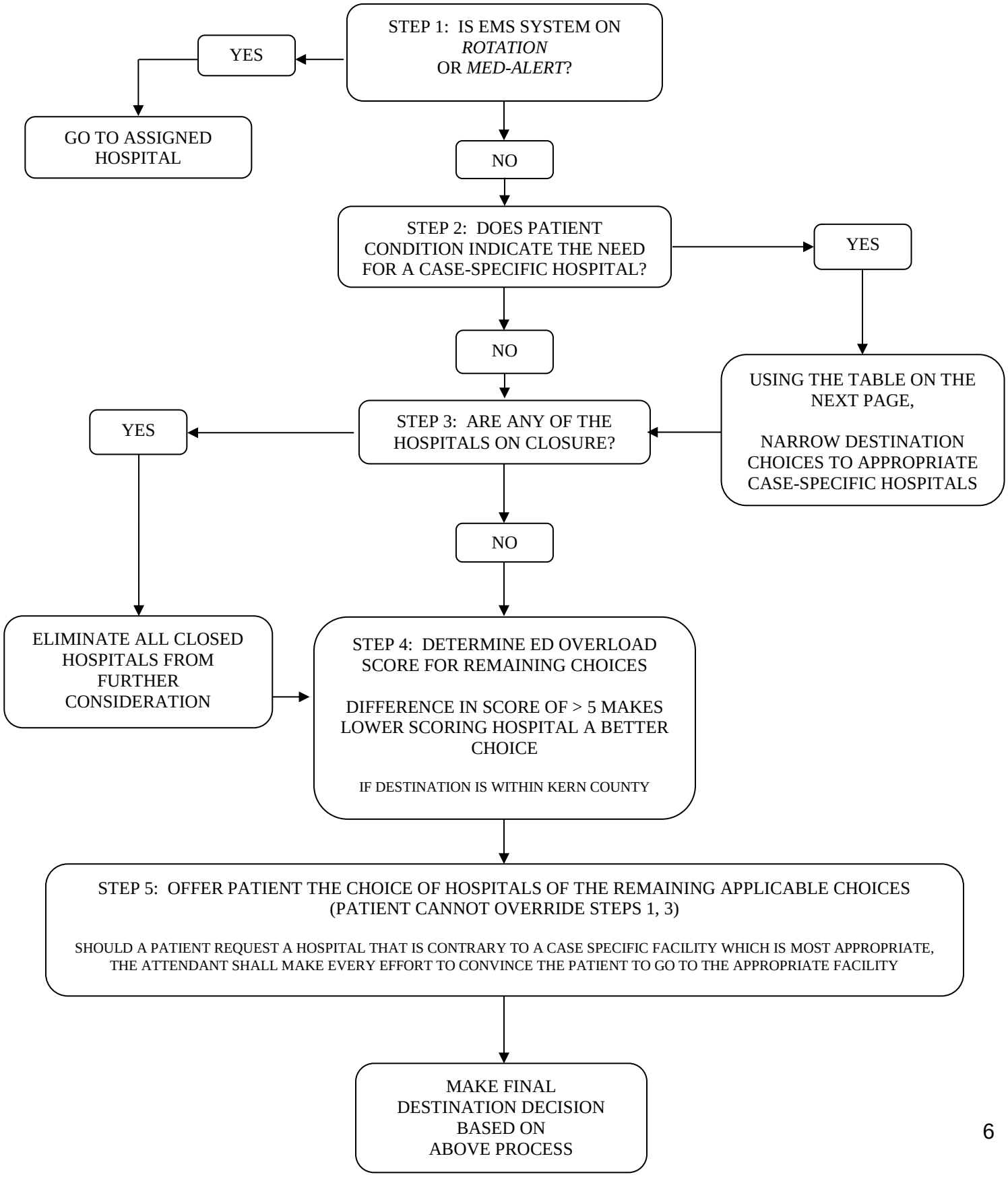
D. PARAMEDIC SCOPE OF PRACTICE FOR PATIENT WITH PRE-EXISTING MEDICATION INFUSIONS OR MEDICAL PROCEDURES IN THE PRE-HOSPITAL PHASE OF CARE:

The paramedic may transport a patient with pre-existing medication infusions or medical procedures outside of the paramedic scope of practice when such medication of medical procedures are self-monitored and administered by the patient or patient family members authorized by the patient physician and the transport originates within the pre-hospital phase of care.

V. PARAMEDIC TREATMENT SEQUENCE PROTOCOLS

These paramedic treatment sequence protocols were developed in accordance with accepted pre-hospital advanced life support practices. During patient treatment via protocol it may be necessary to refer to several individual protocols to adequately manage a patient. With any patient condition change, the patient shall be completely re-assessed and the paramedic shall determine the appropriate protocol to use for patient treatment.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
DESTINATION DECISION SUMMARY		
Policy Number: **106**	Effective Date: **April 10, 2010**	Revision Date: **October 31, 2017**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
DESTINATION DECISION SUMMARY		
Policy Number: **106**	Effective Date: **April 10, 2010**	Revision Date: **October 31, 2017**

Hospital destination decision shall be based on "patient choice" and "closest, most appropriate hospital" criteria. The following table provides the case specific information necessary for defining, "most appropriate hospital":

	BMH	**Heart**	**KM**	**Mercy**	**MSW**	**AH-B**	**DRMC**	**KVH**	**TH**	**RRH**
Base Station	X	X	X	X	X	X	X			X
Burns	X									
Trauma - Step 1 or 2*			X							
Trauma - Step 3*	X	X	X	X	X	X	X	X	X	X
Orthopedic	X		X	X	X	X				
Cardiac	X	X				X				
STEMI	X	X				X				
Neonatal	X		X		X	X				
Obstetrical	X		X		X	X				X
Pediatric Emergent Medical***	X		X							
Pediatric Non-Emergent Medical***	X		X			X	X			X
Sexual Assault						X				
Psychiatric w/out other medical condition ruled out	X	X	X	X	X	X	X	X	X	X
Psychiatric with other medical condition ruled out			X							
Stroke meeting activation criteria**	X		X	X	X	X				
Stroke not meeting actv. criteria	X		X	X	X	X				
Prison inmate	contracted facility as directed by prison staff unless patient condition warrants a different facility (i.e. trauma patient)									
Medical extremis	closest open hospital						X	X	X	X
Traumatic Arrest*			X				X	X	X	X
Traumatic unmanageable airway or inability to ventilate*	Closest open hospital									
Any other patient condition	X	X	X	X	X	X	X	X	X	X

* per Trauma Policy

** per Stroke Policy

***per Pediatric Designation Policy

Los Angeles County Destinations	AVMC	PALM REG	Henry Mayo
Trauma- Step 1 or 2*	X		X
Trauma- Step 3*	X		X
Orthopedic	X	X	X
Cardiac	X	X	X
STEMI	X	X	X
Neonatal	X		X
Obstetrical	X		X
Pediatric Emergent Medical***	X		X
Pediatric Non-Emergent Medical***	X		X
Sexual Assault	X		
Psychiatric-Voluntary requesting transport	X	X	X
Stroke meeting activation criteria**	X		X
Stroke not meeting activation criteria	X		X
Prison inmate			
Medical extremis			
Any other patient condition	X	X	X
Traumatic Arrest*	X		
Traumatic unmanageable airway or inability to ventilate*			
* Per Trauma Policy - ** Per Stroke Policy			

SPECIAL CONSIDERATIONS

1. **Conscious Patients**: Conscious, alert, and oriented patients shall have a choice in destination, so long as the requested hospital is a Kern County EMS approved receiving center. (See above table) In the event that a conscious patient is adamant and insists on being transported to a hospital contrary to a case specific hospital which is most appropriate, the attendant shall attempt to obtain a signed AMA and continue appropriate care and transport to the requested hospital. At no time will an ambulance crew advise a patient that they have no choice in their destination hospital with the exception of Med Alert or hospital rotation.

2. **Doctor/Physician Assistant/ Nurse Practitioner/ Nurse Choice**: When a patient is under the care of a MD/PA/NP/RN and a specific hospital destination is requested, the attendant shall honor the request so long as the hospital is a Kern County EMS approved receiving center. (See above table) If the requested receiving hospital is contrary to a case specific hospital which is most appropriate, the attendant shall inform the MD/PA/NP/RN of contraindications of transport to a facility other than an appropriate case specific hospital. If the MD/PA/NP/RN remains adamant about their destination decision the attendant shall attempt to obtain a signed AMA from the patient and continue appropriate care and transport to the requested hospital. If an MD/PA/NP/RN requests ambulance transport to a specialty care center or tertiary care facility not included on the Kern County EMS Approved Receiving Center list (see above table), for example a patient with a Left Ventricular Assist Device (LVAD), the following must be considered and thoroughly documented on the patient care report:
    - The specialty care required by the patient is not available at a Kern County EMS Approved Receiving Center
    - The clinician coordinating the care for the patient is requesting transport to the facility
    - The clinician confirms acceptance of the patient at the receiving facility
    - The patient/family/parent(s)/legal guardian/health care proxy/person with power of attorney agrees to requested destination
    - The attending paramedic or EMT is comfortable that all above criteria has been met and after assessing the patient, agrees that the patient condition should tolerate the transport
    - All above criteria

3. **Unconscious/Minor Patients:** Determining the destination for unconscious, altered mental status, or minor patients shall include making family, parent(s), legal guardian, health care proxy, or person with power of attorney part of the decision making process, whenever possible and should follow the same processes listed above.

4. **Transporting From A Clinical Setting:** When responding to a clinical facility and an MD/PA/NP/RN requests ambulance transport of an emergent patient to a specialty care center or tertiary care facility not included on the Kern County EMS Approved Receiving Center list (See above table), the following must be considered:
    - The requesting MD/PA/NP/RN has pre-arranged acceptance of the patient at the requested destination hospital
    - The patient condition, as assessed by the physician/representative is stable and deemed to be safe for the transport

- The patient/family/parent(s)/legal guardian/health care proxy/person with power of attorney agrees to requested destination
- The attending paramedic or EMT is comfortable that all above criteria has been met and after assessing the patient, agrees that the patient condition should tolerate the transport
- The ambulance provider can maintain coverage of their respective EOA while the unit transports the patient to the requested destination
- All above criteria must be clearly documented on PCR

5. **Med-Alert/Multi-Casualty (MCI) Destination:** During a Med-Alert/MCI patients shall be transported to the facilities assigned by the transportation coordinator at scene.

6. **Medical Extremis Criteria:** Extremis criteria shall include any one of the following:
   - Unmanageable airway or respiratory arrest
   - Uncontrolled hemorrhage with signs of hypovolemic shock
   - Cardiopulmonary arrest
   - Unconscious, unresponsive (BLS UNIT ONLY)

7. **Trauma Extremis Criteria:** Trauma extremis criteria shall include any of the following:
   - Traumatic arrest
   - Unmanageable airway or inability to ventilate

8. **Emergent Medical Pediatric Criteria**: Patients that are fourteen (14) years and younger with an emergent medical complaint shall be transported to a Level I or Level II Ped RC if ground transport time is thirty (30) minutes or less. Ground transport times that are greater than thirty (30) minutes may be transported to the closest, most appropriate receiving hospital. The use of air ambulance transport shall be in accordance with *EMS Aircraft Dispatch-Response-Utilization Policies*. Emergent medical complaints are defined as:
   - Cardiac dysrhythmia
   - Evidence of poor perfusion
   - Severe respiratory distress
   - Cyanosis
   - Persistent altered mental status
   - Status Epilepticus
   - Any apparent life threatening event in less than one (1) year of age

9. **Non-emergent Medical Pediatric Criteria:** Patients that are fourteen (14) years and younger with a medical complaint who do not meet trauma, medical extremis or emergent medical criteria shall be transported to any level PedRC.

10. **Burn Destination Decision Criteria**: When dealing with a patient who has suffered a burn injury, the following will need to be considered for appropriate destination consideration:

    - Patients with Step 1 or Step 2 trauma triage criteria for injuries in addition to burns shall be transported to a Level I or II trauma center in accordance with *Trauma Policies and Procedures.*
    - Patients meeting Step 3 or Step 4 trauma triage criteria for injuries in addition to burns should consider consult with a Level I or II trauma center for assistance with destination decision in accordance with Trauma Policies and Procedures.
    - Patients who meet extremis criteria shall be transported in accordance with *Ambulance Destination Decision Policies and Procedures.*
    - With the exceptions stated above, patients should be transported directly to the closest most appropriate Burn Center bypassing other hospitals if:
        1. Partial thickness (2°) or full thickness (3°) burns that are more than ten percent (10%) total body surface area
        2. Partial thickness (2°) or full thickness (3°) circumferential burns of any part
        3. Partial thickness (2°) or full thickness (3°) burns to face, hands, feet, major joints, perineum, or genitals
        4. Electrical burns with voltage greater than 120 volts
        5. Chemical burns greater than five percent (5%) total body surface area. For transport times to a Burn Center greater than sixty (60) minutes, pre-hospital personnel may consult with a Burn Center for consideration of closest destination.
    - Pre-hospital personnel may consider base contact with a Burn Center to assist in destination decision.

11. **Turn Over of Patient Care Authority**

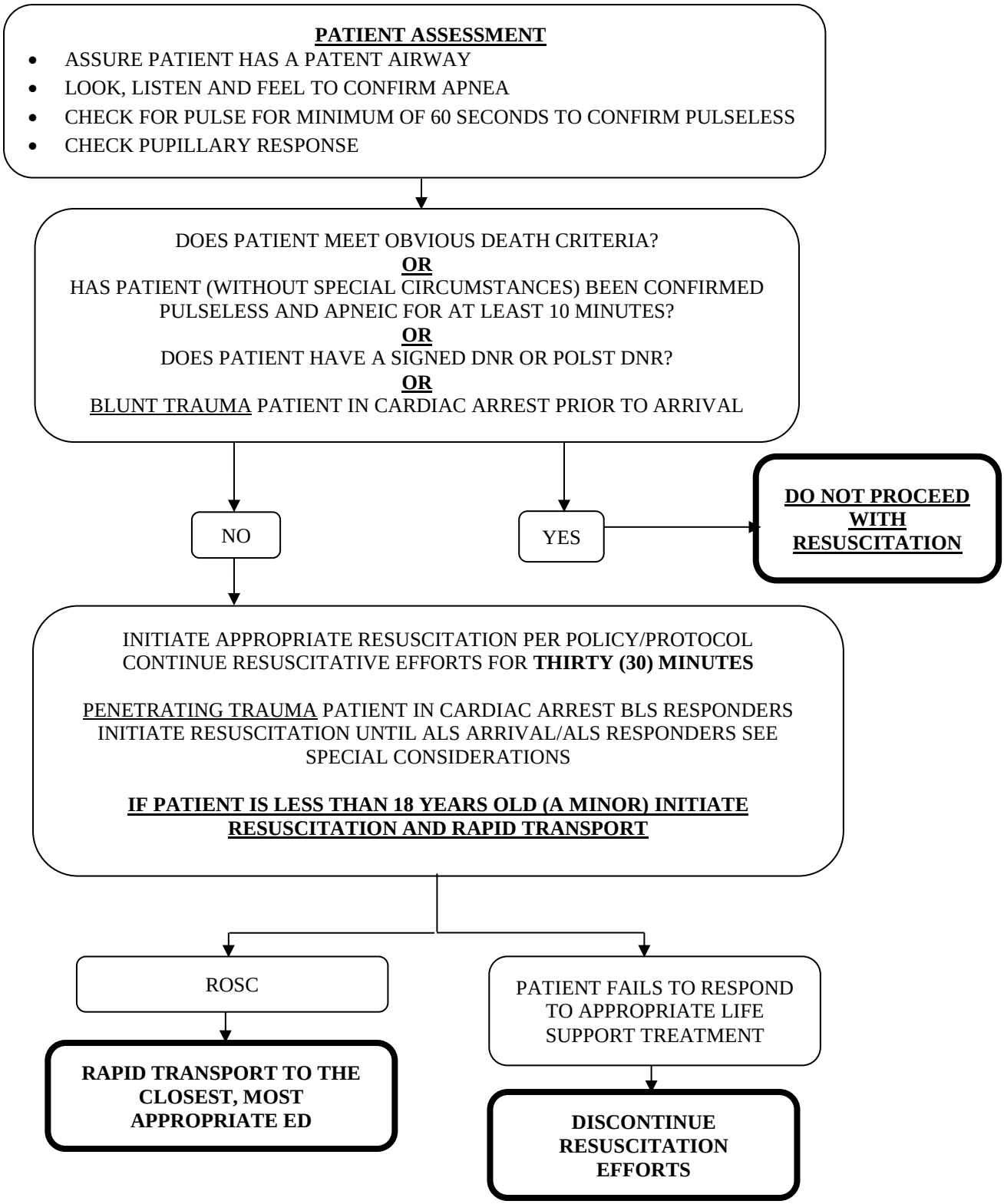
    A paramedic may transfer patient care authority to a BLS transport ambulance, when all of the following circumstances exist:

    - The BLS ambulance is available within a reasonable time.
    - ALS care has not been initiated.
    - It has been determined that ALS care is unneeded during transport.
    - Patients must be stable with medical complaints that can be cared for at the BLS level.
    - ALS assessment tools may be utilized (i.e. ECG 3- and 12 Lead cardiac monitor) in order to fully assess the patient and determine eligibility for turnover to BLS.
    - Patient airway, maintained without assistance or adjuncts.
    - The patient must be hemodynamically stable. Vital signs should be steady and commensurate with the patients' condition.
    - The patient must be of their normal mental status and not impaired because of alcohol or substances.
    - No mechanism of injury that would warrant a trauma activation.
    - No cardiac, respiratory, or neurological complaints that may warrant ALS intervention.
    - The EMT must be comfortable with the patients' condition and accept the transfer of care.
    - Base contact shall be made and must concur with handoff.

12. **<u>Critical Care Transport nurses may turn patients over to paramedics.</u>** These patients must not have or require any medications or therapies that are outside of the paramedics scope of practice.

DETERMINATION OF DEATH

Policy Number: **107**	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 external defibrillator (AED) analysis; AND
3. No AED shocks were delivered

G. **Termination of CPR by <u>Paramedic Personnel</u>**:
   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 <u>ONLY</u> 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.

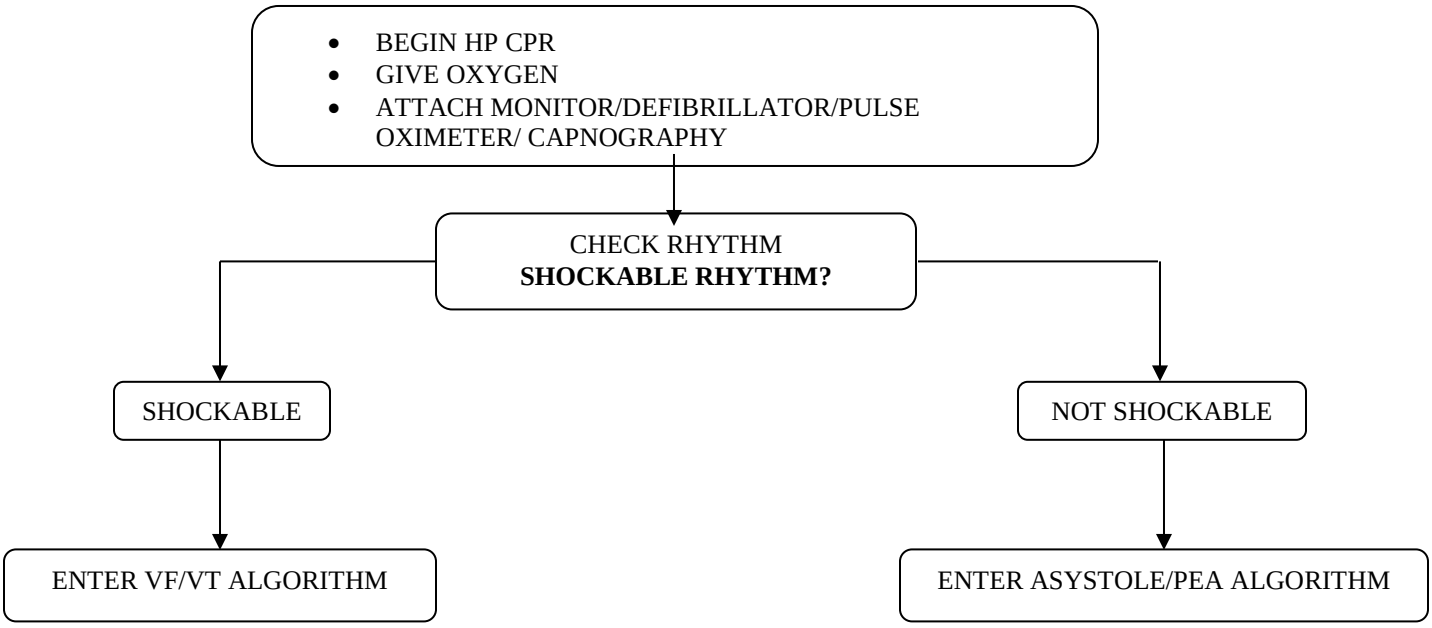
H. **<u>Documentation:</u>** An ePCR shall be completed in accordance with existing Division policy. All appropriate patient information must be included in the ePCR, and shall describe the patient assessment and the time the patient was determined to be dead.

I. **<u>Disposition of the Decedent</u>**:
   1. If a determination of death has occurred and the decedent <u>has not been</u> moved from the original place of death:

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: CARDIAC PROTOCOLS



During CPR:

1. Push hard and fast 110 beats per minute, a metronome shall be used. Minimum 2" Compression depth for Adults.

2. Deliver ventilations at 300-400 ML, just until chest rise begins. BVM with PEEP and pop off valve is preferred.

3. Pre charge monitor to reduce delay in shock delivery. Give 30 compressions during charge phase and prior to shock delivery with AED. .

4. Rotate compressors every two minutes, transitions should take place during pulse/rhythm checks and take less than 3 seconds.

5. Ensure full chest recoil

6. Minimize interruptions in chest compressions. Do not pause compressions for ALS procedures.

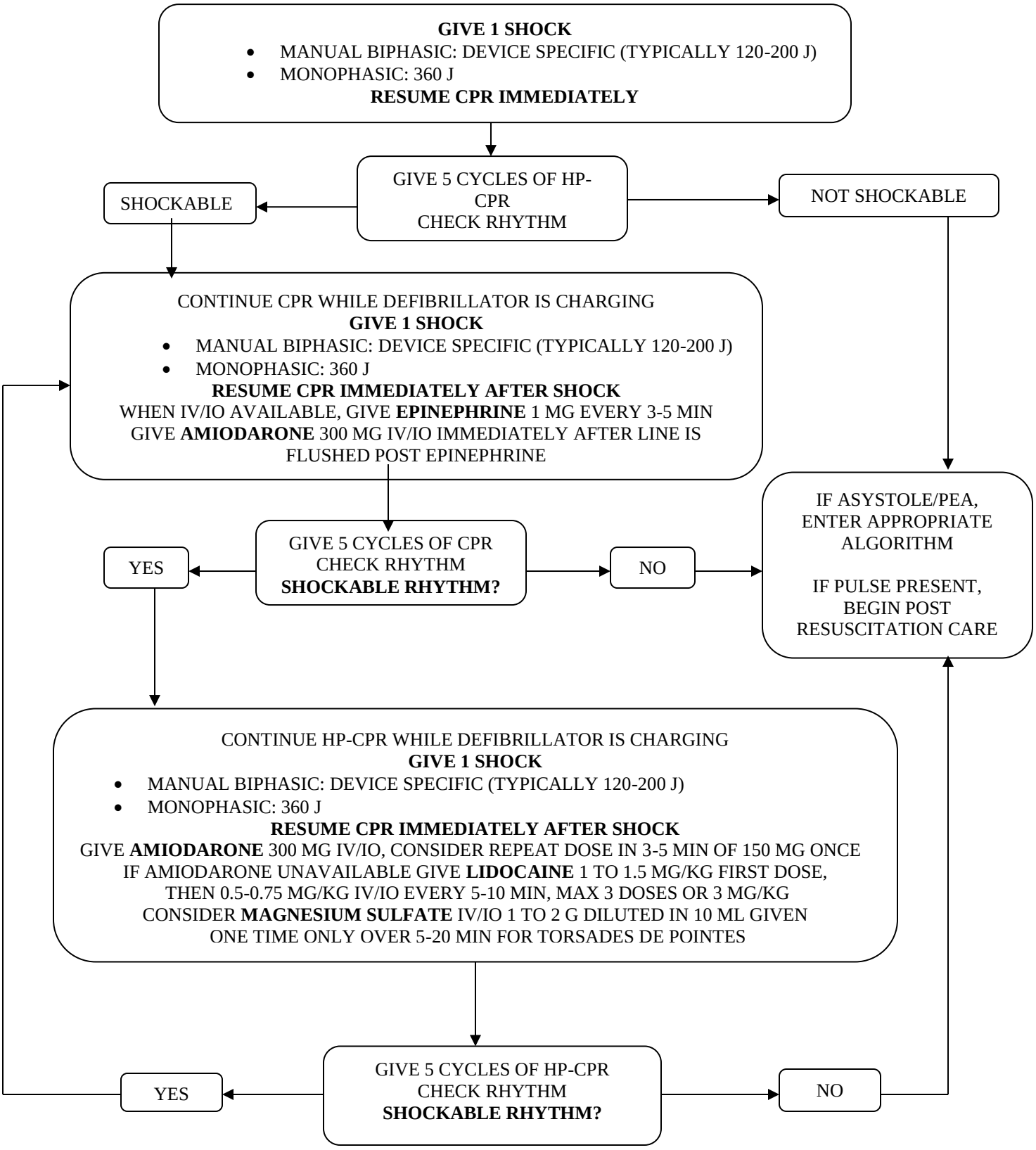
7. One cycle of CPR: 30 compressions then 2 breaths. After an advance airway is placed, rescuers no longer deliver "cycles" of CPR. Give continuous compressions without pauses for breaths. Give 8-10 breaths/minute. Check rhythm every 2 minutes.

8. Prior to stopping compressions for pulse/rhythm checks palpate pulse from compressions. Continue to palpate until compressions are stopped and check pulse.

9. Search for and treat underlying cause:

- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo/Hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins
- Tamponade
- Tension pneumothorax
- Thrombosis
- Trauma

VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA



1. Chest compressions should be interrupted only for ventilation (unless an advance airway is placed), rhythm checks and shock delivery.

2. The pause in chest compressions to check the rhythm and pulse should not exceed 10 seconds.

3. If refractory VF is present with no conversion after 3 defibrillations, add a second set of pads in an alternate position (depending upon initial pad placement, either Anterior/ Posterior or Anterior/ Lateral) Use alternate pad placement for next 2 defibrillations. If no conversion after 5 defibrillations and second manual or manual capable AED available consider dual sequential defibrillations for all subsequent defibrillations. VF that converts to any other rhythm but degrades back to VF is **NOT** considered refractory VF and should be treated with standard VF treatment regimens.

4. For a cardiac arrest patient in VF/VT who has a body temperature of <30^{o}C (<86^{o}F), a single defibrillation attempt is appropriate. If the patient fails to respond to the initial defibrillation attempt, defer subsequent attempts and drug therapy until the core temperature rises above 30^{o}C (86^{o}F). The hypothermic heart may be unresponsive to drug therapy, defibrillation, and pacemaker therapy. Drug metabolism is reduced which may allow drug levels to accumulate to toxic levels with standard dosing regimens.

5. Patients in moderate hypothermia with a body temperature of 30^{o}C to 34^{o}C (86^{o}F to 93.2^{o}F), attempt defibrillation and give medications spaced at longer intervals.

6. Priorities during cardiac arrest are high-quality CPR and early defibrillation. Insertion of advanced airway and drug administration are of secondary importance.

7. . The IO route is preferred when IV access is not available. Priorities for vascular access are:

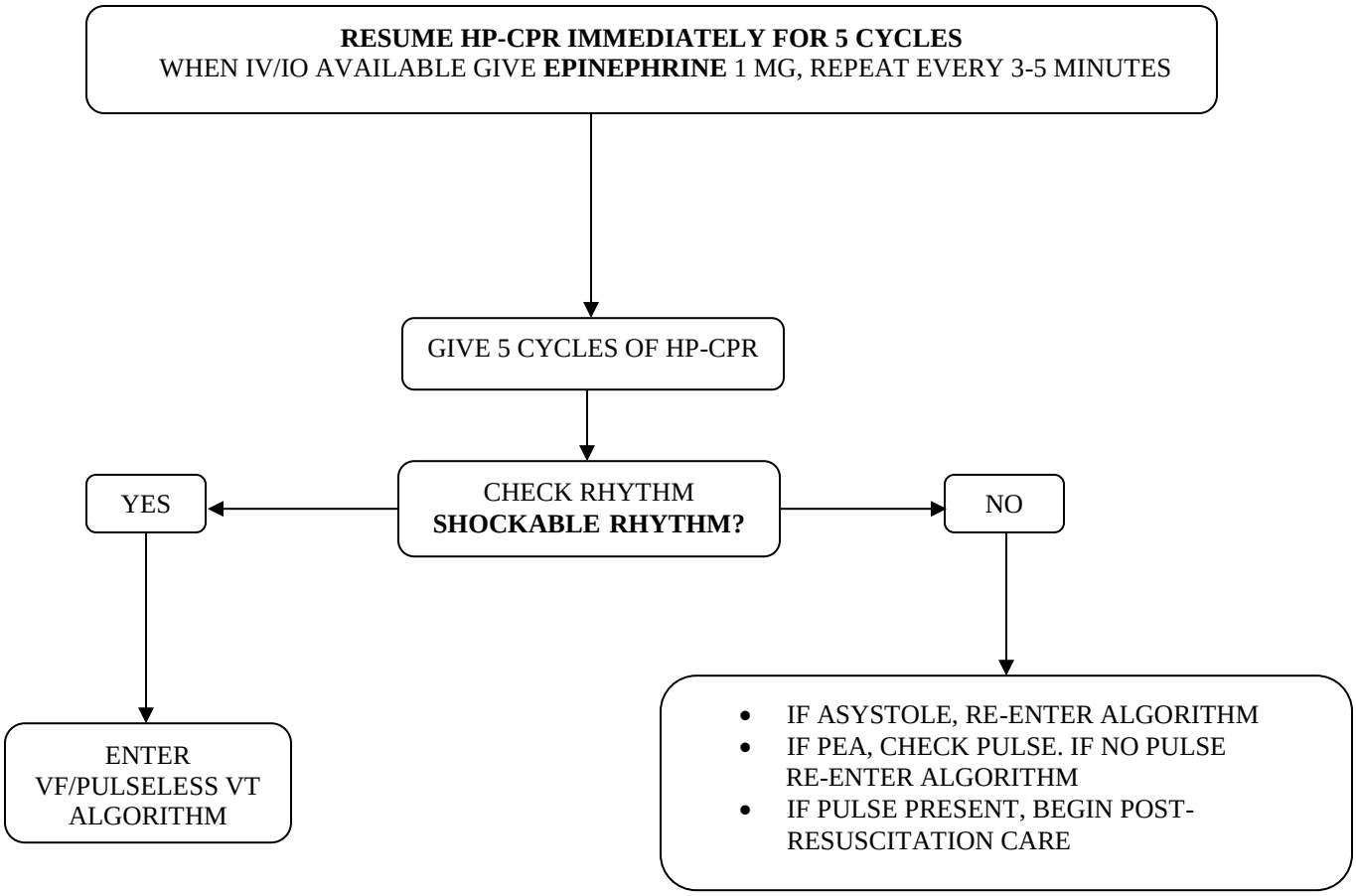
   - IV route
   - IO route

8. Drugs given by the IV route take 1 to 2 minutes to reach the central circulation. When administering medications by the IV route, administer as follows while performing CPR:

   - Give by bolus injection, unless otherwise specified.
   - Follow with a 20 mL bolus of IV fluid
   - Elevate extremity for 10 to 20 seconds to facilitate delivery to central circulation.

9. If **LIDOCAINE** was used to convert rhythm, follow with a continuous infusion of 1 to 4 mg/min. during the post-resuscitation period. Use lower dosing range for elderly and those with liver disease.

10. Consider transport to Bakersfield Memorial or San Joaquin Community Hospital for therapeutic hypothermia if the following inclusion criteria are met:
    - Age 18-75
    - There is restoration of spontaneous circulation (ROSC)
    - Comatose after ROSC: Unresponsive to verbal stimuli and no purposeful movement to pain
    - CPR initiated within 15 minutes of collapse
    - An interval not exceeding 60 minutes from collapse to ROSC


RESUME HP-CPR IMMEDIATELY FOR 5 CYCLES
WHEN IV/IO AVAILABLE GIVE EPINEPHRINE 1 MG, REPEAT EVERY 3-5 MINUTES
GIVE 5 CYCLES OF HP-CPR
CHECK RHYTHM
SHOCKABLE RHYTHM?
YES
NO
ENTER VF/PULSELESS VT ALGORITHM
IF ASYSTOLE, RE-ENTER ALGORITHM
IF PEA, CHECK PULSE. IF NO PULSE RE-ENTER ALGORITHM
IF PULSE PRESENT, BEGIN POST-RESUSCITATION CARE

1. Patients with PEA have poor outcomes. The most common and easily reversible causes of PEA are hypovolemia and hypoxia. The best chance of success in treating PEA is to recognize and treat the underlying cause. The most common causes of PEA are presented in the H's and T's table below:

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

2. Asystole should be confirmed in 2 leads and other causes of a flat line on the monitor should be ruled out. Causes of a flat line on the monitor, other than asystole include:

    - Loose leads
    - Leads not connected to the patient or the monitor
    - No power
    - Signal gain too low

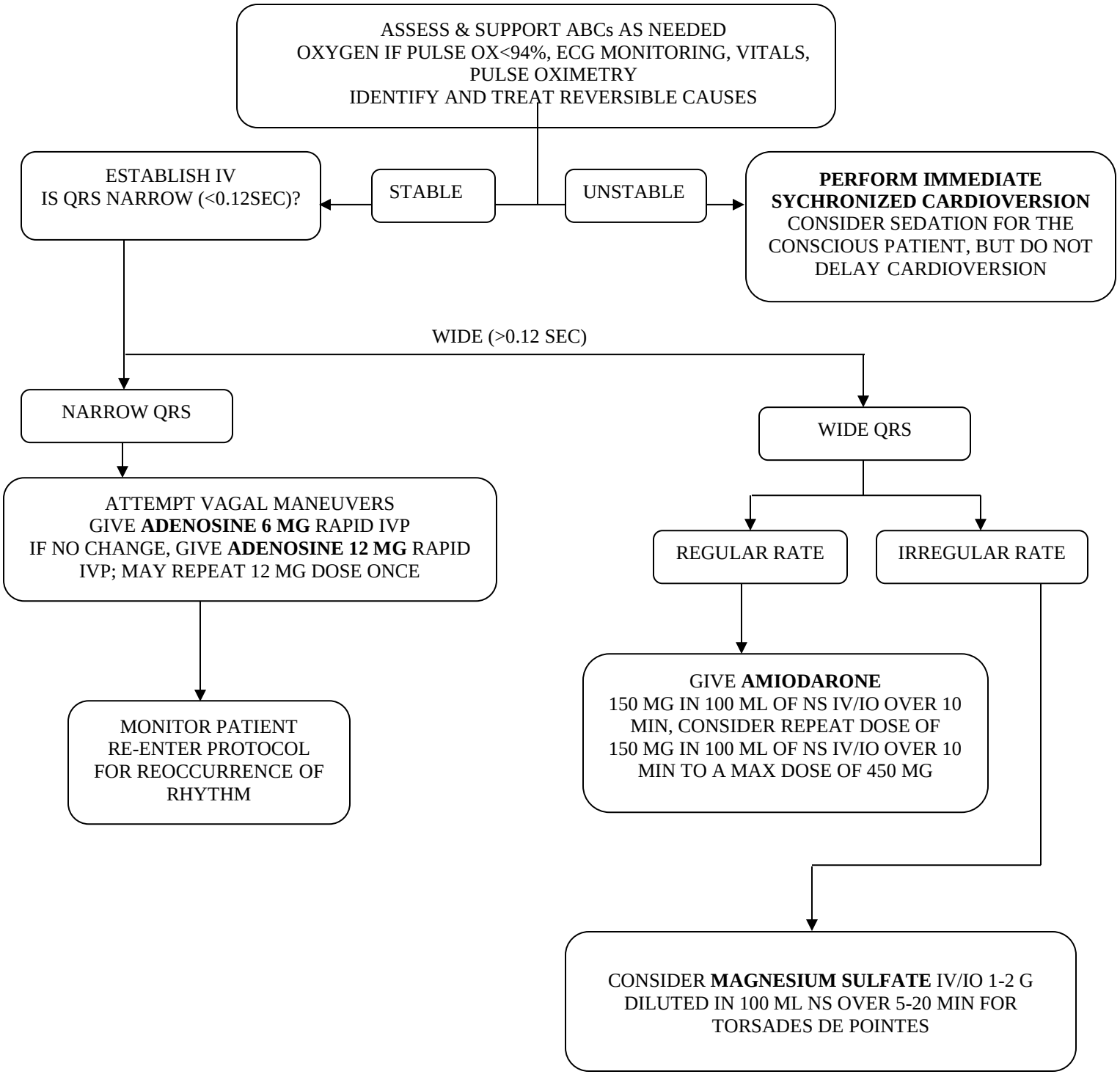
3. Prognosis for asystole is very poor and is usually seen as confirmation of death. Prolonged efforts at resuscitation of asystole are unnecessary and futile unless special resuscitation situations exist, such as hypothermia and drug overdose.

4. Transcutaneous pacing is not recommended for asystole.

5. Routine shock of asystole is not recommended unless it is questionable whether the patient is in asystole or fine ventricular fibrillation.

6. If a reversible cause is not rapidly identified and the patient fails to respond to resuscitative efforts termination of resuscitation should be considered.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
TACHYCARDIA WITH A PULSE		
Policy Number: **204**	Effective Date: **November 1, 1991**	Revision Date: **July 1, 2015**



1. The primary decision point for tachycardia is adequacy of perfusion. If the patient has inadequate perfusion, prepare for immediate synchronized cardioversion. Adenosine may be given if IV already established, but cardioversion should not be delayed to start IV. Provide sedation to a conscious patient if possible, but do not delay cardioversion if the patient is unstable.

2. Serious signs and symptoms are unlikely to be present with rate < 150 bpm. Sinus Tachycardia is caused by external influences on the heart, such as fever, blood loss, stress, or as compensation for hypoperfusion. If you attempt to reduce heart rate for a person in compensatory tachycardia the cardiac output will fall and the patient will likely deteriorate. The goal for care is to identify and treat the underlying cause.

3. Key questions to answer are:

    a. Are there serious signs and symptoms? (CP or SOB, hypotension, decreased LOC, other signs of shock)

    b. Are the signs and symptoms related to the patient's rapid heart rate?

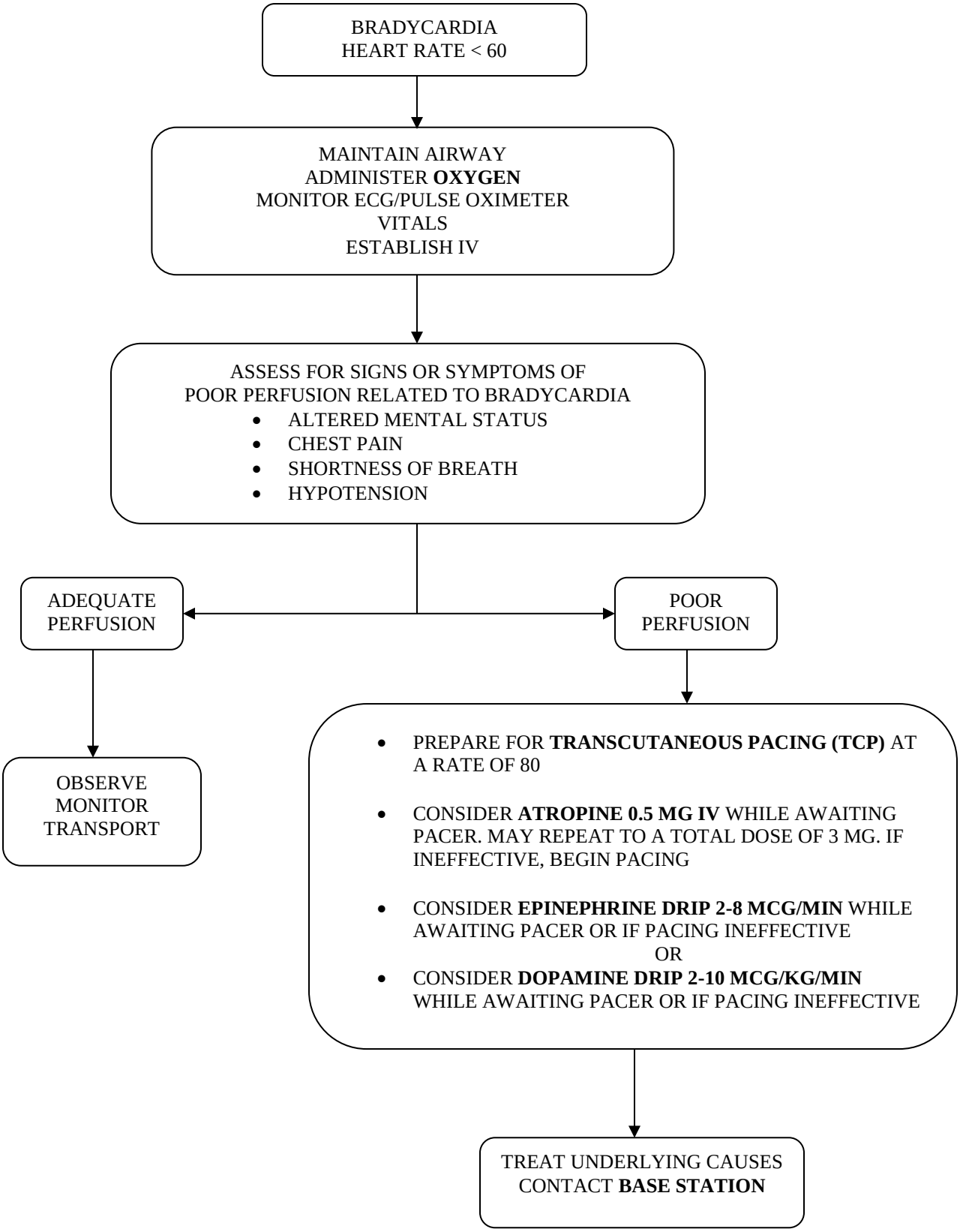
    c. Is the QRS complex wide or narrow?

4. It may be difficult to distinguish between supraventricular and ventricular tachycardia. Most wide complex tachycardias are ventricular in origin; therefore, if a patient has wide complex tachycardia and is unstable, assume it is VT until proven otherwise.

5. Low energy shocks should always be delivered as synchronized shocks. Low energy unsynchronized shocks (defibrillation) are likely to induce VF. If cardioversion is needed and it is not possible to synchronize a shock, use unsynchronized shocks (defibrillation) at defibrillation doses.

Energy Doses for Cardioversion

Rhythm	Energy Sequence
Atrial Fibrillation	100-200 J, 300 J, 360 J or equivalent biphasic
Stable Monomorphic VT	100-200 J, 300 J, 360 J or equivalent biphasic
Atrial Flutter or other SVT	50 J, 100 J, 200 J, 300 J, 360 J or equivalent biphasic
Unstable Polymorphic VT	Treat as VF with defibrillation


BRADYCARDIA
HEART RATE < 60
MAINTAIN AIRWAY
ADMINISTER **OXYGEN**
MONITOR ECG/PULSE OXIMETER
VITALS
ESTABLISH IV
ASSESS FOR SIGNS OR SYMPTOMS OF
POOR PERFUSION RELATED TO BRADYCARDIA
• ALTERED MENTAL STATUS
• CHEST PAIN
• SHORTNESS OF BREATH
• HYPOTENSION
ADEQUATE PERFUSION
POOR PERFUSION
OBSERVE
MONITOR
TRANSPORT
• PREPARE FOR **TRANSCUTANEOUS PACING (TCP)** AT A RATE OF 80
• CONSIDER **ATROPINE 0.5 MG IV** WHILE AWAITING PACER. MAY REPEAT TO A TOTAL DOSE OF 3 MG. IF INEFFECTIVE, BEGIN PACING
• CONSIDER **EPINEPHRINE DRIP 2-8 MCG/MIN** WHILE AWAITING PACER OR IF PACING INEFFECTIVE
OR
• CONSIDER **DOPAMINE DRIP 2-10 MCG/KG/MIN** WHILE AWAITING PACER OR IF PACING INEFFECTIVE
TREAT UNDERLYING CAUSES
CONTACT **BASE STATION**

1. The primary decision point for bradycardia is adequacy of perfusion. If the patient has adequate perfusion, then observe and monitor patient. If the patient has inadequate perfusion, prepare for TCP and consider administration of ATROPINE 0.5 mg IV-may repeat to total dose of 3 mg.

2. Key questions to answer are:
   a. Are there serious signs and symptoms?
   b. Are the signs and symptoms related to the patient's slow heart rate?

3. Serious signs and symptoms:
   - Chest pain
   - Shortness of breath
   - Decreased LOC
   - Fatigue
   - Weak, dizzy, lightheaded
   - Syncope
   - Hypotension
   - CHF
   - Ventricular escape rhythms

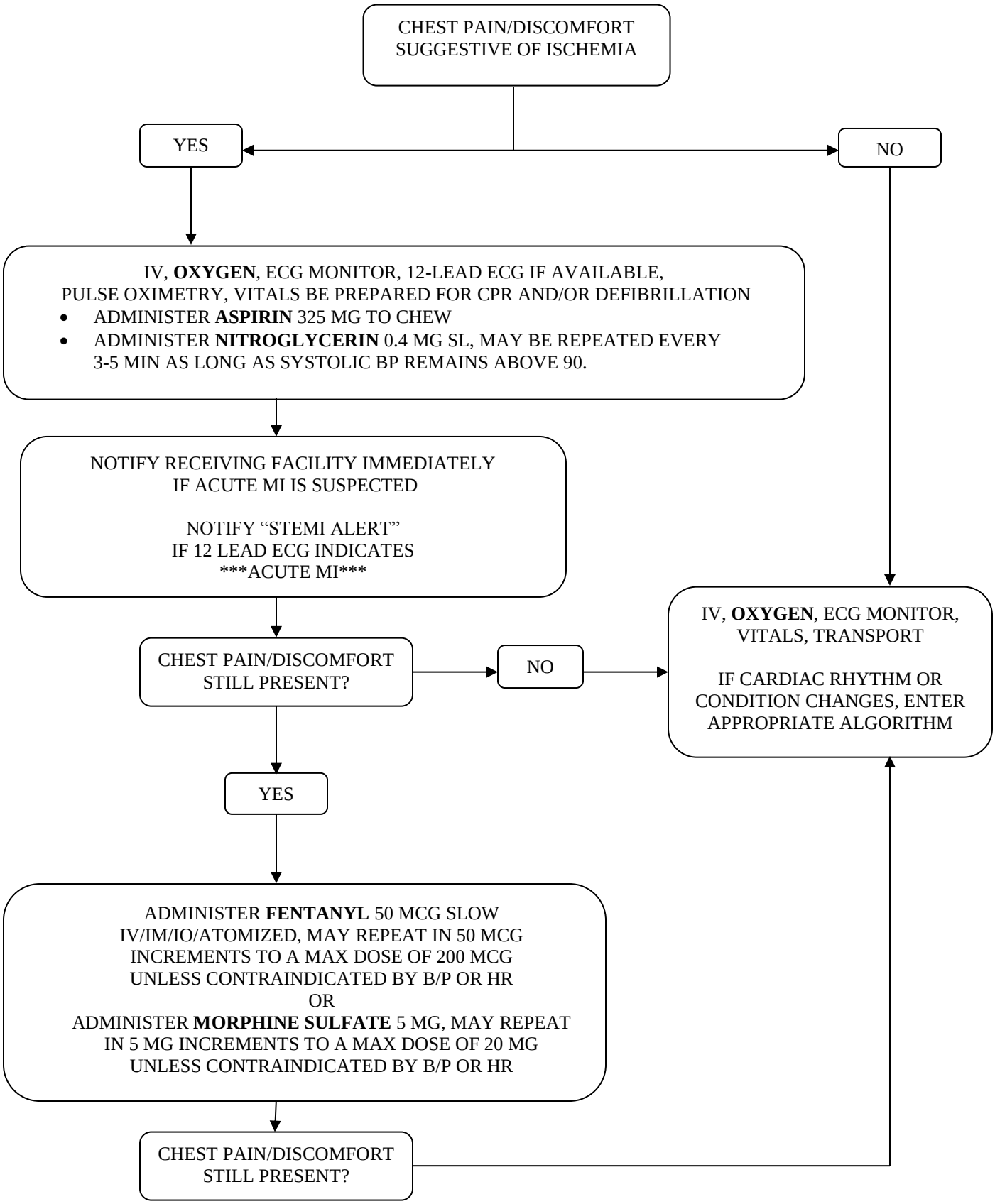
4. Before TCP: Consider Versed 1mg slow IV push and Fentanyl 50 mcg IV or Morphine 5 mg IV, titrated to patient comfort. Contact base hospital for further orders if additional sedation/pain relief is required.

5. Start TCP immediately if:
   - No response to atropine
   - Atropine unlikely to be effective (second degree block-type II or third degree block)
   - IV access cannot be quickly established
   - Patient is severely symptomatic.

6. After TCP:
   - Assess electrical and mechanical capture
   - Reassess patient perfusion
   - Give analgesics and sedatives for pain control if not done before TCP.

7. If patient fails to respond to TCP or ATROPINE consider:

8. EPINEPHRINE infusion 2-8 mcg/ min, titrated to patient response, or DOPAMINE infusion 2-10 mcg/kg/min, titrated to patient response. TCP Operational Procedure:
   - Acquire baseline rhythm strip
   - Obtain vital signs, consider premedication with Versed for conscious patients
   - Apply pacing electrodes to clean, dry, skin
   - Select demand pacing mode on monitor
   - Confirm sensing of QRS complex in the demand pacing mode
   - Set current at minimum level
   - Set pace rate at 80
   - Activate pacer and adjust current upward until electrical and mechanical capture is identified. Typical capture thresholds range between 50-90 mA
   - Acquire rhythm strip and vital signs for documentation


CHEST PAIN/DISCOMFORT SUGGESTIVE OF ISCHEMIA
YES
NO
IV, **OXYGEN**, ECG MONITOR, 12-LEAD ECG IF AVAILABLE, PULSE OXIMETRY, VITALS BE PREPARED FOR CPR AND/OR DEFIBRILLATION
• ADMINISTER **ASPIRIN** 325 MG TO CHEW
• ADMINISTER **NITROGLYCERIN** 0.4 MG SL, MAY BE REPEATED EVERY 3-5 MIN AS LONG AS SYSTOLIC BP REMAINS ABOVE 90.
NOTIFY RECEIVING FACILITY IMMEDIATELY IF ACUTE MI IS SUSPECTED
NOTIFY "STEMI ALERT" IF 12 LEAD ECG INDICATES ***ACUTE MI***
CHEST PAIN/DISCOMFORT STILL PRESENT?
NO
IV, **OXYGEN**, ECG MONITOR, VITALS, TRANSPORT
IF CARDIAC RHYTHM OR CONDITION CHANGES, ENTER APPROPRIATE ALGORITHM
YES
ADMINISTER **FENTANYL** 50 MCG SLOW IV/IM/IO/ATOMIZED, MAY REPEAT IN 50 MCG INCREMENTS TO A MAX DOSE OF 200 MCG UNLESS CONTRAINDICATED BY B/P OR HR
OR
ADMINISTER **MORPHINE SULFATE** 5 MG, MAY REPEAT IN 5 MG INCREMENTS TO A MAX DOSE OF 20 MG UNLESS CONTRAINDICATED BY B/P OR HR
CHEST PAIN/DISCOMFORT STILL PRESENT?

1. Do not delay treatment or transport beyond 2-3 minutes to obtain 12-lead ECG.

2. A copy of the ECG should be delivered to the nurse caring for the patient upon arrival at the Emergency Department and a copy must be included in the patient care record.

3. Patients in the metropolitan Bakersfield area with chest pain/discomfort of suspected cardiac origin should be transported to a cardiac receiving facility.

4. If acute MI is suspected with signs of hypoperfusion, administer 250 mL fluid challenge. May repeat one time if patient remains hypotensive. Consult with cardiac facility if patient remains hypotensive. Refer to Medical Shock/Hypoperfusion protocol.

5. 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.

6. Give the patient sublingual nitroglycerin (0.4mg metered dose or gr. 1/150) every 5 minutes for ongoing symptoms, monitor blood pressure and pulse rate between administrations. Contraindications:

    - Suspected or known that the patient has taken sildenafil (Viagra) or vardenafil (Levitra) within the previous 24 hours or tadalafil (Cialis) within the previous 48 hours.
    - Systolic blood pressure less than 90 mm Hg or heart rate less than 50 beats per minute.

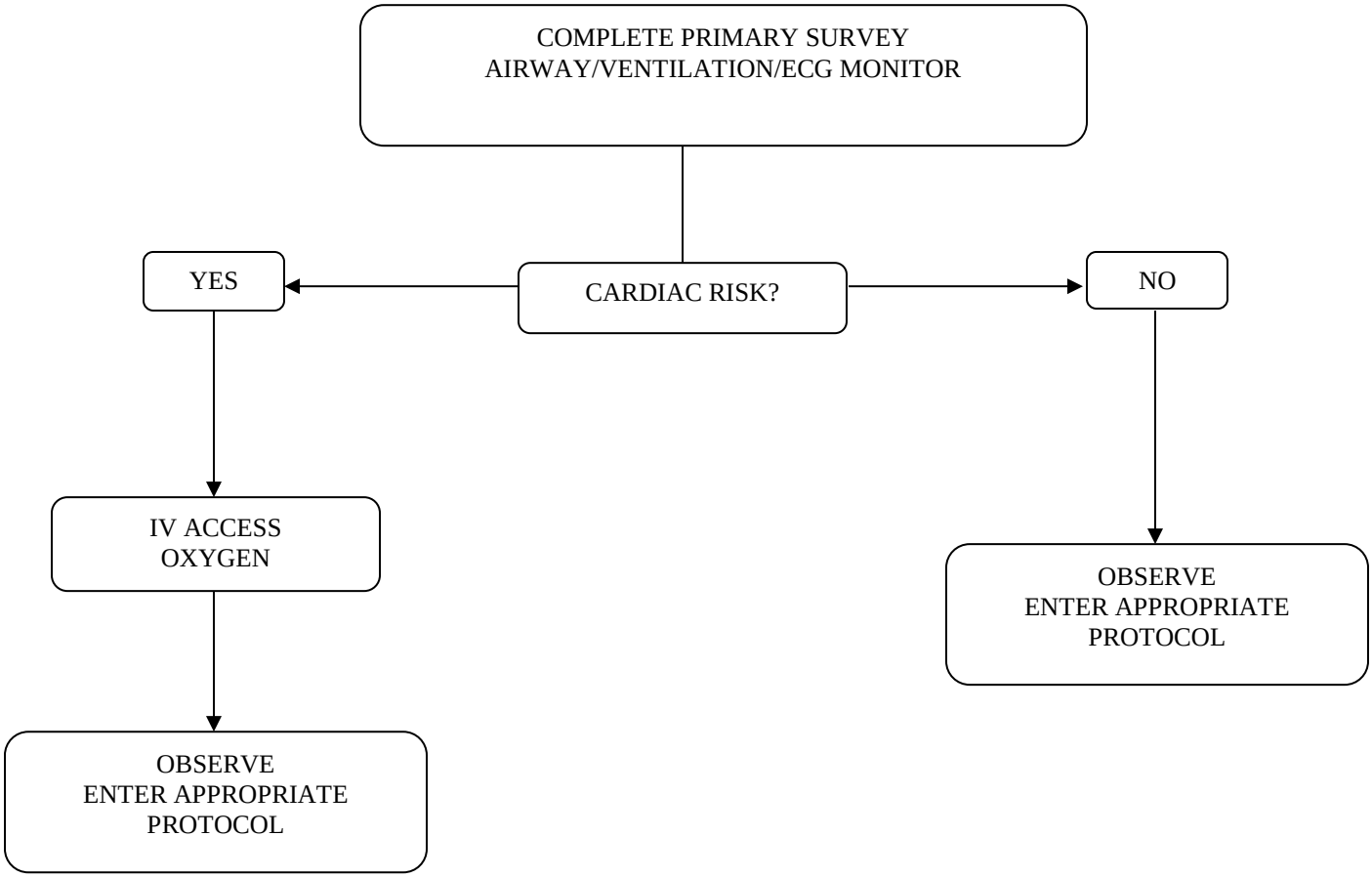
    If the patient becomes hypotensive after administration of nitroglycerin, place the patient in shock position. Do not immediately give fluid bolus. If no improvement within 5 minutes, refer to Medical Shock/Hypoperfusion protocol.

7. Administer Fentanyl or Morphine when chest pain/discomfort is unresponsive to nitroglycerin. Give the patient 50 mcg of Fentanyl, Slow IVP or 5 mg of morphine, slow IV push, to relieve persistent chest pain/discomfort. Repeat in 2-3 minutes until pain relieved or max dose is reached. **Contact Base Station** for orders if more is needed.

    Contraindications:

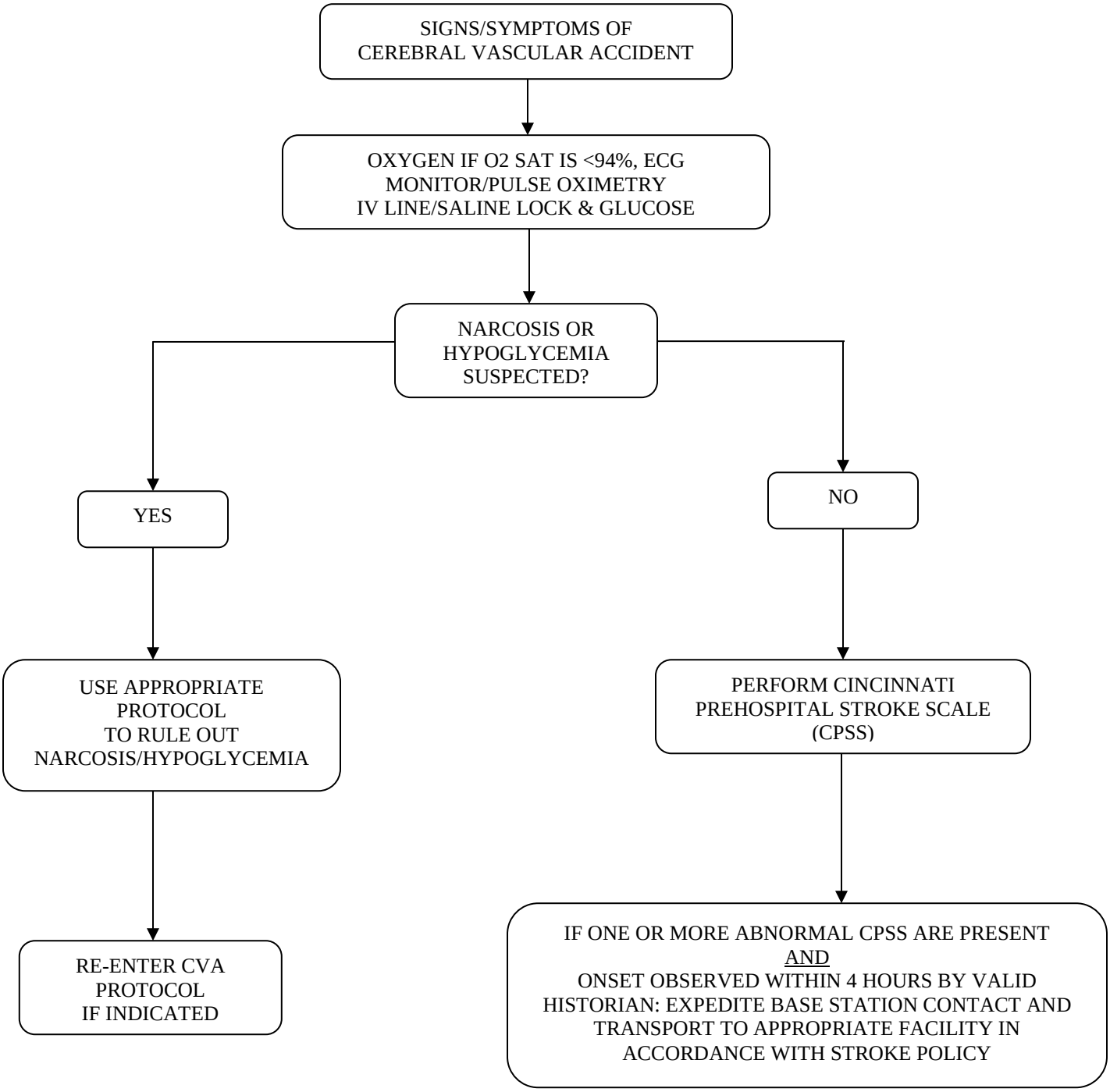
    - Allergy or hypersensitivity.
    - Heart rate less than 50 beats per minute or blood pressure less than 90 systolic.
    - Respiratory depression.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
NORMAL SINUS RHYTHM		
Policy Number: **208**	Effective Date: **November 1, 1991**	Revision Date: **June 1, 2010**



1. Cardiac Risk includes prior cardiac problem, history, chest pain or dyspnea.

2. The purpose of this protocol is to provide a generic means of treatment for patients with signs or symptoms of significant cardiac risk that are not applicable to use of other protocols.


SIGNS/SYMPTOMS OF CEREBRAL VASCULAR ACCIDENT
OXYGEN IF O2 SAT IS <94%, ECG MONITOR/PULSE OXIMETRY IV LINE/SALINE LOCK & GLUCOSE
NARCOSIS OR HYPOGLYCEMIA SUSPECTED?
YES
NO
USE APPROPRIATE PROTOCOL TO RULE OUT NARCOSIS/HYPOGLYCEMIA
RE-ENTER CVA PROTOCOL IF INDICATED
PERFORM CINCINNATI PREHOSPITAL STROKE SCALE (CPSS)
IF ONE OR MORE ABNORMAL CPSS ARE PRESENT
AND
ONSET OBSERVED WITHIN 4 HOURS BY VALID HISTORIAN: EXPEDITE BASE STATION CONTACT AND TRANSPORT TO APPROPRIATE FACILITY IN ACCORDANCE WITH STROKE POLICY

1. Apply O2 only if pulse ox <94%.

2. No more than two (2) IV attempts.

3. Patients that present with altered mental status may be oriented to self, place, time and event, but are unable to communicate their orientation effectively.

4. Perform Cincinnati Prehospital Stroke Scale (CPSS):

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

5. Acute stroke with one or more abnormal CPSS findings and last known normal at or within four (4) hours (observed by a valid historian), may be a candidate for fibrinolytic therapy:

   - Establish early contact with a certified stroke center **Base Station and advise of "STROKE ALERT"**

   - Transport to nearest designated certified stroke center

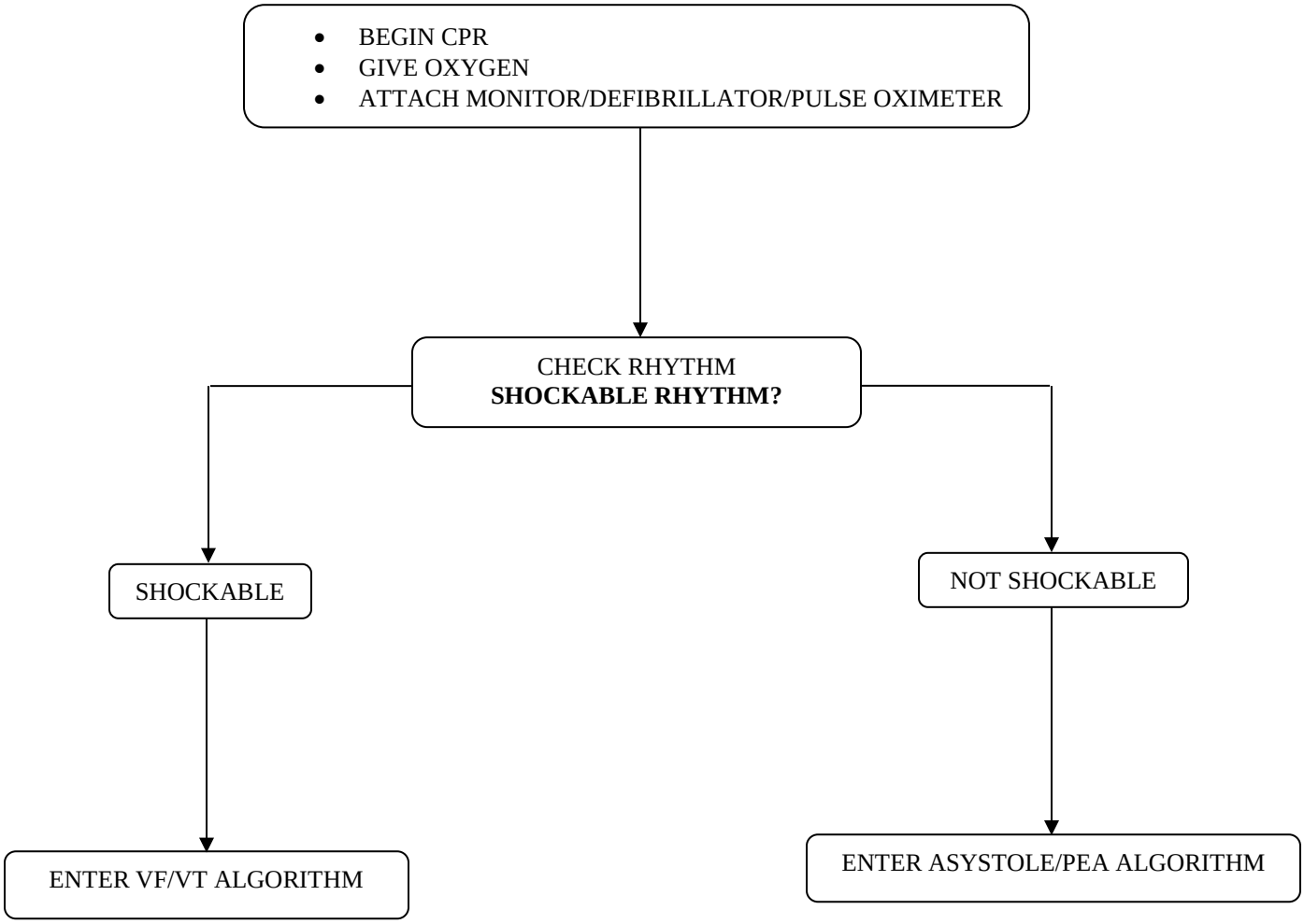
6. Transport patients in semi-Fowler's position with no more than 30 degrees head elevation.

7. Acute stroke with one or more abnormal CPSS finding and last known normal greater than four (4) hours, may not be a candidate for fibrinolytic therapy:

   - Establish early contact with **Base Station**

   - Transport in accordance with Ambulance Destination Policies and Procedures.

SECTION 300: PEDIATRIC RESUSCITATION PROTOCOLS


BEGIN CPR
GIVE OXYGEN
ATTACH MONITOR/DEFIBRILLATOR/PULSE OXIMETER
CHECK RHYTHM
SHOCKABLE RHYTHM?
SHOCKABLE
NOT SHOCKABLE
ENTER VF/VT ALGORITHM
ENTER ASYSTOLE/PEA ALGORITHM

The most common causes of cardiac arrest in children are respiratory failure and hypotension. Arrythmias are a less common cause.

During CPR:

1. Push hard and fast (100/min)

2. Ensure full chest recoil

3. Minimize interruptions in chest compressions

4. One cycle of CPR: 15 compressions then 2 breaths. After an advance airway is placed, rescuers no longer deliver "cycles" of CPR. Give continuous compressions without pauses for breaths. Give 8-10 breaths/minute. Check rhythm every 2 minutes.

5. Search for and treat underlying cause:

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

6. Consider allowing the family to remain present during resuscitation. Studies show that family members who were present believe their presence was beneficial to the patient. Studies also suggest that family members present during resuscitations have less anxiety and depression and more constructive grieving behavior.

7. Unexpected Infant/Child Death (SIDS)- All unexpected infant and child deaths are investigated by law enforcement agencies and/or coroner. Considerations for pre-hospital personnel are:
    - Do not clean the child's body
    - Preserve diapers and personal belongings including clothing
    - Leave all tubes in place
    - Consult with law enforcement agency on scene prior to allowing parent, family, or caregiver to hold the child
    - Fully explain your actions, procedures, and reasons for actions to the parents/caregiver

- Provide the parent/caregiver with the number to the California SIDS Information Line: 1-800-369-SIDS (7437)
- Ask open-ended questions about the incident
- Thoroughly document on the PCR all findings obtained during history gathering, patient assessment, and scene examination including the location and position the infant/child was found in.

8. SIDS is the most common cause of sudden, unexpected death among infants between one (1) month and one (1) year of age. Ninety (90) percent of SIDS deaths occur under six (6) months of age, mostly between two (2) and four (4) months of age.

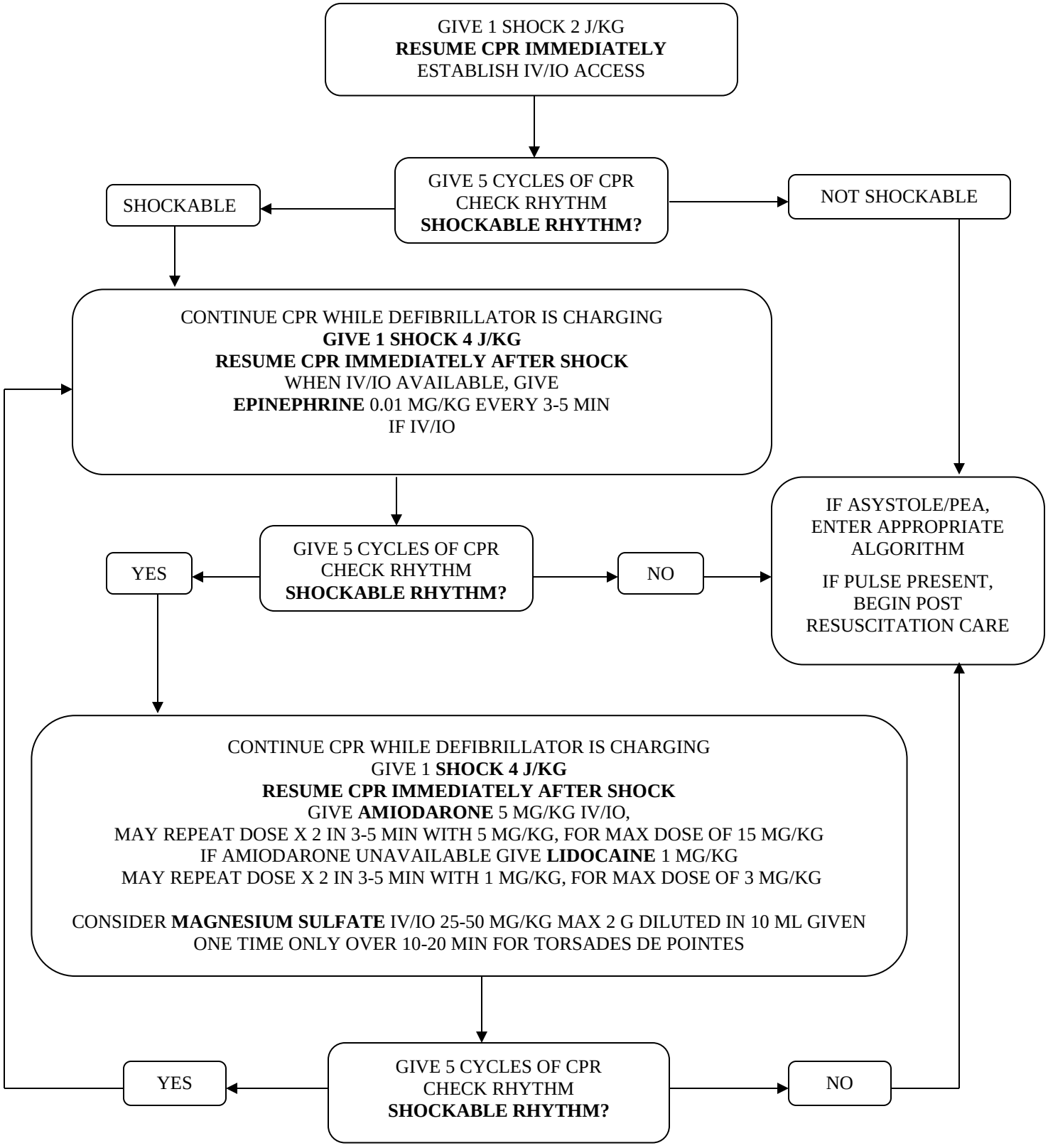
9. Sudden, unexpected death may also be due to injury, congenital birth defects, infection, or metabolic disorders.

10. SIDS is often confused with child abuse. The table below lists important characteristics that can help pre-hospital personnel distinguish between SIDS and child abuse/neglect:

SIDS	**CHILD ABUSE/ NEGLECT**
No external signs of injury, "natural" appearance of a deceased baby	Distinguishable and visible signs of injury
Lividity- settling of blood, frothy drainage from the nose/mouth	Broken bone(s)
Small marks (i.e. diaper rash) looks more severe	Bruises
Cooling/rigor mortis takes place quickly in infants, about 3 hours	Burns
Purple mottled markings on head and facial area, may appear as bruises	Cuts
	Head Trauma (i.e. black eyes)
	Scars
	Welts
	Wounds
Appears to be a well-developed baby	May be obviously malnourished
	Other siblings may show patterns of injuries commonly seen in child abuse or neglect
May suspect SIDS when all of the above are present PLUS parents say that the infant was well and healthy when put to sleep (last time seen alive)	May initially suspect child abuse/neglect when all of the above appear accurate and parents' story does not account for all injuries on the infant

Reference: Sudden, Unexpected Infant Death: Information for the Emergency Medical Technician. U.S. Department of Health and Human Services, Health Resources and Services Administration. Rev. 2005

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
PEDIATRIC VF/PULSELESS VT		
Policy Number: **302**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2015**



1. Chest compressions should be interrupted only for ventilation (unless an advance airway is placed), rhythm checks and shock delivery.

2. The pause in chest compressions to check the rhythm and pulse should not exceed 10 seconds.

3. For a cardiac arrest patient in VF/VT who has a body temperature of <30°C (<86°F), a single defibrillation attempt is appropriate. If the patient fails to respond to the initial defibrillation attempt, defer subsequent attempts and drug therapy until the core temperature rises above 30°C (86°F). The hypothermic heart may be unresponsive to drug therapy, defibrillation, and pacemaker therapy. Drug metabolism is reduced which may allow drug levels to accumulate to toxic levels with standard dosing regimens.

4. For patients in moderate hypothermia with a body temperature of 30°C to 34°C (86°F to 93.2°F), attempt defibrillation and give medications spaced at longer intervals.

5. Priorities during cardiac arrest are high-quality CPR and early defibrillation. Insertion of advanced airway and drug administration are of secondary importance.

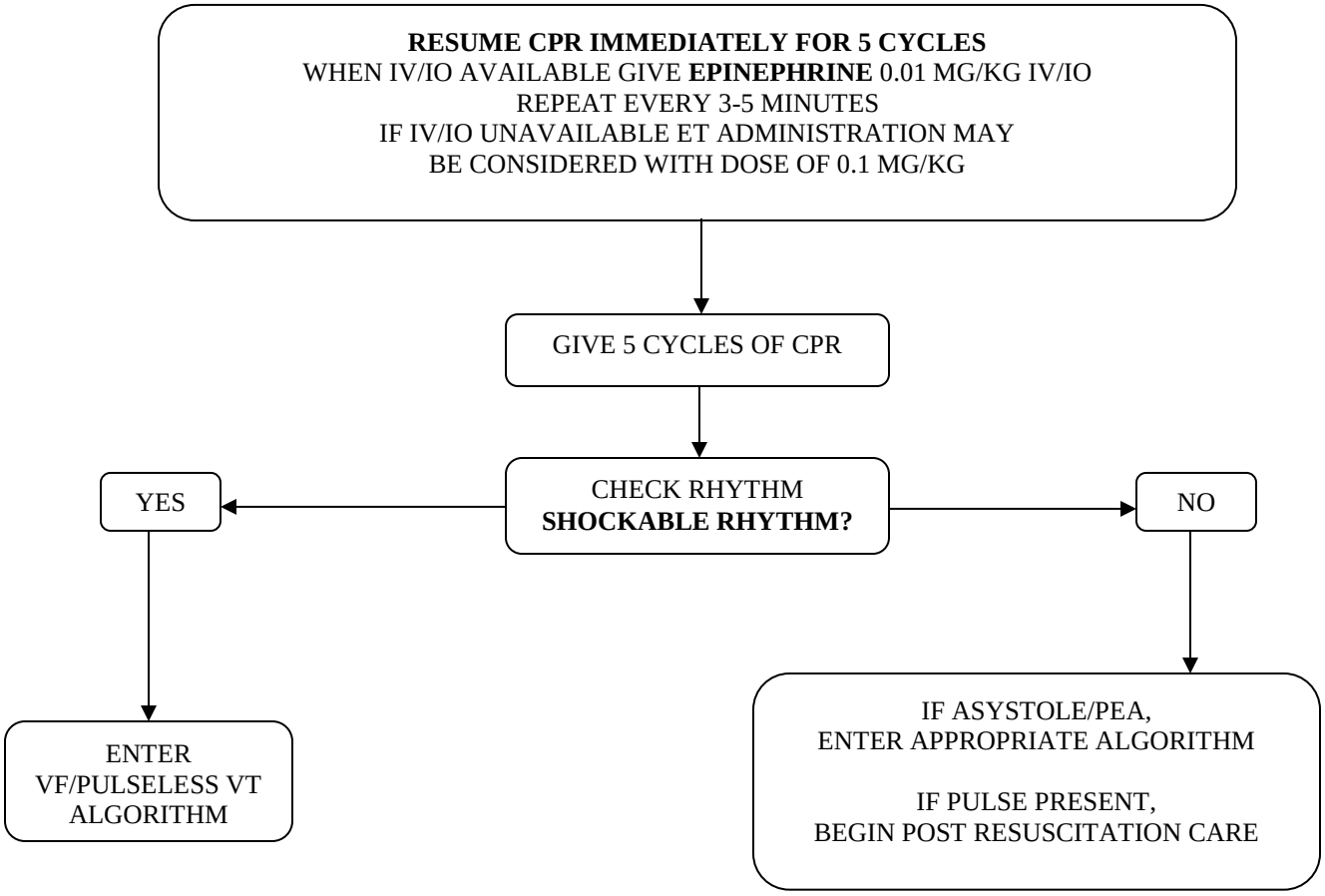
6. General priorities for vascular access during resuscitation are:

   - IV route
   - IO route

   If reliable IV access cannot be established quickly, establish IO access. Drugs given by the IV route take 1 to 2 minutes to reach the central circulation. When administering medications by the IV route, administer as follows:

   - Give by bolus injection, unless otherwise specified.
   - Follow with a 10 mL bolus of IV fluid
   - Elevate extremity for 10 to 20 seconds to facilitate delivery to central circulation.

7. If **LIDOCAINE** was used to convert rhythm, follow with a continuous infusion of 20-50 mcg/kg/min during the post-resuscitation period.


RESUME CPR IMMEDIATELY FOR 5 CYCLES
WHEN IV/IO AVAILABLE GIVE **EPINEPHRINE** 0.01 MG/KG IV/IO
REPEAT EVERY 3-5 MINUTES
IF IV/IO UNAVAILABLE ET ADMINISTRATION MAY
BE CONSIDERED WITH DOSE OF 0.1 MG/KG
GIVE 5 CYCLES OF CPR
CHECK RHYTHM
SHOCKABLE RHYTHM?
YES
NO
ENTER
VF/PULSELESS VT
ALGORITHM
IF ASYSTOLE/PEA,
ENTER APPROPRIATE ALGORITHM
IF PULSE PRESENT,
BEGIN POST RESUSCITATION CARE

1. Patients with PEA have poor outcomes. The most common and easily reversible causes of PEA are hypovolemia and hypoxia. The best chance of success in treating PEA is to recognize and treat the underlying cause. The most common causes of PEA are presented in the H's and T's table below:

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

2. General priorities for vascular access during resuscitation are:

   - IV route
   - IO route

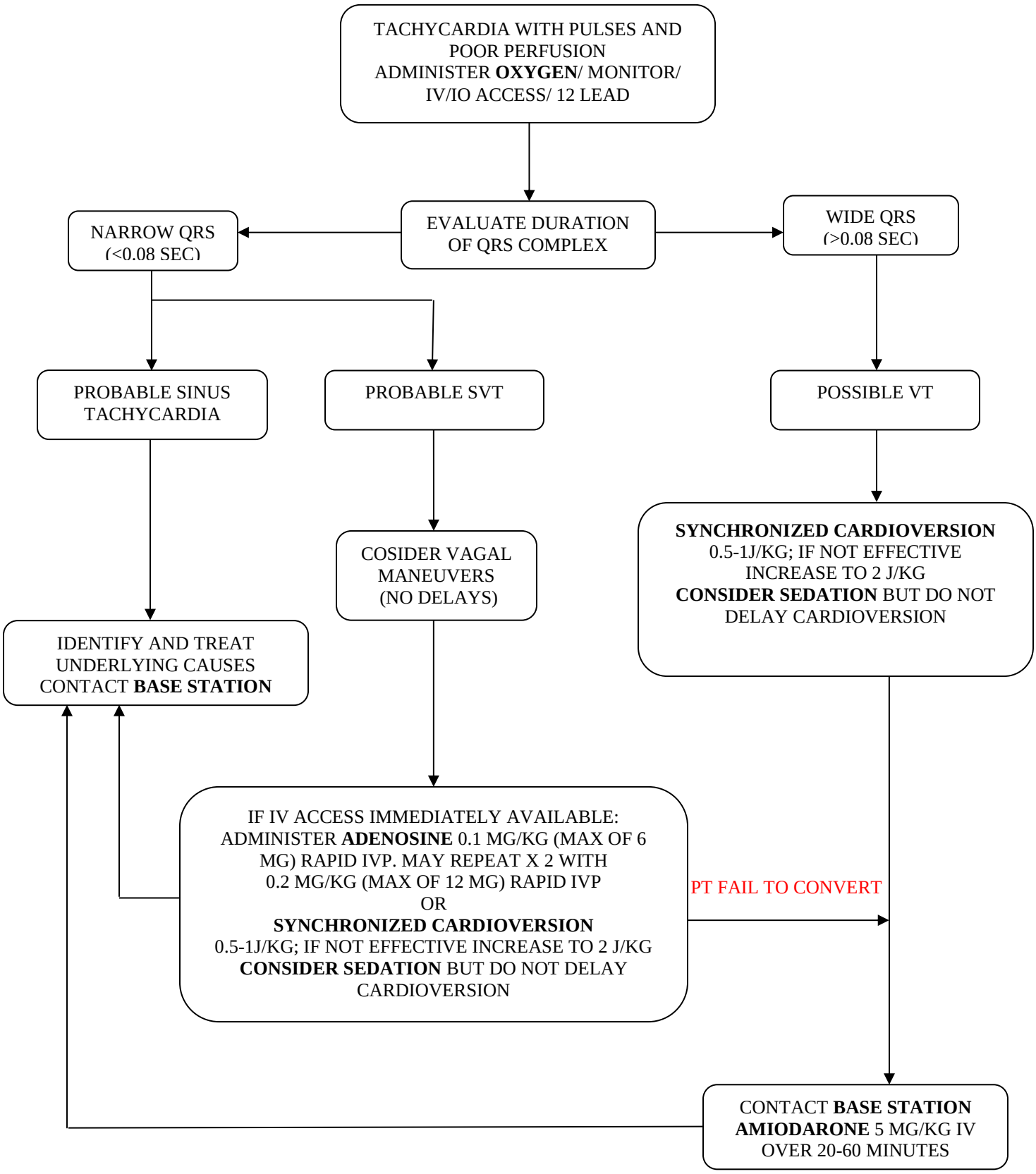
3. If reliable IV access cannot be established quickly, establish IO access. Prognosis for asystole is very poor and is usually seen as confirmation of death. Prolonged efforts at resuscitation of asystole are unnecessary and futile unless special resuscitation situations exist, such as hypothermia and drug overdose.

4. Transcutaneous pacing is not recommended for asystole.

5. Routine shock of asystole is not recommended unless it is questionable whether the patient is in asystole or fine ventricular fibrillation.

6. If a reversible cause is not rapidly identified and the patient fails to respond to resuscitative efforts termination of resuscitation should be considered.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
PEDIATRIC TACHYCARDIA		
Policy Number: **304**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2015**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
PEDIATRIC TACHYCARDIA		
Policy Number: **304**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2015**

1. Tachycardia may be a compensatory response to a medical issue, such as stress or fever or it may be of cardiac origin that may lead to shock and deteriorate into cardiac arrest. The key to proper treatment of tachycardia is to differentiate whether the tachycardia is the primary cause of the patient's symptoms, or if the tachycardia is a compensatory response to a separate medical issue.

Characteristic	Sinus Tachycardia	Supraventricular Tachycardia
History	**Gradual onset** with compatible history (eg, fever, pain, dehydration)	**Abrupt onset** or termination. Possible complaint of palpitations or CHF symptoms
Physical Exam	Signs of **underlying cause** (eg, fever, hypovolemia, anemia)	**No attributable cause**. Signs of CHF (eg, rales, edema)
Heart Rate	**Infant: < 220/min** **Child: < 180/min** **Variability in HR** in response to changes in activity/stimulation, P waves present/normal	Infant:> 220/min Child: > 180/min **Minimal variability in HR** with Changes in activity/stimulation. P waves absent/abnormal

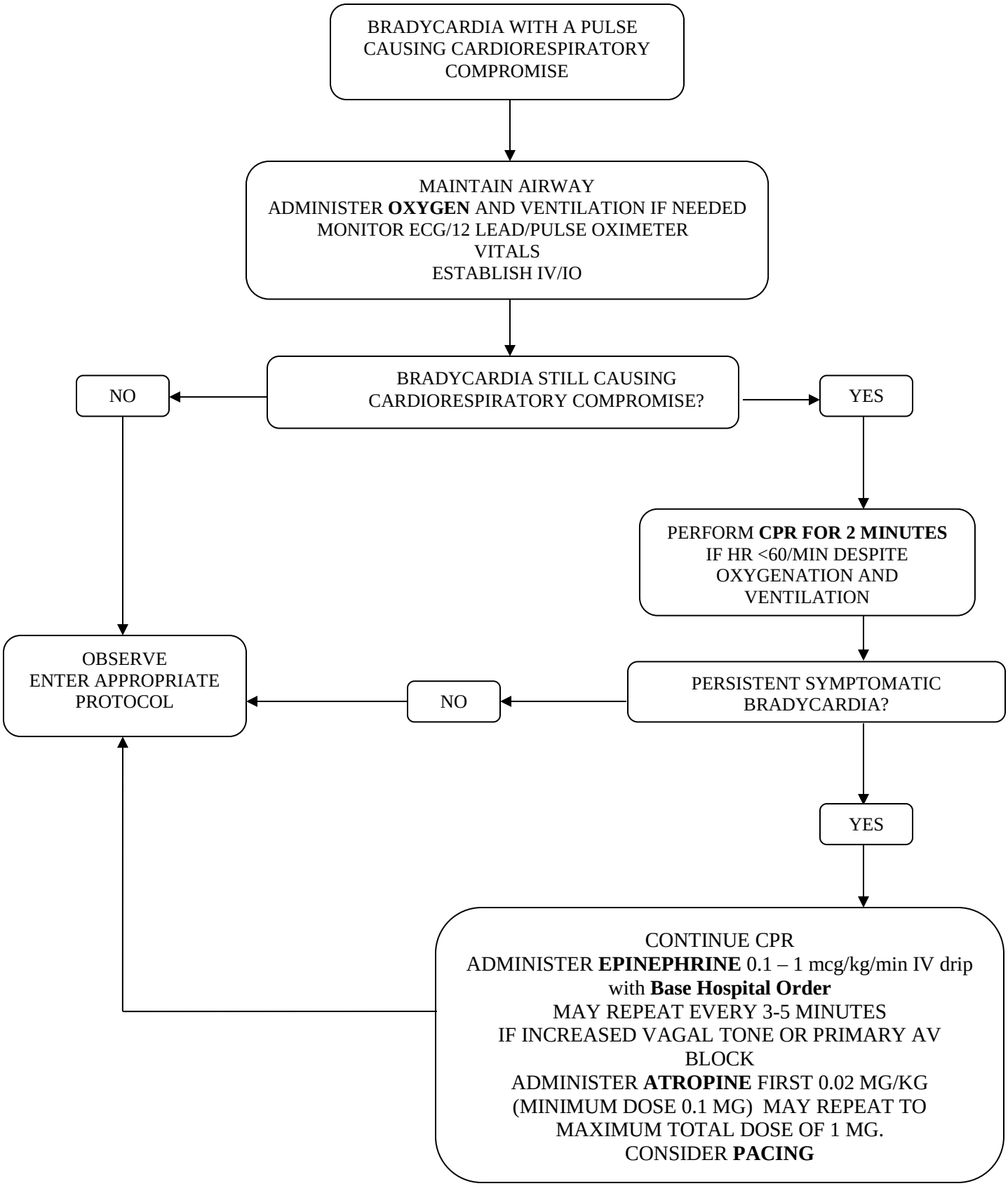
2. Common causes of sinus tachycardia include hypoxia, hypovolemia, fever, metabolic stress, injury, pain, anxiety, toxins, and anemia.

3. Supraventricular tachycardia often appears abruptly and may be intermittent.

4. Key questions to answer are:
   a. Are there serious signs and symptoms?
   b. Are the signs and symptoms related to the patient's fast heart rate?

5. Serious sign and symptoms (older children):
   - Chest pain
   - Shortness of breath
   - Decreased LOC
   - Weak, dizzy, lightheaded
   - Syncope
   - Hypotension

6. Serious signs and symptoms (infants):
   - Poor feeding
   - Rapid breathing
   - Irritability
   - Unusual sleepiness
   - Pale or blue skin
   - Vomiting


BRADYCARDIA WITH A PULSE CAUSING CARDIORESPIRATORY COMPROMISE
MAINTAIN AIRWAY
ADMINISTER **OXYGEN** AND VENTILATION IF NEEDED
MONITOR ECG/12 LEAD/PULSE OXIMETER
VITALS
ESTABLISH IV/IO
BRADYCARDIA STILL CAUSING CARDIORESPIRATORY COMPROMISE?
NO
YES
PERFORM **CPR FOR 2 MINUTES** IF HR <60/MIN DESPITE OXYGENATION AND VENTILATION
PERSISTENT SYMPTOMATIC BRADYCARDIA?
NO
OBSERVE
ENTER APPROPRIATE PROTOCOL
YES
CONTINUE CPR
ADMINISTER **EPINEPHRINE** 0.1 – 1 mcg/kg/min IV drip with **Base Hospital Order**
MAY REPEAT EVERY 3-5 MINUTES
IF INCREASED VAGAL TONE OR PRIMARY AV BLOCK
ADMINISTER **ATROPINE** FIRST 0.02 MG/KG (MINIMUM DOSE 0.1 MG) MAY REPEAT TO MAXIMUM TOTAL DOSE OF 1 MG.
CONSIDER **PACING**

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
PEDIATRIC BRADYCARDIA		
Policy Number: **305**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2015**

1. Symptomatic bradycardia is defined as a heart rate less than the normal rate for age associated with evidence of shock and/or respiratory distress or failure.

Age	Awake Rate	Mean	Sleeping Rate
Newborn to 3 months	85-205	140	80 to 160
3 months to 2 years	100 to 190	130	75 to 160
2 years to 10 years	60 to 140	80	60 to 90
> 10 years	60 to 100	75	50 to 90

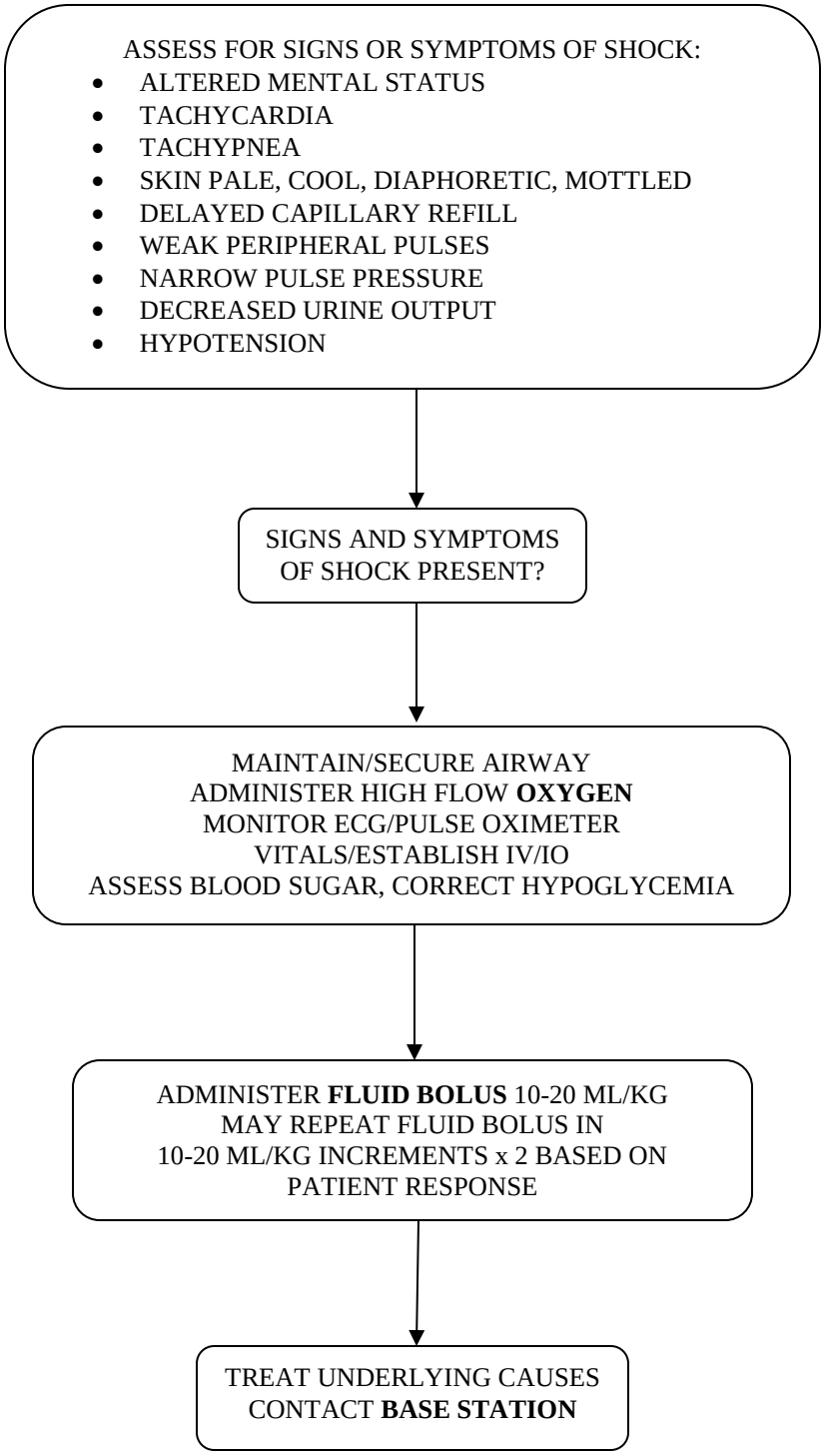
2. Bradyarrhythmias are the most common pre-arrest rhythms in children. They are often associated with hypoxia, hypotension and acidosis.

3. Epinephrine is indicated for persistent symptomatic bradycardia not responding to oxygenation and ventilation. The effects of epinephrine may be reduced by hypoxia and acidosis. Support of airway, ventilation, and perfusion (including CPR) is critical.

4. Atropine is indicated as first medication intervention for bradycardia secondary to increased vagal tone, cholinergic drug toxicity (eg, organophosphates), or AV block. If the patient fails to respond to atropine, epinephrine may be used.

5. Small doses of atropine may produce paradoxical bradycardia, therefore a minimum dose of 0.1 mg is recommended.

6. Cardiopulmonary compromise is characterized by:
    - Hypotension
    - Acutely altered mental status
    - Signs of shock


ASSESS FOR SIGNS OR SYMPTOMS OF SHOCK:
ALTERED MENTAL STATUS
TACHYCARDIA
TACHYPNEA
SKIN PALE, COOL, DIAPHORETIC, MOTTLED
DELAYED CAPILLARY REFILL
WEAK PERIPHERAL PULSES
NARROW PULSE PRESSURE
DECREASED URINE OUTPUT
HYPOTENSION
SIGNS AND SYMPTOMS OF SHOCK PRESENT?
MAINTAIN/SECURE AIRWAY
ADMINISTER HIGH FLOW OXYGEN
MONITOR ECG/PULSE OXIMETER
VITALS/ESTABLISH IV/IO
ASSESS BLOOD SUGAR, CORRECT HYPOGLYCEMIA
ADMINISTER FLUID BOLUS 10-20 ML/KG
MAY REPEAT FLUID BOLUS IN
10-20 ML/KG INCREMENTS x 2 BASED ON
PATIENT RESPONSE
TREAT UNDERLYING CAUSES
CONTACT BASE STATION

1. Fluid resuscitation is the primary treatment for hypovolemic shock. Children with hypovolemic shock who receive an appropriate volume of fluid within the first hour of resuscitation have the best chance for survival and recovery. Early recognition of compensated shock is critical for effective treatment and good outcomes. Timely administration of fluid is key to preventing the deterioration of a stable patient with compensated hypovolemic shock.

2. Correlation of blood pressure and fluid deficit is inaccurate. A child may have fluid deficits in excess of 50-100 ml/kg before hypotension presents.

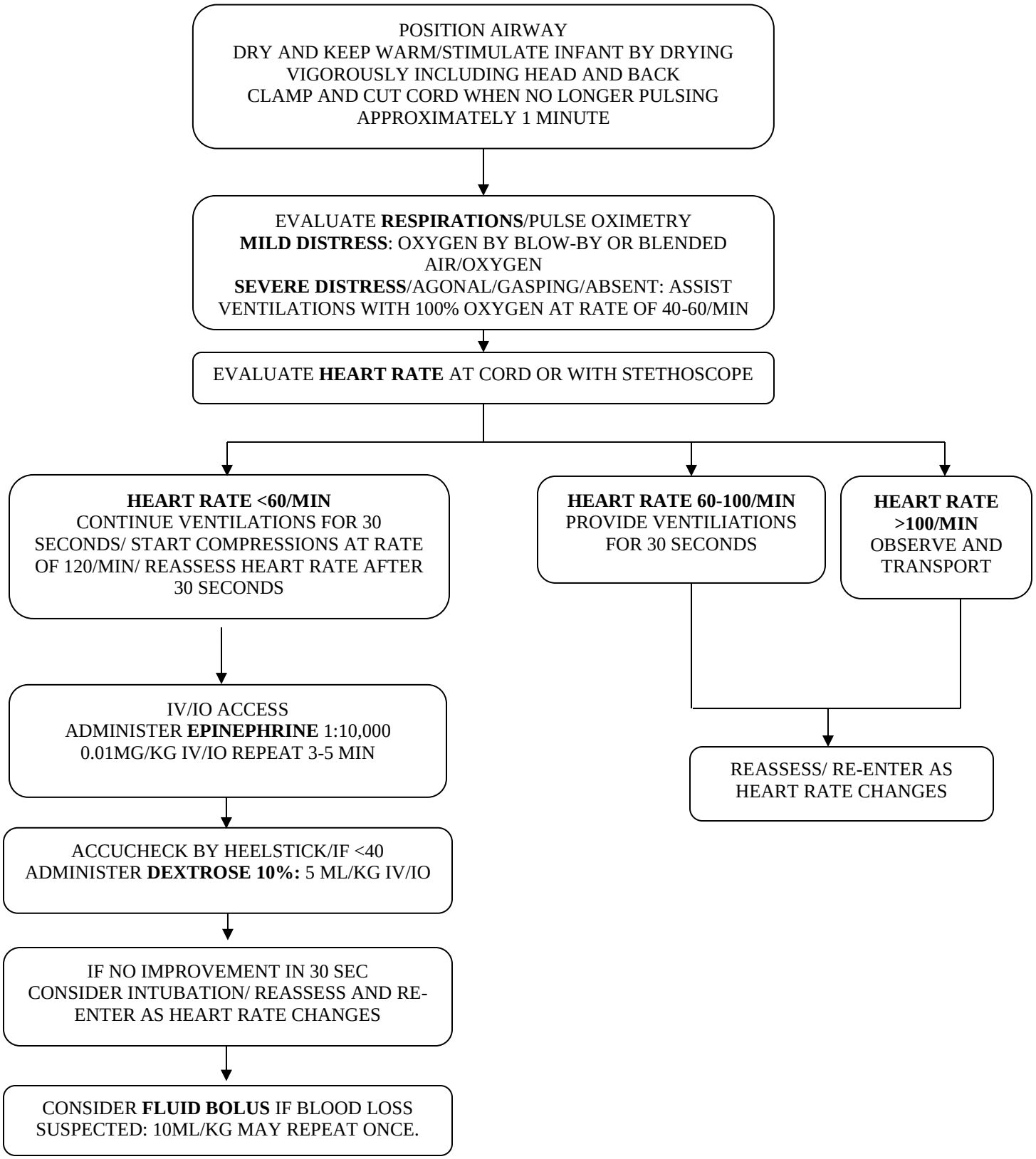
3. Fluid resuscitation for hypovolemic shock begins with a rapid infusion of 20 ml/kg of NS. Only 25% of the fluid administered is expected to stay in the intravascular space, the other 75% will be in the extravascular space. It will take approximately 3 mL of IV solution to replace 1 mL lost.

4. Fluid boluses may be repeated in 20 mL/kg increments up to 60 mL/kg. Make base station contact for further direction if child remains hypotensive after 60 mL/kg fluid challenge without response.

5. Frequently assess lung sounds for development of pulmonary edema or peripheral edema while administering fluid challenges.

6. Fluid resuscitation for suspected cardiogenic shock should be administered at a rate of 10 mL/kg NS over 10 minutes. Suspect cardiogenic shock when there are signs of pulmonary or venous congestion (dyspnea, distended neck veins, hepatomegaly) or if signs of pulmonary or venous congestion develop in response to fluid resuscitation.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
NEONATAL RESUSCITATION		
Policy Number: **307**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2015**



1. Neonatal resuscitation should be initiated on all premature infants who are reported to be over 20 weeks gestation or less than 28 days old. If over 28 days old refer to appropriate pediatric protocol. If unknown length of gestation, initiate neonatal resuscitation.

2. Low birth weight and premature infants are likely to become hypothermic despite traditional warming techniques. Extra care should be taken to avoid heat loss to the infant during resuscitation.

3. Hypoxia is the most common cause of bradycardia and cardiac arrest in neonates. This can be prevented by prompt suctioning and assisted ventilations. The primary measure of adequate ventilation is prompt improvement in heart rate.

4. Studies have shown that insufficient or excessive oxygenation of neonates may be harmful. Optimal oxygen saturation levels may not be achieved until 10 minutes following birth. Pulse oximeters should be attached to a preductal location (i.e. right upper extremity, usually the wrist or medial surface of the palm). Studies have discovered if the pulse oximeter is applied to the neonate and connected before it is turned on, the accuracy of the reading is increased. Initial resuscitation attempts on neonates with mild distress should include room air, or a mixture to achieve oxygen saturation levels titrated to the below chart:

Targeted Preductal SPO2 After Birth	
1 min	60-65%
2 min	65-70%
3 min	70-75%
4 min	75-80%
5 min	80-85%
10 min	95-95%

5. Perform chest compressions with both thumbs (the 2 thumb-encircling hands technique), on the lower third of the sternum, to a depth of 1/3 the chest. The recommended ratio for compressions to ventilations is 3:1 with 90 compressions and 30 breaths to achieve 120 events per minute.

6. Initiate transport for an infant in distress early in treatment sequence. Do not delay transport if difficulty with IV/IO access. Priorities should be good CPR and rapid transport.

7. Refer to Broselow Tape for specific pediatric doses.

8. Volume expansion should be considered when blood loss is known or suspected (pale skin, poor perfusion, weak pulse) and the infant's heart rate has not responded adequately to other resuscitative measures. Avoid giving volume expanders rapidly. Rapid infusions of large volumes have been related to intraventricular hemorrhage.

9. Narcan is not recommended as part of the initial resuscitation for newborns with respiratory depression. The focus needs to remain on effective ventilation and airway support for the persistently apneic newborn.

10. Perform APGAR score at 1 and 5 minutes after delivery.

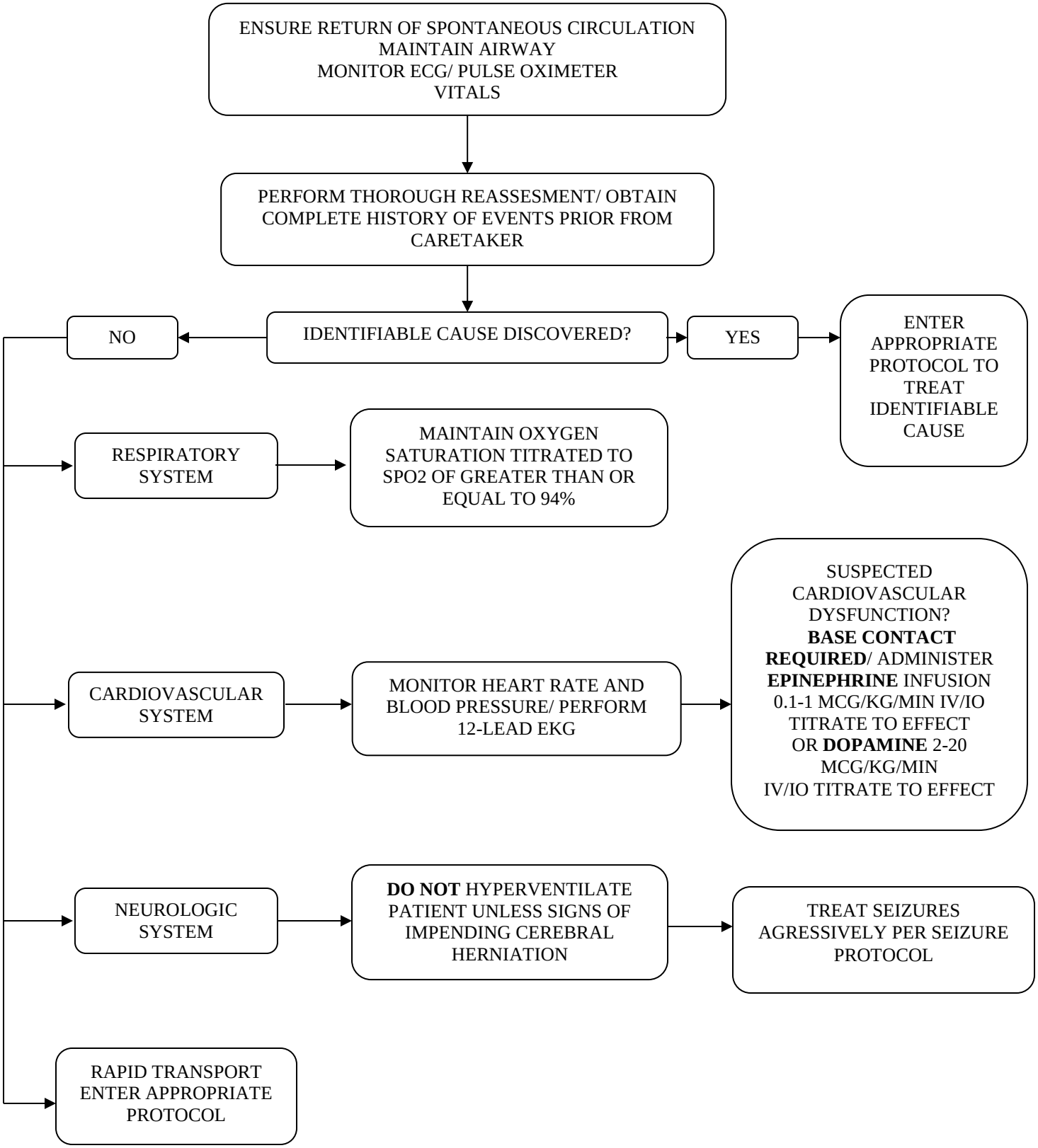
APGAR SCORE			
	0	1	2
Appearance	Blue or Pale	Body pink, limbs blue	Complete pink
Pulse	0	Less than 100	100 or greater
Grimace	No response	Grimace	Cough, sneeze, cry
Activity	Flaccid	Some flexion	Active movement
Respiratory Effort	Absent	Slow, irregular, weak cry	Strong cry

Information based upon the 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: Neonatal Resuscitation.

11. Perform heelstick. If <40mg/dL administer 5ml/kg D10 IV.

PEDIATRIC POST RESUSCITATION CARE

Policy Number: **308**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2014**



1. The goals of post resuscitation care are to preserve neurologic function, prevent secondary organ injury, treat identifiable causes, and enable the patient to arrive at the destination facility in an optimal physiologic state.

2. Frequent reassessment of the patient is necessary because cardiorespiratory status may deteriorate.

3. AHA data suggests that hyperoxemia enhances the oxidative injury following reperfusion. One goal of the post resuscitation phase is to reduce the risk of oxidative injury while maintaining adequate oxygen delivery. Use the lowest inspired oxygen concentration that will maintain transcutaneous oxygen saturation at least 94%.

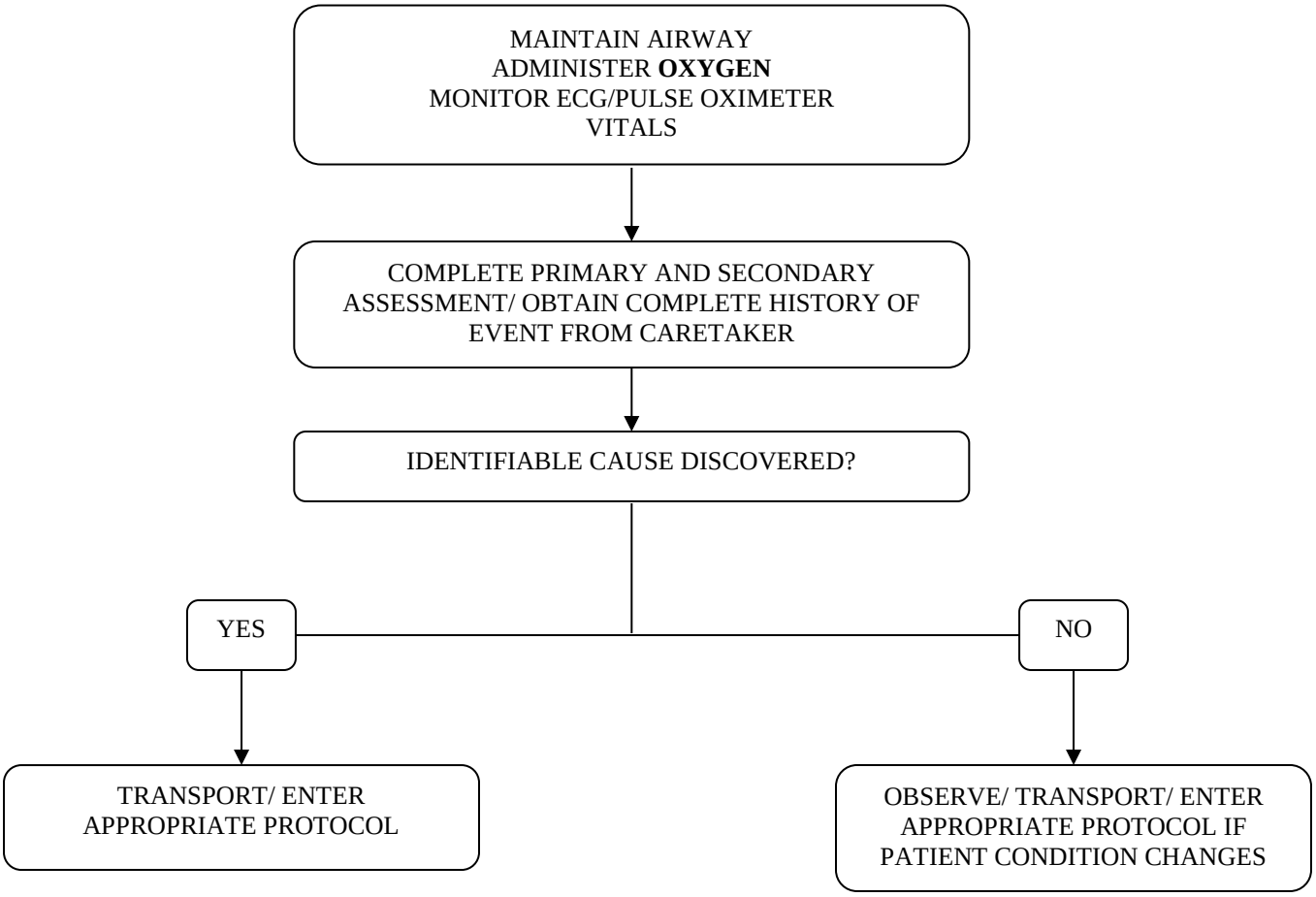
4. Epinephrine:
    - low-dose infusions (<0.3 mcg/kg/min) generally produce tachycardia, potent inotropy, and decreased systemic vascular resistance
    - Higher dose infusions (>0.3 mcg/kg/min) cause vasoconstriction.
    - Titrate drug to desired effect.
    - May be preferable to dopamine in patients (especially infants) with marked circulatory instability and decompensated shock.

5. Dopamine: Titrate dopamine to treat shock that is unresponsive to fluids and when systemic vascular resistance is low.

6. Do not routinely provide excessive ventilation or hyperventilation. Hyperventilation may impair neurologic outcome by adversely affecting cardiac output and cerebral perfusion.

7. Signs of impending cranial hemorrhage:
    - Dilated pupil(s) not responsive to light
    - Bradycardia
    - Hypertension

8. Consider transport to facility capable of therapeutic hypothermia for children who remain comatose after resuscitation from cardiac arrest.


MAINTAIN AIRWAY
ADMINISTER **OXYGEN**
MONITOR ECG/PULSE OXIMETER
VITALS
COMPLETE PRIMARY AND SECONDARY ASSESSMENT/ OBTAIN COMPLETE HISTORY OF EVENT FROM CARETAKER
IDENTIFIABLE CAUSE DISCOVERED?
YES
NO
TRANSPORT/ ENTER APPROPRIATE PROTOCOL
OBSERVE/ TRANSPORT/ ENTER APPROPRIATE PROTOCOL IF PATIENT CONDITION CHANGES

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
Brief Resolved Unexplained Event (BRUE)		
Policy Number: **309**	Effective Date: **July 1, 2014**	Revision Date: **September 1st , 2016**

1. A Brief Resolved Unexplained Event is an event that is frightening to the observer (may think infant has died) and involved one or more of the following:

    - Apnea (central or obstructive)
    - Color Change (cyanosis, pallor, erythema)
    - Marked change in muscle tone (limpness)
    - Choking or gagging

2. It usually occurs in infants less than 12 months of age, though any child with symptoms described under 2 years of age may be considered an ALTE.

3. Most patients have a normal physical exam when assessed by pre-hospital personnel. Approximately half of the cases have no known cause, but the remainder of the cases have a significant underlying cause such as, but not limited to:

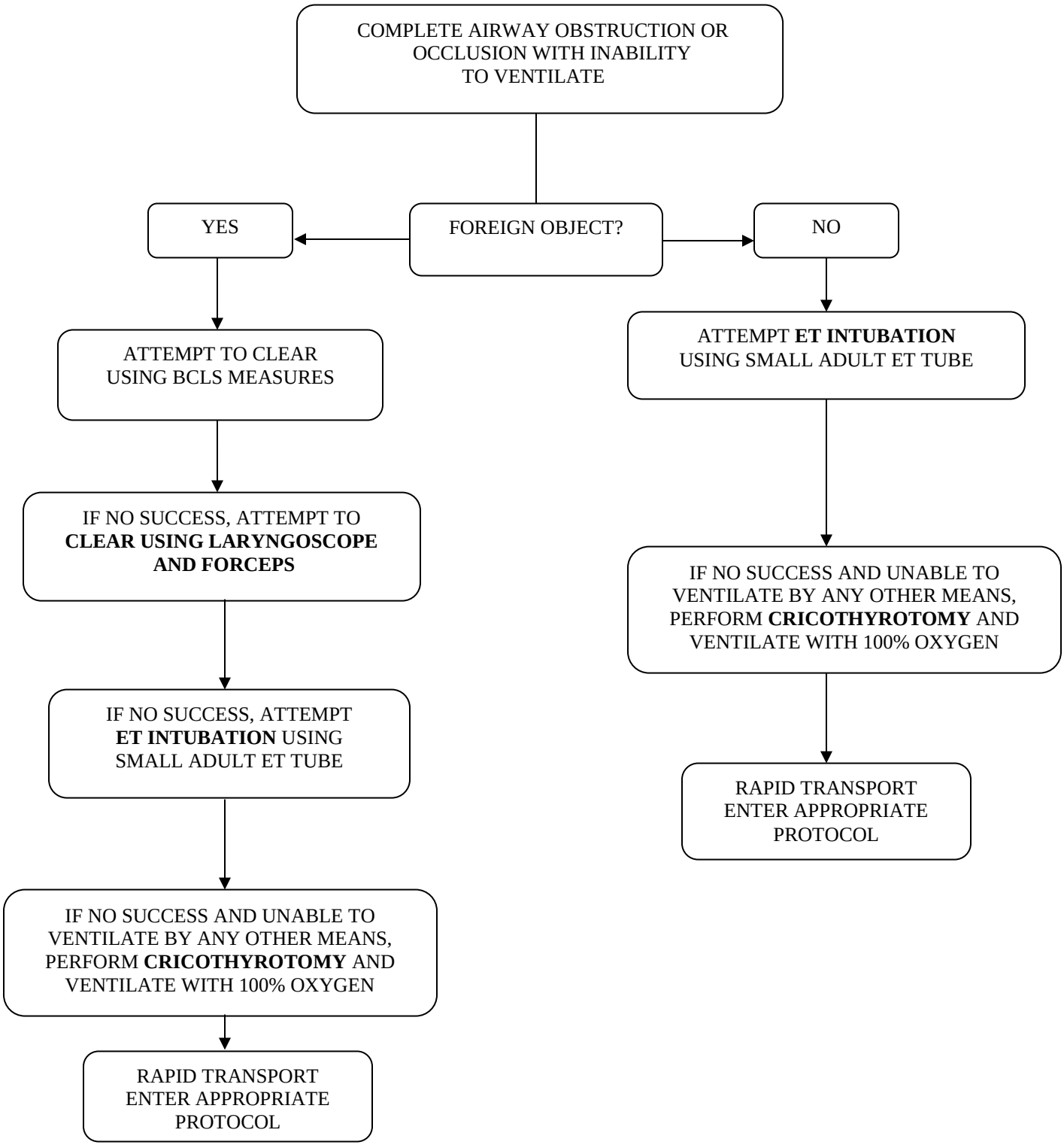
    - Airway Disease
    - Cardiac Arrhythmias/anomalies
    - Child Abuse
    - Gastroesophageal reflux
    - Infantile Botulism
    - Infections
    - Inborn errors of metabolism
    - Intracranial hemorrhage
    - Meningitis
    - "Near-miss" SIDS
    - Pertussis (whooping cough)
    - Respiratory Syncytial Virus
    - Seizure
    - Sepsis

4. Obtain history of event, duration and severity, whether patient was awake or asleep at the time of the episode, and what resuscitative measures were done.

5. Obtain past medical history, including chronic diseases, seizure activity, current or recent infections, history if gastroesophageal reflux, recent trauma, medication history, and mixing of formula.

SECTION 400: MEDICAL PROTOCOLS

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
AIRWAY OBSTRUCTION		
Policy Number: **401**	Effective Date: **November 1, 1991**	Revision Date: **June 1, 2010**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
AIRWAY OBSTRUCTION		
Policy Number: **401**	Effective Date: **November 1, 1991**	Revision Date: **June 1, 2010**

1. Airway obstruction is characterized by the inability to speak, no respiratory tidal volume and decline of condition. Treatment of complete airway obstruction using this protocol takes precedence over all other protocols.

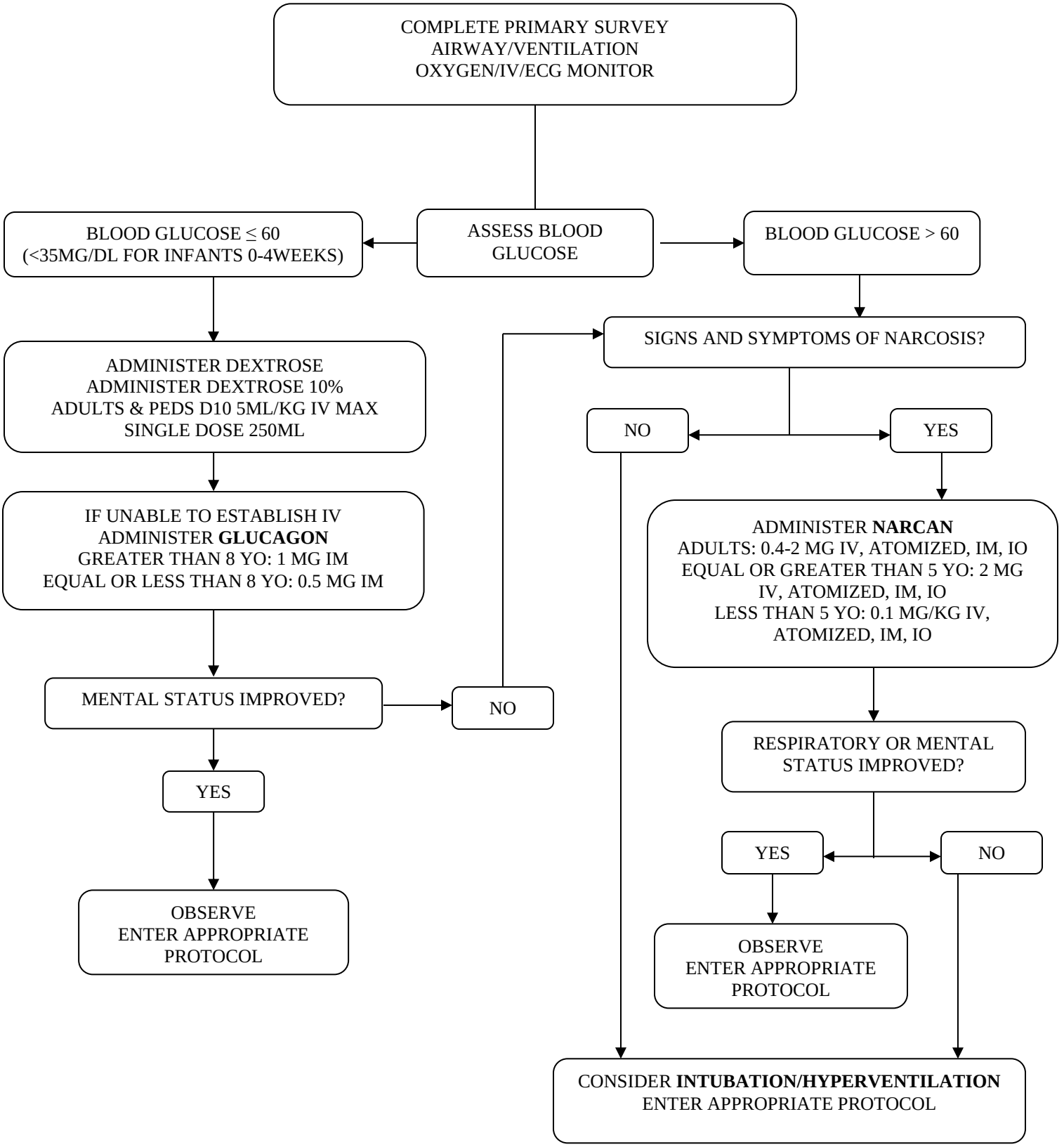
2. Laryngoscopy and assessment of factors leading to the event may be required to adequately assess the cause of airway obstruction, which may be from a foreign object or laryngeal swelling and spasm caused by burns, anaphylaxis, or epiglottitis. If epiglottitis is suspected, do not attempt to visualize airway until prepared to intubate.

3. Heimlich maneuver is the current accepted practice for airway obstruction due to foreign object.

4. Successful placement of a smaller size or pediatric ET tube is less invasive than a cricothyrotomy. If unable to ventilate by any other means, cricothyrotomy must be done quickly. Cricothyrotomy will only be effective if the obstruction is above the level of the cricothyroid membrane. Cricothyrotomy is considered a short-term, temporary airway. If cricothyrotomy is performed, patient should be transported to the closest receiving hospital.

5. It is indicated to use the treatment in this protocol as rapidly as possible when indicated. When the airway is successfully cleared, ventilate and refer to the appropriate protocol for further treatment.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
ALTERED MENTAL STATUS		
Policy Number: **402**	Effective Date: **November 1, 1991**	Revision Date: **July 1, 2015**



1. 10% dextrose should only be administered when blood glucose is below 60. A pre-dextrose blood draw is indicated prior to 10% dextrose administration when possible.

2. If the patient is presenting with an altered mental status, blood sugar between 60 and 80mg/dL, and has a history of diabetes, only after all other causes of altered mentation have been ruled out or signs and symptoms of hypoglycemia are present, 10% dextrose may be administered. Assessment, signs, symptoms and history should be thoroughly documented on the ePCR.

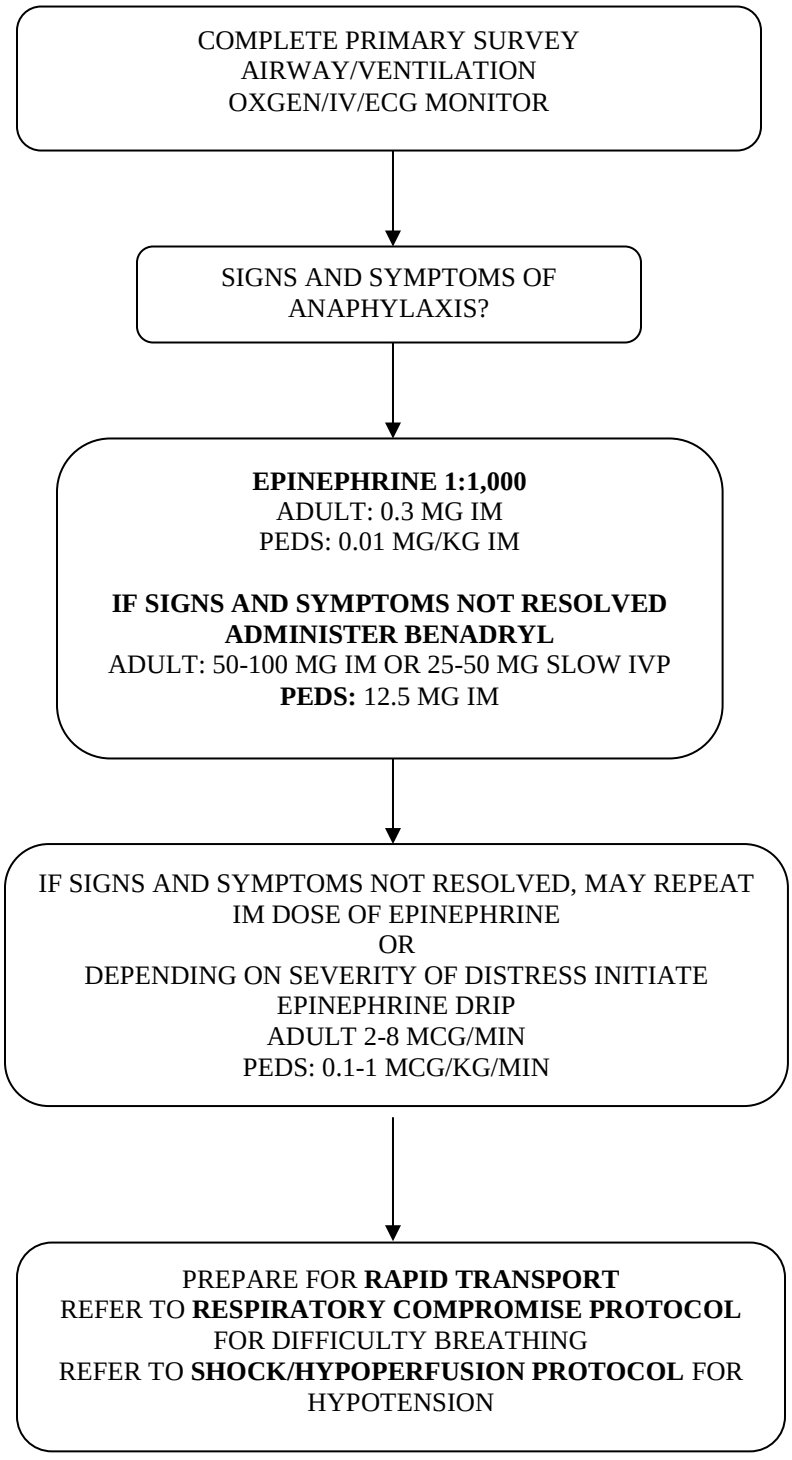
3. Narcan is intended to reverse respiratory depression associated with narcotic use. Narcan may be withheld if respiratory depression is not present. The goal is to titrate Narcan to improve respiratory distress but not precipitate severe withdrawals. Generally a full 2 mg dose should not be given as an immediate bolus. Narcan may be repeated as needed after the first dose. Narcan may also be given IM for the second patient dose when a slower rate of action onset is indicated to prevent reoccurrence of the condition.

4. If treatment is unsuccessful, re-assessment of the patient is indicated with examination of factors leading to the event.

5. Hyperventilation is no longer advocated for routine head trauma. It is only indicated in the patient who is rapidly deteriorating and manifesting signs of impending herniation, such as:

    - Rapidly deteriorating mental status
    - Contralateral weakness/paralysis
    - Unilateral dilated pupil
    - Decerebrate or decorticate posturing

6. If possibility of seizure exists, refer to seizure activity protocol. If ALOC suspected due to oral ingestion, refer to poisoning ingestion overdose protocol.


COMPLETE PRIMARY SURVEY
AIRWAY/VENTILATION
OXGEN/IV/ECG MONITOR
SIGNS AND SYMPTOMS OF ANAPHYLAXIS?
EPINEPHRINE 1:1,000
ADULT: 0.3 MG IM
PEDS: 0.01 MG/KG IM
IF SIGNS AND SYMPTOMS NOT RESOLVED ADMINISTER BENADRYL
ADULT: 50-100 MG IM OR 25-50 MG SLOW IVP
PEDS: 12.5 MG IM
IF SIGNS AND SYMPTOMS NOT RESOLVED, MAY REPEAT IM DOSE OF EPINEPHRINE
OR
DEPENDING ON SEVERITY OF DISTRESS INITIATE EPINEPHRINE DRIP
ADULT 2-8 MCG/MIN
PEDS: 0.1-1 MCG/KG/MIN
PREPARE FOR RAPID TRANSPORT
REFER TO RESPIRATORY COMPROMISE PROTOCOL FOR DIFFICULTY BREATHING
REFER TO SHOCK/HYPOPERFUSION PROTOCOL FOR HYPOTENSION

1. Signs and Symptoms of Anaphylaxis:

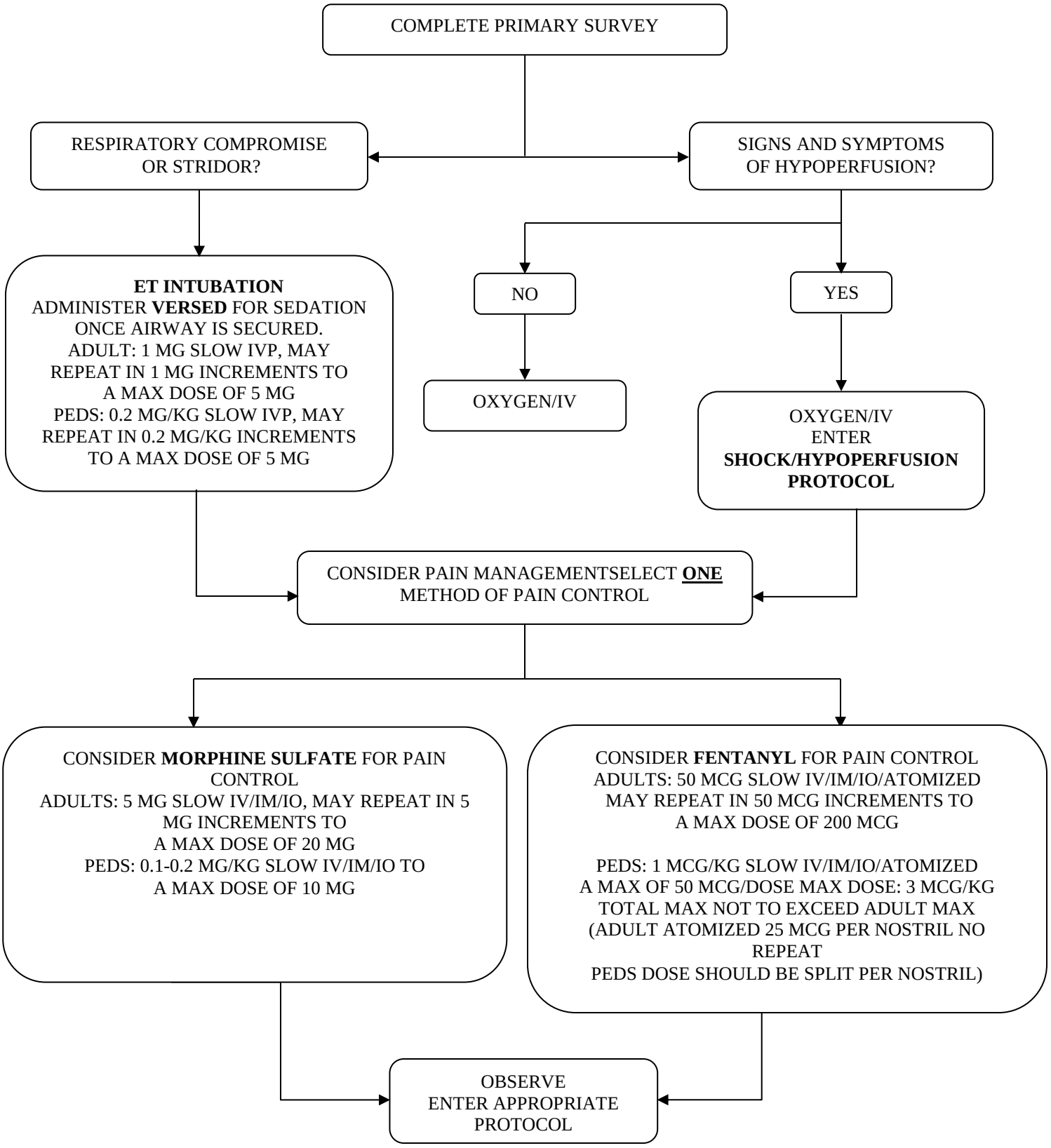
    - Itching and hives
    - Respiratory distress
    - Airway occlusion
    - Swelling to face and/or tongue
    - Tightness in throat and /or chest
    - Loss of voice
    - Hypotension/shock

2. Administer IM epinephrine for minor allergic reaction involving minimal respiratory distress or non-life-threatening signs/symptoms; IV Drip epinephrine for major allergic reactions/anaphylaxis or fast onset of symptoms.

3. Benadryl is indicated for use after epinephrine in patients with respiratory distress or hypoperfusion. Benadryl is the primary therapy for idiosyncratic reactions to Haldol or phenothiazine group medications. For Haldol or phenothiazine medication group reactions, an IV and Benadryl IV push is indicated with bypass of other treatment listed in this protocol.

4. If treatment is not effective at this point, rapid transport and thorough re-assessment of patient and factors leading up to the event are indicated. Allergic reactions and anaphylaxis commonly present with extreme variation of signs and symptoms between patients.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
BURNS		
Policy Number: **404**	Effective Date: **November 1, 1991**	Revision Date: **September 14, 2017**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
BURNS		
Policy Number: **404**	Effective Date: **November 1, 1991**	Revision Date: **September 14, 2017**

1. Burns associated with respiratory compromise (bronchial swelling &spasm) or respiratory stridor (laryngeal & tracheal swelling and spasm) warrant aggressive airway control and ventilation if possible. If respiratory stridor exists, the higher the pitch of stridor – the smaller the airway opening. ET Intubation is indicated prior to complete airway occlusion. If airway occlusion occurs, refer to airway obstruction protocol.

2. Only one type of pain medication may be given to any patient
   Fentanyl or Morphine sulfate for pain control is contraindicated in patients with hypoperfusion or respiratory compromise or potential for deterioration of blood pressure or respiratory status. Fentanyl or Morphine sulfate for pain control may be given to patients with respiratory compromise once the airway is secured by ET intubation.

3. Hypoperfusion associated with large body surface thermal burns is common but not usually seen in the first twelve hours. If hypoperfusion exists, consider underlying trauma

4. Interstitial swelling and circumferential extremity burns may cause problems with infusion of IV fluids. Whenever possible establish an IV in an unaffected or least affected extremity. If no options are available an IV may be established in a burned extremity though the IV bag may need to be pressurized (blood pump or BP cuff) to maintain IV flow. Use only amount of pressure needed to maintain flow.

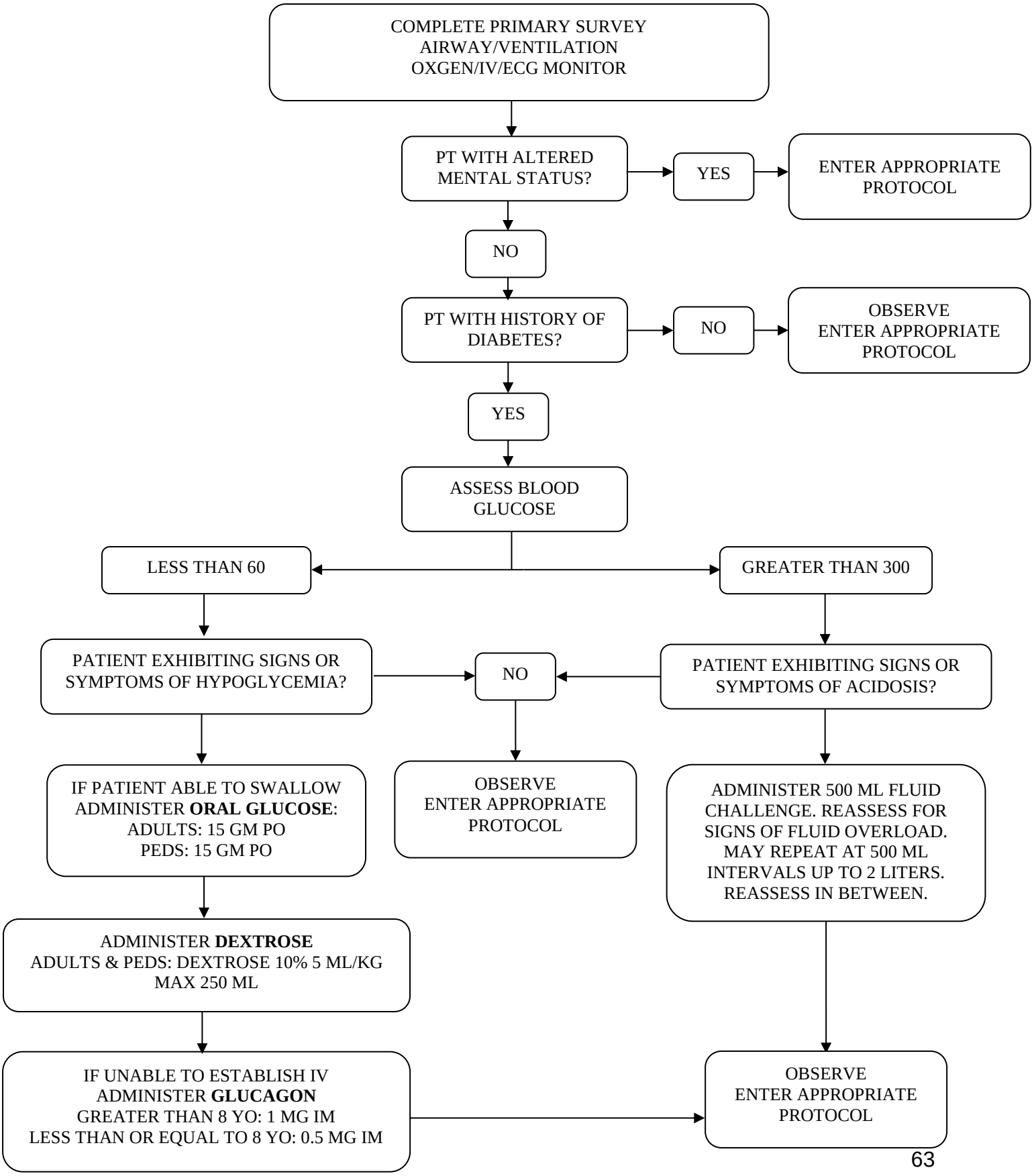
5. With chemical burns, consider the Hazardous Materials emergency potential and personnel safety. Patients that are contaminated with hazardous chemicals must be decontaminated prior to unprotected personnel access or standard means of transport.

6. Burns without trauma shall be transported to a designated burn center. Burns with trauma should be transported to a trauma center.

7. Burns to large body surface areas should be cooled initially to stop burning process and then wrapped in dry, sterile dressing to prevent hypothermia.

8. If patient is experiencing nausea/vomiting from analgesia administration, refer to nausea/vomiting protocol for treatment.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
DIABETIC EMERGENCY		
Policy Number: **405**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2015**



1. If patient has an altered level of consciousness refer to "Altered Mental Status" protocol first. If "Altered Mental Status" protocol was already referred to, continue treatment on this protocol for the patient with a diabetic emergency.

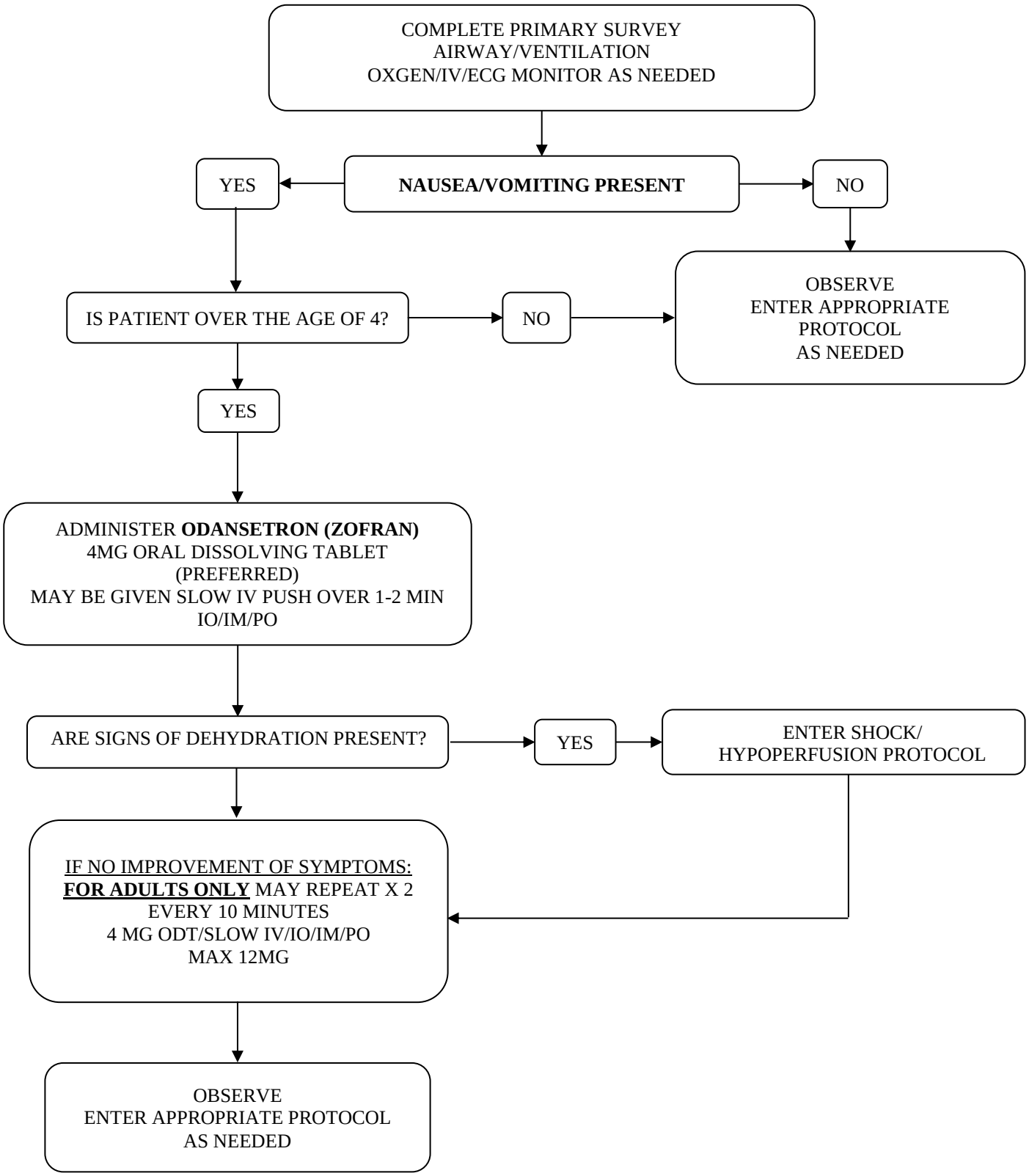
2. Assessment of patient should include attempting to locate Med Alert bracelet/pendant, patient refrigerator or belongings for insulin, and assessment of abdomen for indications of insulin injection.

3. Frequently assess lung sounds for development of pulmonary edema or peripheral edema while administering fluid challenges.

4. Common signs and symptoms of diabetic emergencies are below:

Hypoglycemia	**Diabetic Ketoacidosis**	**Hyperglycemic Hyperosmolar Nonketonic (HHNK) Acidosis**
Weak, rapid pulse	Tachycardia	Tachycardia
Normal or shallow respirations	Deep, rapid respirations (Kussmaul's respirations)	Normal
Cold, clammy skin	Warm, dry skin and mucous membranes	Warm, dry skin and mucous membranes
Weakness, uncoordination	Fever	Orthostatic hypotension
Headache	Nausea/vomiting	Vomiting
Irritable, agitated behavior	Abdominal pain	Decreased mental function/ lethargy
Decreased mental function or bizarre behavior	Decreased mental function/ restlessness	Coma
Coma	Coma	Possible seizures
Seizures	Polyuria, polydipsia, polyphagia	
	Fruity odor on breath	

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
NAUSEA/VOMITING		
Policy Number: **406**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2014**



1. Vomiting is a sign and symptom of illness or disease. Assess patient for potential illness or injury.

2. Ondansetron (Zofran) is indicated for patients with nausea/vomiting. IV administration must be given over 1-2 minutes. **Rapid administration results in increased side effects and may result in a syncopal episode.**

3. Side effects include hypotension, dizziness, anaphylaxis, flushing, rash, headache, diarrhea, syncope, and QT prolongation.

4. Ondansetron (Zofran) is contraindicated in patients:

    - Less than 4 years of age
    - History of hypersensitivity to Zofran or similar medications (Dolasetron (Anzemet), Granisetron (Kytril), or Palonosetron (Aloxi).
    - Patients taking Apomorphine (Apokyn, Ixense, Spontane, Uprima) – an injectable drug for Parkinson's disease and in rare cases used for erectile dysfunction.
    - Do not give oral tablet or solution to known Phenylketonurics (contains phenylalanine).

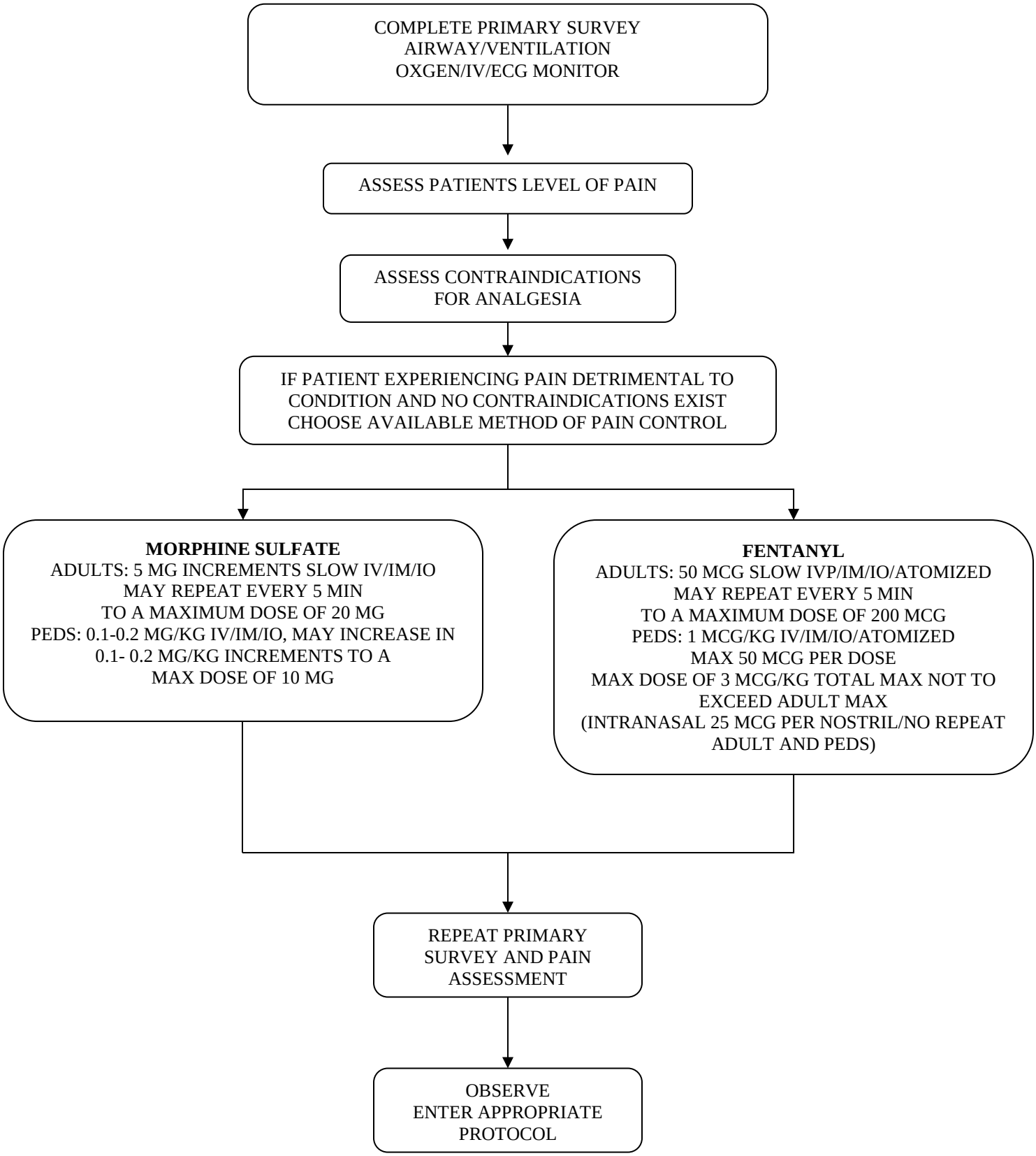
5. Oral disintegrating tablets can be placed on tongue and do not need to be chewed. Medication will dissolve and be swallowed with saliva. This is the preferred method of drug administration.

6. Ondansetron (Zofran) can be used in pregnancy and breast-feeding mothers (pregnancy class B).

7. Ondansetron (Zofran) may be used for nausea/vomiting associated with use of Morphine (see pain protocol).

8. Max dose of Ondansetron (Zofran) is 4mg for pediatrics and 12mg for adults, contact base hospital for further orders.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
PAIN CONTROL		
Policy Number: **407**	Effective Date: **July 15, 2004**	Revision Date: **July 1, 2015**



1. Analgesia Table:

Contraindications	**Cautions**	**Side Effects**
HR<50 BP<90 Systolic	Use with Caution in elderly	Respiratory Depression
Active Labor	Head Trauma	Hypotension/Bradycardia
Respiratory Depression	Abdominal Pain	Altered Mental Status
Altered Mental Status		Nausea/Vomiting

2. Morphine Sulfate should be administered slowly and cautiously for children weighing less than 100 pounds. Blood pressure and respiratory rate must be closely observed during administration.

3. Morphine Sulfate masks symptoms of pain making diagnosis of pain more difficult and should be reserved for pain which is detrimental to patient condition.

4. Fentanyl is 100 times more potent than Morphine (100 mcg of Fentanyl = 10 mg of Morphine).

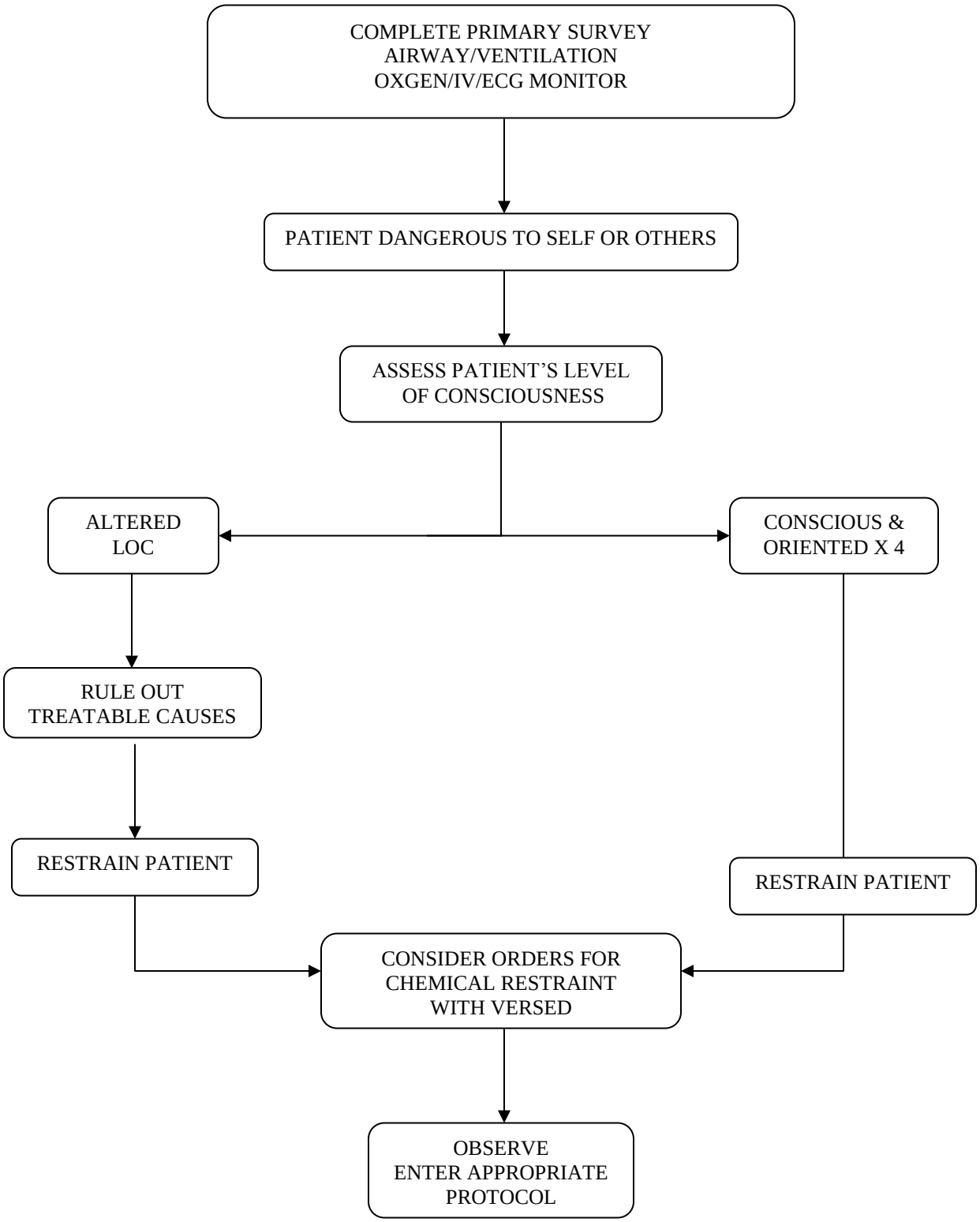
5. Have Narcan/Atropine and respiratory assistance readily available.

6. Fentanyl may be given slow IVP (over 2 minutes)/IM/IO/Atomized. Intranasal dose must be split 25 mcg per nostril NO REPEAT.

7. In the case of infants, children or adults unable to verbally communicate where a painful situation may exist, vital signs should be assessed for elevations in respiratory rate and heart rate as indicators of pain.

8. If patient is experiencing nausea/vomiting from analgesia administration, refer to nausea/vomiting protocol for treatment.

9. Altered mental status is considered anything below the patients' baseline mental status.


COMPLETE PRIMARY SURVEY
AIRWAY/VENTILATION
OXGEN/IV/ECG MONITOR
PATIENT DANGEROUS TO SELF OR OTHERS
ASSESS PATIENT'S LEVEL
OF CONSCIOUSNESS
ALTERED
LOC
CONSCIOUS &
ORIENTED X 4
RULE OUT
TREATABLE CAUSES
RESTRAIN PATIENT
RESTRAIN PATIENT
CONSIDER ORDERS FOR
CHEMICAL RESTRAINT
WITH VERSED
OBSERVE
ENTER APPROPRIATE
PROTOCOL

1. Patients should be reassured and their cooperation enlisted whenever possible. Restraint should be only be used when the patient poses a danger to self or others and all other measures to control patient behavior are inadequate.

2. 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 restraints may be used to secure the patient's arms at the wrists or four-point restraints may be used secure the patient's arms at the wrists and legs at the ankles.

3. Only commercially manufactured devices intended for restraint may be used to restrain a patient.

4. Restrained patients must be transported in a position that allows for monitoring and protection of the patient's airway.

5. Restraints should be secured to a non- moving part of a gurney and tied in a fashion that will allow for quick release.

6. 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.

7. Handcuffs may only be used as restraint devices when a law enforcement officer accompanies the patient in the ambulance.

8. Transfer of patients that have been restrained requires careful and frequent monitoring of airway, breathing, and circulation. This shall include pulse oximetry and ECG monitoring when possible. Capillary refill, warmth, and movement distal to the restraint must be assessed every fifteen (15) minutes after restraint application and documented on the ePCR.

9. Transferring physicians that order the application or maintenance of physical or chemical restraint must provide a written order.

10. Additional required documentation specific to this protocol:

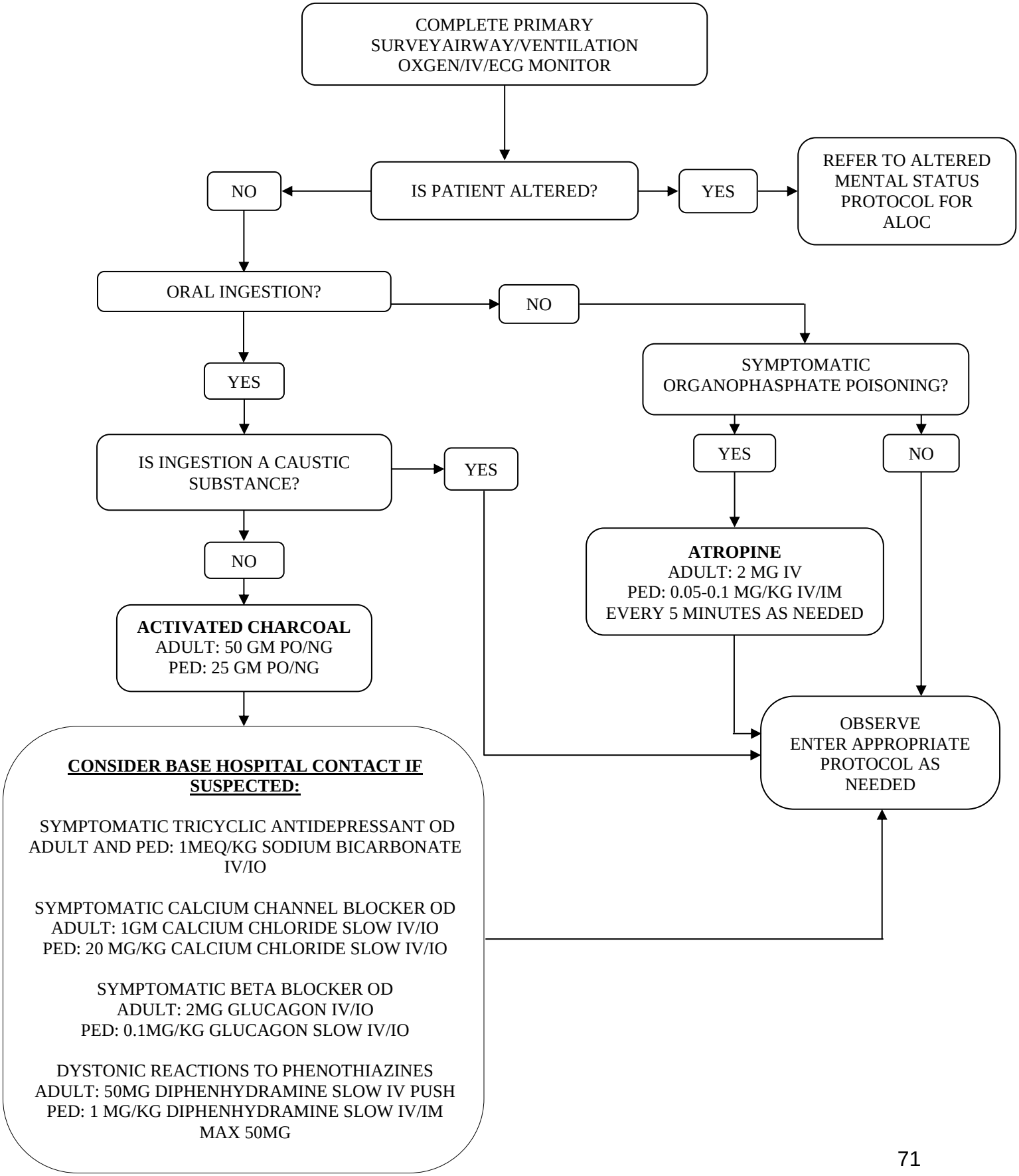
    - Reasons restraints were applied

    - Agencies and individuals involved in the application of the restraints

    - Capillary refill, warmth, and movement distal to the restraint

11. Chemical Restraint requires a BASE STATION order. Indications for chemical restraint would include extreme agitation in which patient cannot be safely restrained using physical restraints and is a danger to ambulance personnel and/or self. The paramedic should be prepared to handle respiratory depression in chemically restrained patients.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
POISONING INGESTION OVERDOSE		
Policy Number: **409**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2014**



POISONING INGESTION OVERDOSE

Policy Number: **409**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2014**

1. The primary goal in the treatment of an oral ingestion is to prevent the absorption of the toxic substance by the small intestine.

2. Activated charcoal is considered safe and effective for most ingestions. Activated charcoal should not be used if the toxin is a strong acid, strong alkali, or ethanol. Activated charcoal should not be used if a specific antidote exists.

3. In caustic ingestions, do not give anything by mouth.

4. Insecticides (Organophosphates, Carbonates): decontaminate as soon as possible; avoid contamination of prehospital personnel; assess for SLUDGE (Salivation, Lacrimation, Urination, Diaphoresis/Diarrhea, Gastric Hypermotility, and Emesis/Eye [small pupils and/or blurry vision]). Administer Atropine 2.0mg IVP slowly. If no tachycardia or pupil dilation, may give repeat dose every 5 minutes as needed. Minimum pediatric dose 0.1mg.

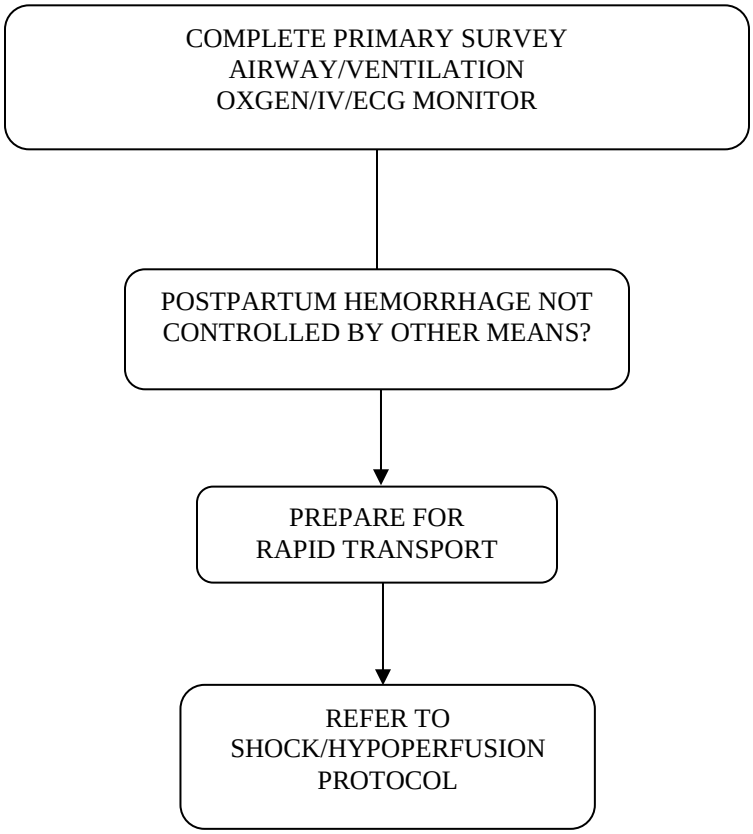
5. Continued assessment of patients with tricyclic ingestions is very important. These patients can deteriorate rapidly. In the presence of life-threatening dysrhythmias hyperventilate; administer 1mEq/kg Sodium Bicarbonate. Refer to Seizure or Shock/Hypoperfusion protocol as needed.

6. Calcium Channel Blockers: if bradycardic and/or hypotensive, Base Hospital Contact Required for administration of 1 gram Calcium Chloride slow IV push. Enter appropriate protocol as needed

7. Beta Blockers: If bradycardic and/or hypotensive, Base Hospital Contact Required for administration of 2 mg Glucagon. Enter appropriate protocol as needed.

8. Dystonic reactions to phenothiazine's or butyrphenone (Haldol) should be treated with 50 mg Diphenhydramine slow IV push preferred, may give IM. Signs and symptoms include fixed, deviated gaze to one side of the body, painful spasm of trunk or extremity muscles, and difficulty speaking. Enter appropriate protocol as needed.

9. Information gathered at the scene may be very valuable for correct diagnosis and directing therapy. Bring all medication bottles to hospital. However, do not delay transport of a potentially unstable patient for prolonged questioning and/or search for containers.

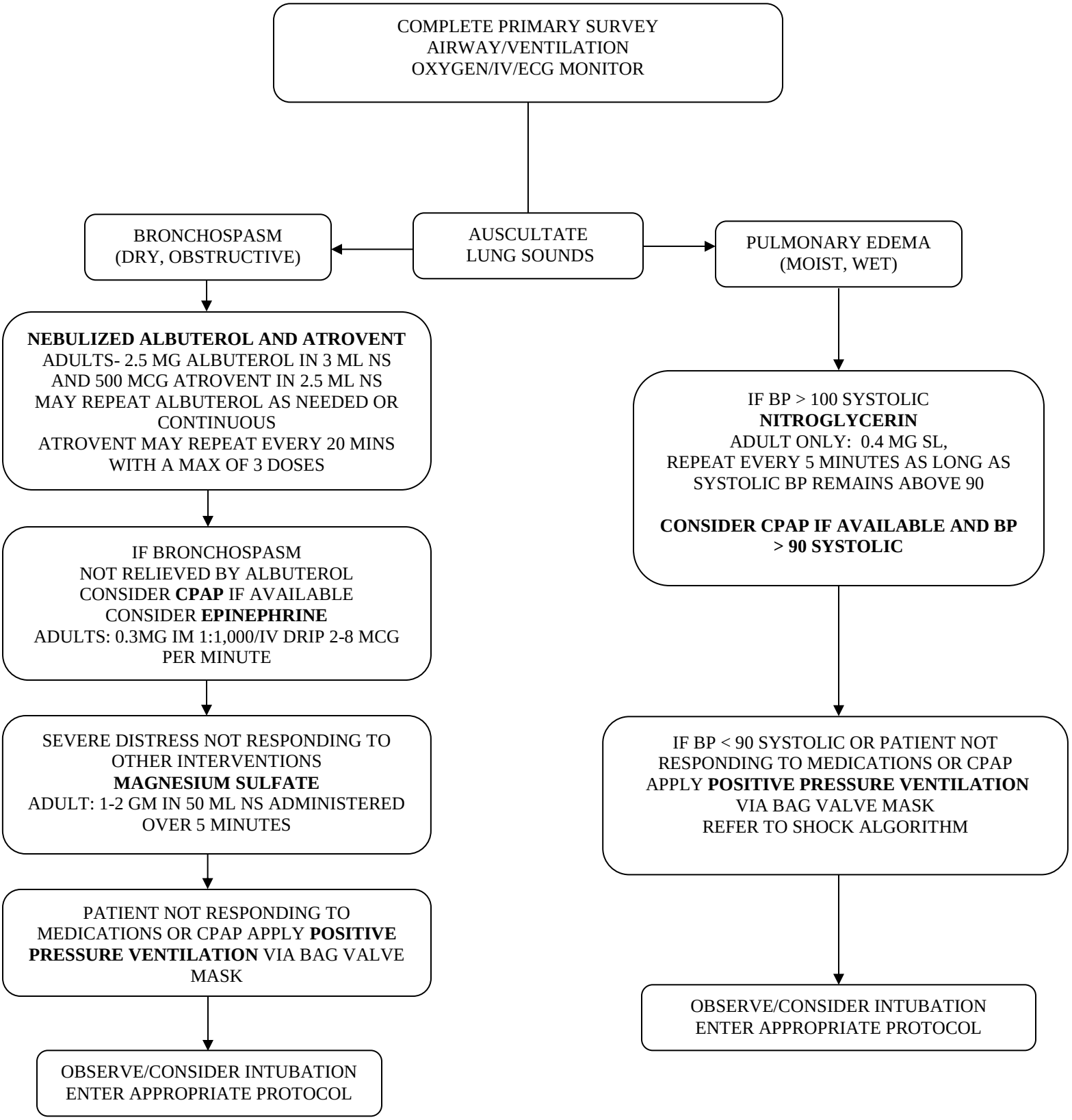

COMPLETE PRIMARY SURVEY
AIRWAY/VENTILATION
OXGEN/IV/ECG MONITOR
POSTPARTUM HEMORRHAGE NOT CONTROLLED BY OTHER MEANS?
PREPARE FOR RAPID TRANSPORT
REFER TO SHOCK/HYPOPERFUSION PROTOCOL

1. Postpartum hemorrhage is characterized by acute blood loss of >500 mL after delivery of the newborn.

2. BLS measures should be used to control postpartum hemorrhage before ALS interventions are considered. BLS procedures include:

    - Direct pressure for external lacerations
    - Fundal massage
    - Place infant to breast, encourage breastfeeding

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
RESPIRATORY COMPROMISE-ADULT		
Policy Number: **411**	Effective Date: **November 1, 1991**	Revision Date: **July 1, 2015**



1. Complications of epinephrine for **bronchospasm** include tachycardia and myocardial irritability. Use extreme caution with patients having pre-existing cardiac problem history, older patients with tachycardia, or patients showing ventricular ectopy on the ECG monitor.

2. Subcutaneous epinephrine is indicated with minor to moderate cases of **bronchospasm** not responsive to albuterol. IV push epinephrine is indicated for severe bronchospasm or rapid onset of bronchospasm that is not responsive to albuterol.

3. Administer nitroglycerin to reduce myocardial workload and oxygen consumption in cases of **pulmonary edema**. If an IV is established, morphine administration is indicated. Monitor vital signs carefully during any nitroglycerin or morphine administration due to vasodilation effects of these medications.

4. In cases of **pulmonary edema** where BP is under 100 mm/hg systolic, administration of vasodilator medication may further compromise the patient condition. Endotracheal intubation with positive pressure ventilation, or just positive pressure ventilation if unable to intubate can be an effective means of treatment for pulmonary edema. Consider sedation with Midazolam after intubation of conscious patients.

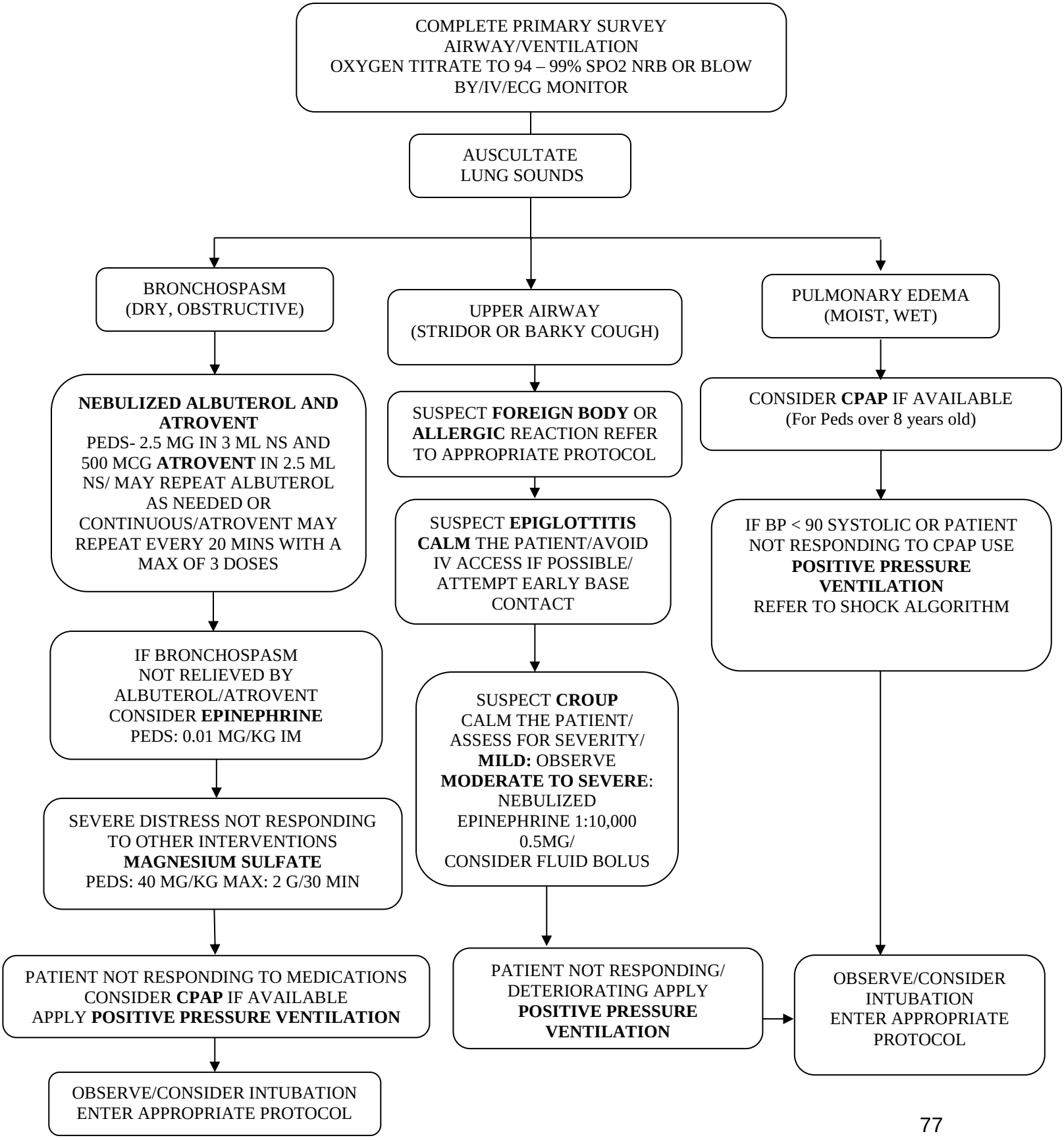
5. Continuous Positive Airway Pressure (CPAP) may be considered if. Refer to CPAP protocol.

6. Contraindications for Morphine Sulfate include:

    - Allergy or hypersensitivity
    - Heart rate less than 50 beats per minute or blood pressure less than 90 systolic
    - Respiratory depression
    - Altered Mental Status

RESPIRATORY COMPROMISE-PEDIATRIC

Policy Number: **412**	Effective Date: **July 1, 2014**	Revision Date: **July 1, 2015**



1. In cases of **croup or epiglottitis** do not attempt to visualize the throat. Attempts should be made at calming the patient. Consider allowing the parent to hold the child or the oxygen mask, and transport in a position of comfort. Avoid obtaining IV access if possible. Procedure may cause increased anxiety in patient and can cause rapid deterioration to complete airway obstruction. Perform endotracheal intubation ONLY if positive pressure ventilation is unsuccessful or is impossible.

2. **Suspected epiglottitis**: Abrupt onset of severe symptoms. Patients deteriorate rapidly. Usually patients present with fever first, followed by stridor and labored breathing. Stridor may diminish as the disease progresses. Stridor may be accompanied by marked suprasternal, subcostal and intercostal retractions. Dysphagia, refusal to eat, muffled or hoarse voice, sore throat, and anxiety are common. The clinical triad of drooling, dysphagia, and distress is the classic presentation. Epiglottitis is not solely caused by bacterial infection. Other causes may exhibit slightly different presentations.

3. **Suspected croup**: Clinical syndrome of hoarse voice, barking cough, and inspiratory stridor. It is usually caused by a viral infection and mostly affects children between six (6) months and thirty-six (36) months of age, although it may occur in older children. Children with croup do not appear pale, very febrile with poor perfusion; this presentation is more commonly seen in bacterial infections such as epiglottitis. Viral croup typically develops over days. Careful assessment of the patient with suspected croup is essential. Mild cases may not require pre-hospital treatment, while moderate and severe distress may require pharmacological intervention.

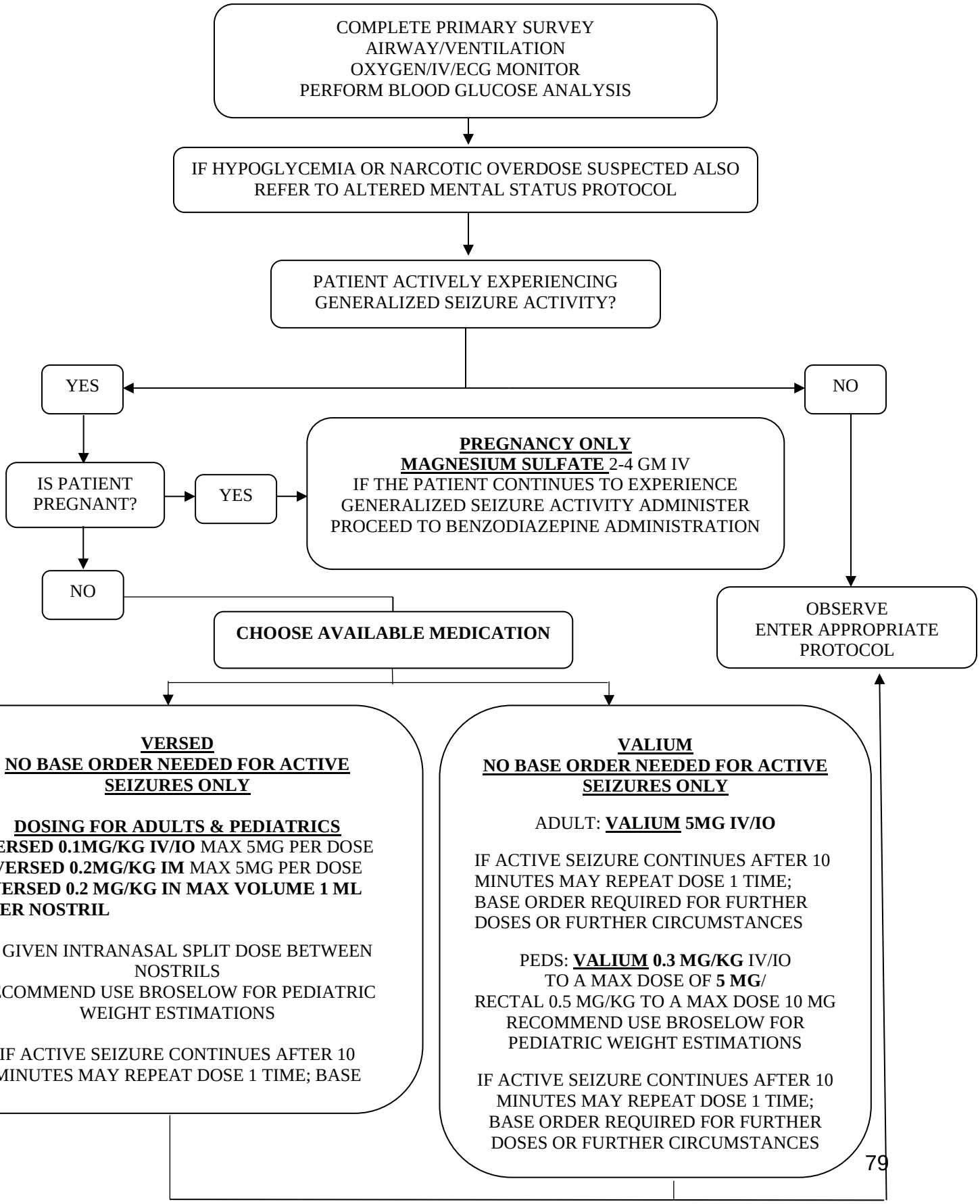
    - Mild: Child appears happy, can eat, drink, play and is interested in surroundings. May be mild chest wall retractions and mild tachycardia, but stridor at rest will not be present.

    - Moderate: Persisting stridor at rest, chest wall retractions, use of accessory muscles, tracheal tug, and increasing heart rate. Child is interactive with surroundings. Progression of disease is indicated by the child becoming worried, preoccupied, or unusually tired.

    - Severe: Increased tiredness and exhaustion. Marked tachycardia is usually present, restlessness, agitation, irrational behavior, decreased level of consciousness, hypotonia, cyanosis, and pallor. Stridor may become softer in the presence of lethargy due to impending obstruction.

4. **Bronchospasm** is usually accompanied by respiratory distress with the following findings: wheezing, prolonged expiration, increased respiratory effort, severe agitation, lethargy, suprasternal and substernal retractions, tripod positioning. A silent chest is an ominous sign indicating that respiratory failure or arrest is imminent.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
SEIZURE ACTIVITY		
Policy Number: **413**	Effective Date: **November 1, 1991**	Revision Date: **September 1, 2015**



1. Consider Narcan in situations of potential drug abuse or if no history of seizure disorder.

2. Seizures present in several forms. A generalized motor seizure (Grand Mal) is the most common witnessed in the field. Generalized motor seizure activity frequently affects a victim's ability to breathe. Proper assessment of the patient's airway and ventilatory status is critical to the field management of these patients.

3. Versed is associated with a higher degree of respiratory depression than Valium, be prepared to manage the airway with the administration of any benzodiazepine. Versed IM is the preferred first line therapy for pediatric patients. Be sure to wait approximately 10 minutes before repeating doses by IM route. Versed has been shown to have an onset of action of 10 minutes with peak action in 30 min.

4. Versed given intranasally has a volume limit of 1 ml per nostril. More than 1 ml per nare will simply run off and not be absorbed. Versed concentration of 5 mg/ml vial is preferred as the volume limit will not be reached with a max single dose of 5 mg, however multiple concentrations of the drug are to be avoided in MICU inventory due to potential medication errors.

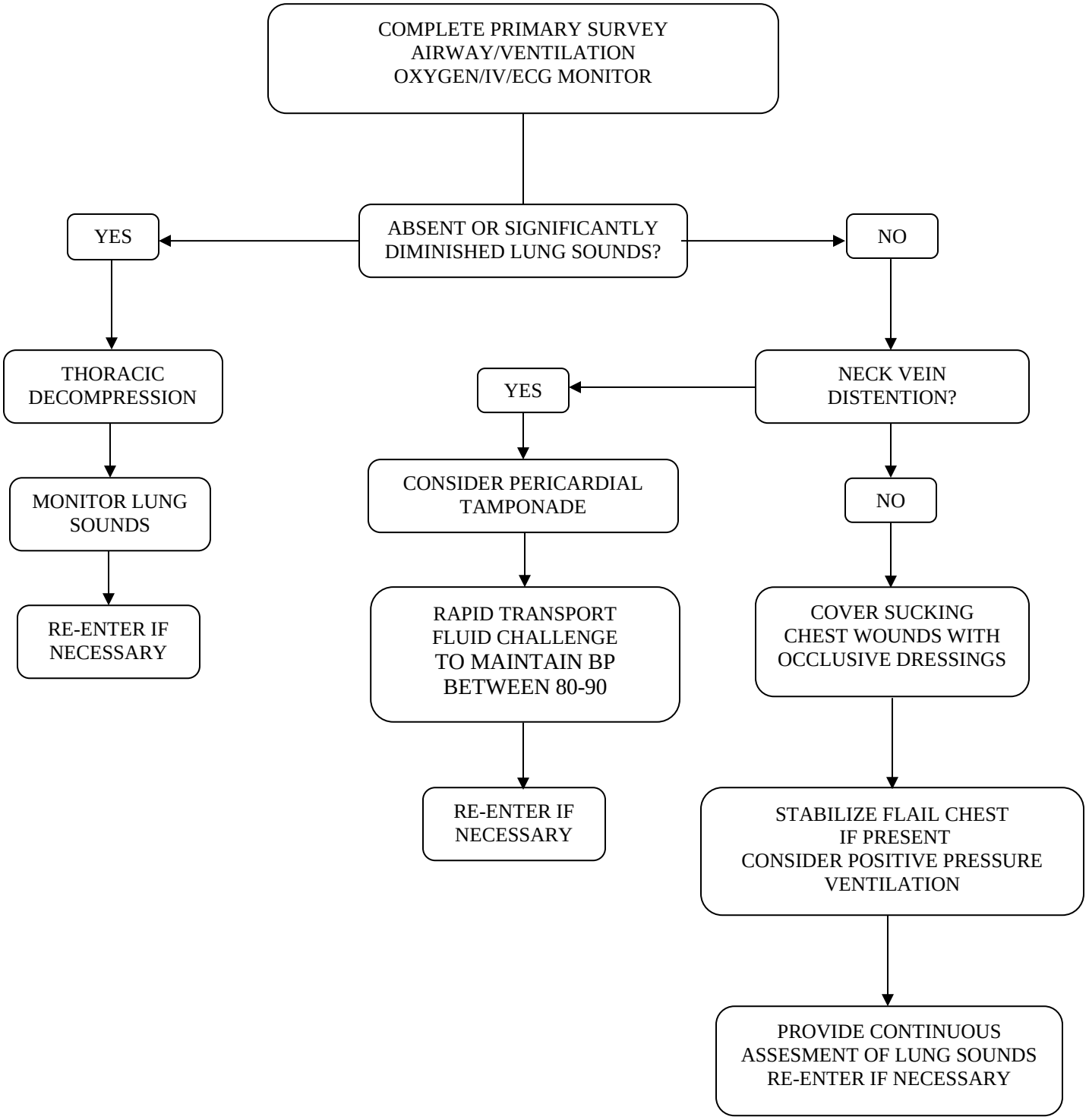
5. Valium is preferably administered IV push, but in the pediatric patient it may be administered via the rectum if IV access is not available.

6. Status epilepticus is manifested by two or more seizures without regaining consciousness in between seizures or continuous seizure activity without cessation.

7. The highest risk for patients with continuous generalized seizures (status epilepticus) is hypoxia. Airway and ventilation to resolve hypoxia is a high patient care priority. ET intubation and ventilation should be used if indicated.

SECTION 500: TRAUMA PROTOCOLS

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
CHEST TRAUMA		
Policy Number: **501**	Effective Date: **November 1, 1991**	Revision Date: **July 1, 2015**



1. Signs and symptoms of pneumothorax include dyspnea, diminished lung sounds on the affected side, and increased resonance to percussion. Additionally, tracheal deviation away from the affected side, hypotension, and neck vein distention may be seen in tension pneumothorax.

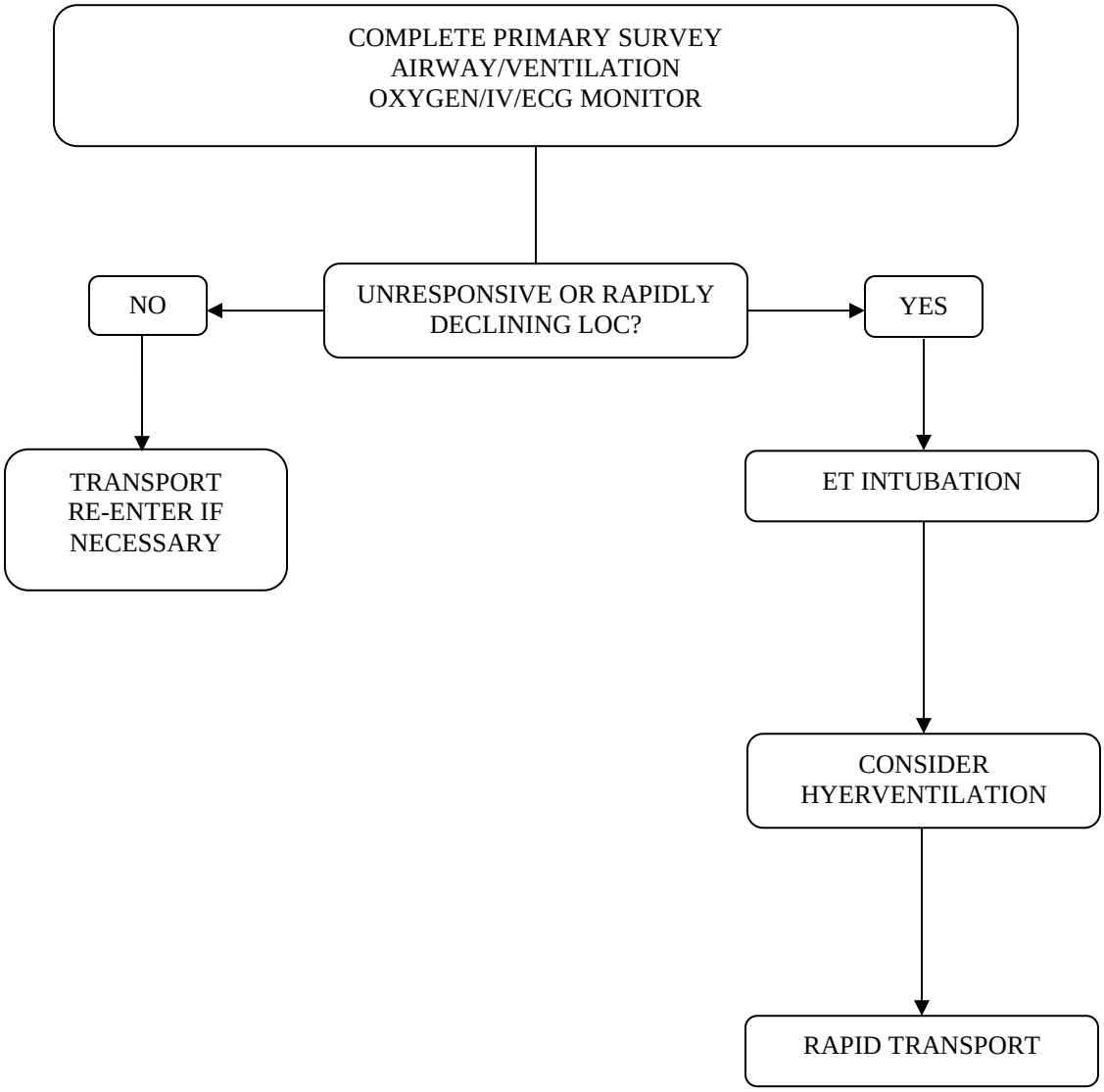
2. If pericardial tamponade is present without pneumothorax, neck vein distention may be present but lung sounds will be equal. IV fluid challenge may be required to maintain a systolic blood pressure of 90.

3. Apply occlusive dressings to sucking chest wounds. Monitor patient for development of pneumothorax. If lung sounds diminish, remove dressing to allow air to escape and reassess lung sounds to determine need for thoracic decompression.

4. IV therapy should provide adequate perfusion. The goal for blood pressure is 80-90 systolic.

5. On scene times should be ten minutes or less for trauma patients that are accessible and do not require prolonged extrication. Situations that delay on scene times must be documented in the patient care record.

6. The correct placement for the county approved device for the purpose of thoracic decompression is 2nd intercostal space, mid-clavicular line or 4th intercostal space, mid-axillary line. The approved thoracic decompression device is a 10 gauge IV needle with catheter at least 3.25 inches in length.


COMPLETE PRIMARY SURVEY
AIRWAY/VENTILATION
OXYGEN/IV/ECG MONITOR
UNRESPONSIVE OR RAPIDLY DECLINING LOC?
NO
YES
TRANSPORT
RE-ENTER IF
NECESSARY
ET INTUBATION
CONSIDER
HYERVENTILATION
RAPID TRANSPORT

1. Endotracheal intubation should be considered for patients with a Glasgow Coma Score of 8 or less.

2. Hyperventilation is indicated for patients with rapid deterioration and signs of impending herniation, such as:

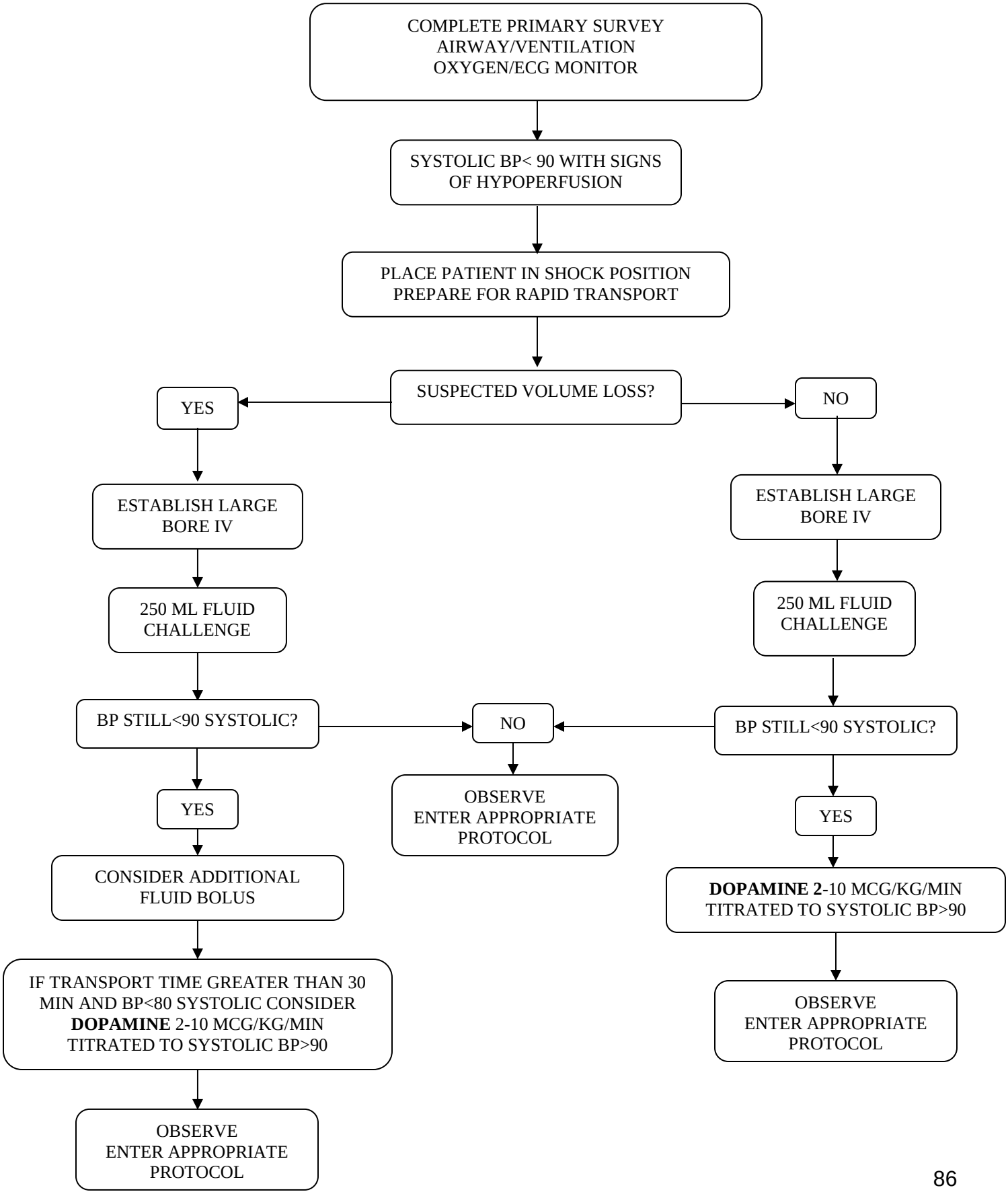
   - Rapidly deteriorating mental status
   - Contralateral paralysis/weakness
   - Unilateral dilated pupil
   - Decerebrate or decorticate posturing

3. Cushing's Triad is associated with increased intracranial pressure and is manifested by a decreased heart rate, increased blood pressure and increased respiratory rate. Decompensation can be rapid once blood pressure and respiratory rate begins to drop.

4. IV therapy should provide adequate cerebral perfusion without contributing to cerebral edema. The goal for blood pressure is 80-90 systolic.

SHOCK/HYPOPERFUSION

Policy Number: **503**	Effective Date: **November 1, 1991**	Revision Date: **January 1, 2015**

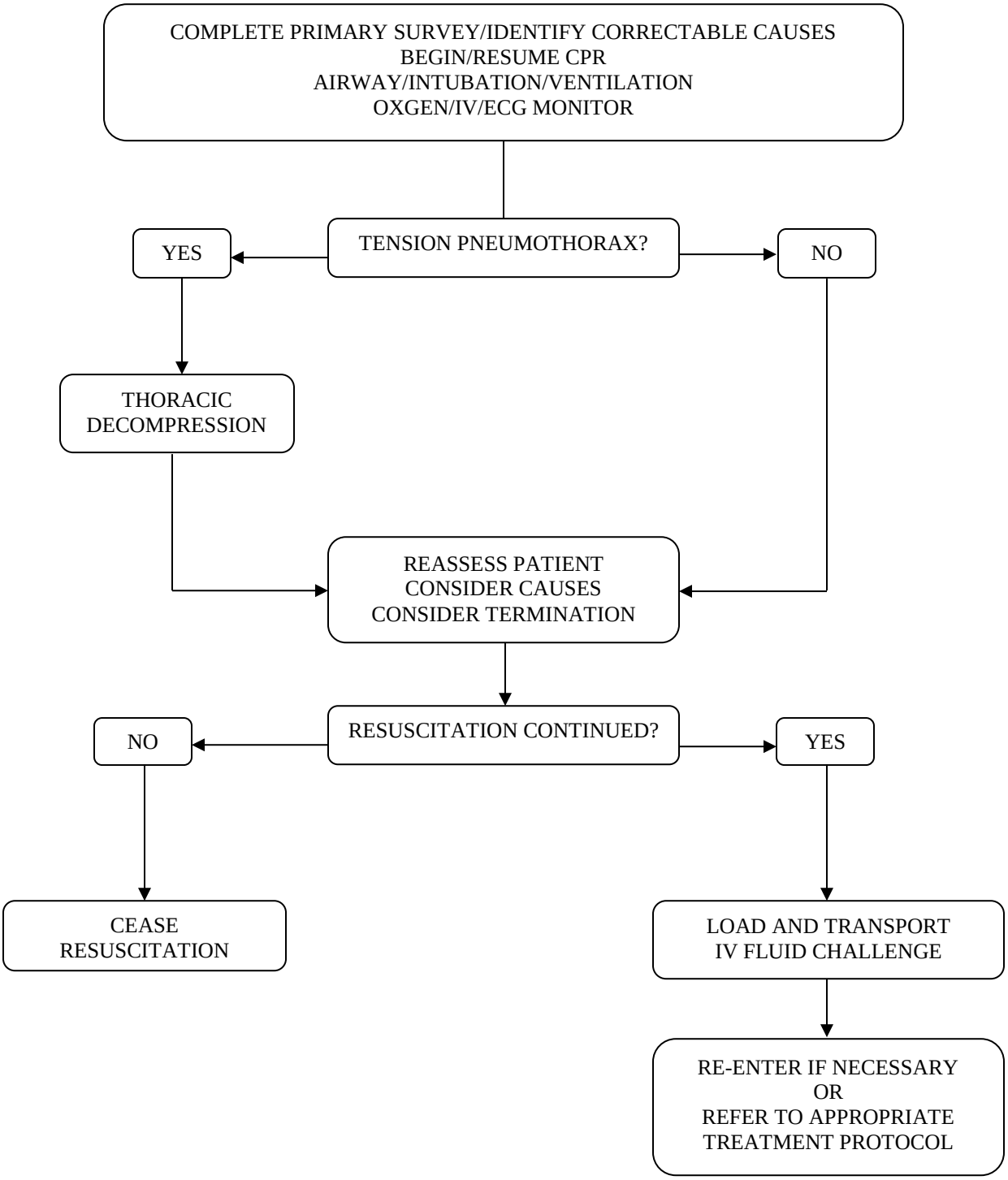


1. On scene times should be ten minutes or less for patients that are accessible. Situations that delay on scene times must be documented in the patient care record.

2. Treatment therapy should provide adequate perfusion. The goal for blood pressure is 80-90 systolic. Lower pressures are not adequate to perfuse the major organs.

3. Treatment of non-hypovolemic shock is directed towards correction of underlying cause while restoring perfusion with a combination of volume infusion and vasopressor therapy. A reserved approach is indicated. Over utilization of fluids may precipitate conditions such as pulmonary edema and over utilization of vasopressors may result in cardiac irritability.

4. Treatment of hypovolemic shock is directed towards correction of underlying cause and volume replacement.


COMPLETE PRIMARY SURVEY/IDENTIFY CORRECTABLE CAUSES
BEGIN/RESUME CPR
AIRWAY/INTUBATION/VENTILATION
OXGEN/IV/ECG MONITOR
TENSION PNEUMOTHORAX?
YES
NO
THORACIC DECOMPRESSION
REASSESS PATIENT
CONSIDER CAUSES
CONSIDER TERMINATION
RESUSCITATION CONTINUED?
NO
YES
CEASE RESUSCITATION
LOAD AND TRANSPORT
IV FLUID CHALLENGE
RE-ENTER IF NECESSARY
OR
REFER TO APPROPRIATE
TREATMENT PROTOCOL

1. Tension pneumothorax requires immediate decompression. The correct placement for the county approved device for the purpose of thoracic decompression is 2nd intercostal space, mid-clavicular line or 4th intercostal space, mid-axillary line. The approved thoracic decompression device is a 10 gauge IV needle with catheter at least 3.25 inches in length. Assess patient for return of pulses after decompression and evaluate need for fluid challenge.

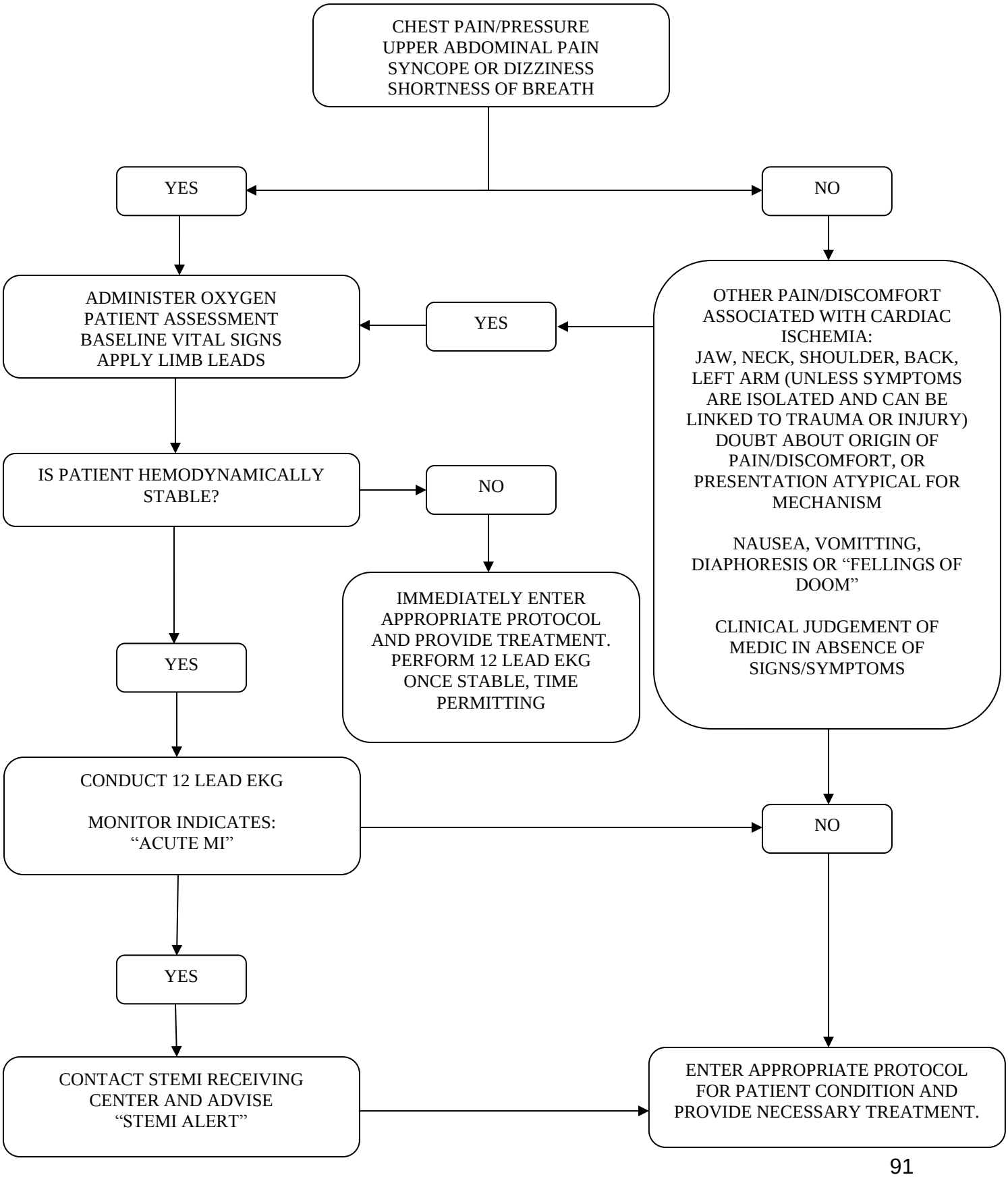
2. On scene times should be ten minutes or less for trauma patients that are accessible and do not require prolonged extrication. Situations that delay on scene times must be documented in the patient care record.

3. The goal for blood pressure after fluid challenge is 80-90 systolic. Higher blood pressures may cause proportionately faster bleeding. Lower pressures are not adequate to perfuse the major organs. Fluid challenges for traumatic arrest should occur in 250mL increments.

4. Termination of resuscitation should be considered in accordance with the Determination of Death policy.

SECTION 600: PROCEDURES

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
12-LEAD EKG		
Policy Number: **601**	Effective Date: **February 11, 2013**	Revision Date: **February 11, 2013**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
12-LEAD EKG		
Policy Number: **601**	Effective Date: **February 11, 2013**	Revision Date: **February 11, 2013**

Purpose: To provide a procedure for the performance of 12-lead EKG monitoring and reporting. This procedure is limited to use by paramedics only.

A. Definitions

1. **12 Lead EKG** – a transthoracic interpretation of the electrical activity of the heart over a period of time, as detected by electrodes attached to the outer surface of the skin and recorded by a device external to the body.
2. **STEMI** – ST Elevation Myocardial Infarction - >1mm ST-segment elevation in two contiguous leads (either precordial or limb leads). (ACC/AHA)
3. **STEMI Alert –** A declaration by prehospital personnel notifying a STEMI Receiving Center (SRC) that a patient has a specific computer-interpreted 12 Lead EKG indicating an Acute MI, allowing the SRC to initiate the internal procedures to provide appropriate and rapid treatment interventions.
4. **STEMI Receiving Center (SRC) –** A facility licensed and operating a cardiac catheterization laboratory and designated an SRC by the Kern County Emergency Medical Services Division.
5. **STEMI Referral Hospital (SRH) –** An acute care hospital in Kern County that is not designated as a STEMI Receiving Center.
6. **Acute Coronary Syndrome –** Sudden lack of oxygen to the heart muscle.
7. **Hemodynamically Stable -** Alert, systolic blood pressure of at least 90 mmHg, and cardiac rhythm does not pose an immediate life threat.

B. Indications

1. A 12 Lead EKG shall be performed on patients exhibiting any of the following signs/symptoms:
   a. Chest pain or pressure
   b. Upper abdominal pain
   c. Syncope or dizziness
   d. Shortness of breath
   e. Pain/discomfort often associated with cardiac ischemia
      i. Jaw, neck, shoulder, back, left arm or other presentation; unless no other symptoms exist and the cause of the specific pain can be identified with a traumatic or musculoskeletal injury.
      ii. If there is any doubt about the origin of the pain/discomfort, or the presentation seems atypical for the mechanism, a 12 lead EKG should be performed.
2. Patients exhibiting the following signs/symptoms should have a 12 lead EKG performed if the etiology of the illness is indicative of an Acute Coronary Syndrome or the etiology of the illness is indeterminate:
   a. Nausea
   b. Vomiting
   c. Diaphoresis

d. Patient expression of "feelings of doom"

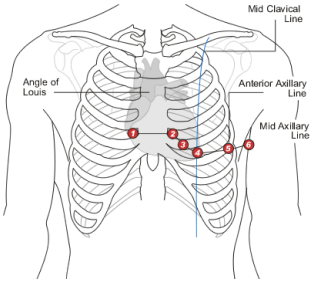
3. A 12 lead EKG may be performed based on the clinical judgment of the paramedic even in the absence of the above signs/symptoms.

C. EKG Performance Procedure

1. Administer oxygen
2. Provide a thorough patient assessment including baseline VS.
3. Apply limb leads (I, II and III) to determine rhythm or dysrhythmia
4. If the patient is hemodynamically stable conduct the 12 lead EKG prior to administration of medication.
5. If the patient is not hemodynamically stable immediately provide appropriate treatment and perform the 12 lead EKG once the patient's condition stabilizes or time permits.
6. If at any time during the application or performance of the 12 Lead EKG, should the patient's condition deteriorate, immediately administer appropriate treatment and then proceed to the performance of the 12 lead EKG once the patient's condition stabilizes or time permits.

D. Lead Placement

1. Limb leads (at least 10cm from the heart)
   a. Black – left shoulder or arm
   b. White – right shoulder or arm
   c. Red – left leg
   d. Green – right leg
2. Chest leads
   a. V1: Right 4th intercostal space (adjacent to sternum)
   b. V2: Left 4th intercostal space (adjacent to sternum)
   c. V3: Halfway between V2 and V4
   d. V4: Left 5th intercostal space, midclavicular line
   e. V5: Horizontal to V4, anterior axillary line
   f. V6: Horizontal to V5, mid-axillary line



Note: To find the 4th intercostal space, first locate the Angle of Louis. This is a hump near the top third of the sternum. Start feeling down the sternum from the top and you will feel it. It is located next to the second rib. The space directly beneath it is the 2nd intercostal space. Count down 2 additional intercostal spaces and place V1 on the right and V2 on the left immediately adjacent to the sternum.

E. STEMI Alert

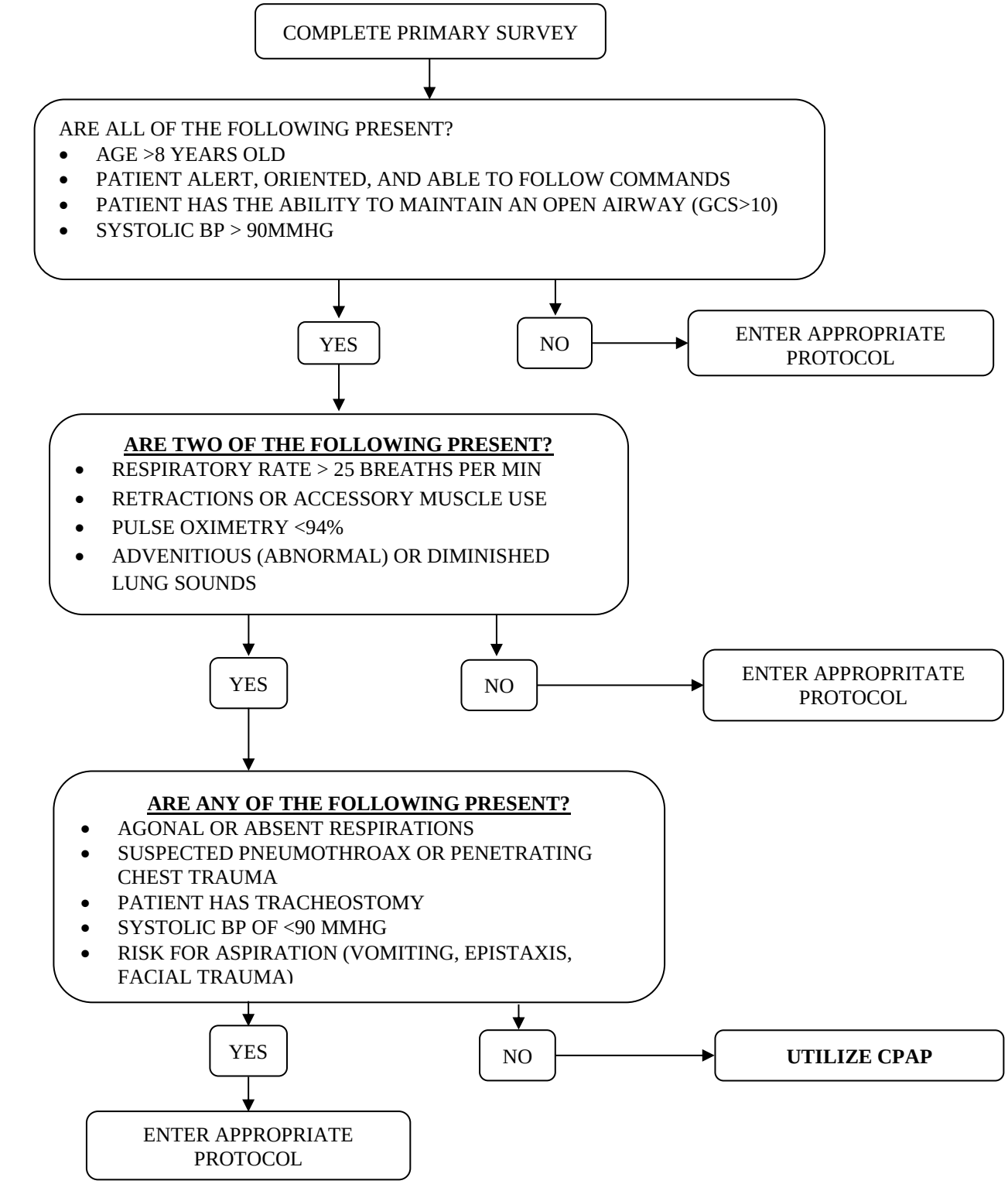
1. The monitor's interpretation, on the printed 12 Lead EKG, shall be the trigger for the notification of a "STEMI Alert."

2. If there is a positive indication of a "Acute MI" on the printed 12 Lead EKG:
   a. If available patient shall be transported to a "STEMI Receiving Center."
   b. Contact the "STEMI Receiving Center" to which the patient will be transported and provide a brief report that begins with the phrase "STEMI Alert". The patient's age, gender, duration of symptoms, pertinent presentation symptoms, 12 Lead EKG findings and ETA to the hospital should be reported.
   c. If transporting to a "STEMI Receiving Center" and time permits, electronically transmit the 12 Lead EKG for physician verification.
   d. Consider establishing a second IV during transport if time permits.
3. If the 12 Lead EKG does not indicate an "Acute MI" treat the patient based on their presenting signs/symptoms according to the appropriate Kern County protocol. A "STEMI Alert" is not necessary.
   a. Do not withhold treatment of chest pain if the 12 Lead EKG does not indicate "Acute MI".
   b. Lack of "Acute MI" indication on the 12 Lead EKG does not rule out the possibility of infarct or ischemia.
4. If a "STEMI Alert" report was called to the "STEMI Receiving Center", an update should be given during transport, time permitting.

F. Documentation

1. A copy of the 12 lead EKG must be maintained by the transporting agency, a copy given to the hospital ED for inclusion in the patient chart and a copy made available to EMS upon request. The 12 lead EKG print-out shall be presented to hospital staff at the time the patient is delivered.

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
CONTINUOUS POSITIVE AIRWAY PRESSURE		
Policy Number: **602**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2014**



CAUTIONS AND POTENTIAL COMPLICATIONS

DECREASED MENTAL STATUS OR UNABLE TO COOPERATE WITH PROCEDURE
RECENT GI BLEED OR EPIGASTRIC SURGERY
MAY CAUSE HYPOTENION RELATED TO INCREASE IN INTRATHORACIC PRESSURE
MAY CAUSE PNEUMOTHORAX. GASTRIC DISTENTION. CORNEAL DRYING

CONTINUOUS POSITIVE AIRWAY PRESSURE

Policy Number: **602**	Effective Date: **June 1, 2010**	Revision Date: **July 1, 2014**

1. Continuous Positive Airway Pressure (CPAP) may be considered if available for paramedics who have met the training requirements for the skill.

2. Continuous Positive Airway Pressure (CPAP) is a non-invasive mechanically assisted oxygen delivery system designed to decrease work of breathing while allowing time for patients to respond to other medical interventions.

3. CPAP has been shown to rapidly improve pulmonary gas exchange, decreasing the need to endotracheal intubation. Endotracheal intubation is associated with a longer length of hospital stay and an increase in morbidity and mortality.

4. Continuous airway pressure offers several significant benefits to a patient experiencing respiratory distress. The continuous pressure prevents the small airway from collapsing on exhalation, providing an increase in alveolar ventilation. Additionally, fluid is moved from the airway, back into the vasculature which reduces pulmonary edema.

5. CPAP is approved for use on adults, and children age eight (8) and older. The use of CPAP is dependent of proper mask fit. The size and anatomy of the patient is a more important factor than the age in determining eligibility for CPAP.

6. The administration of CPAP requires the patient understanding and cooperation. The procedure must be explained to the patient and the paramedic should offer verbal support and encouragement. Onset of relief of symptoms usually begins to occur within five minutes.

7. Versed may be carefully considered for anxiety related to respiratory distress and the procedure. Versed may allow the patient to tolerate CPAP, thereby avoiding endotracheal intubation. Versed may also decrease respiratory rate. Versed should be given in the lowest possible dose to achieve patient cooperation and likely will only be required in the initial application of CPAP. Anxiety will likely diminish once respiratory status begins to improve. The paramedic should be prepared for intubation if respiratory status worsens.

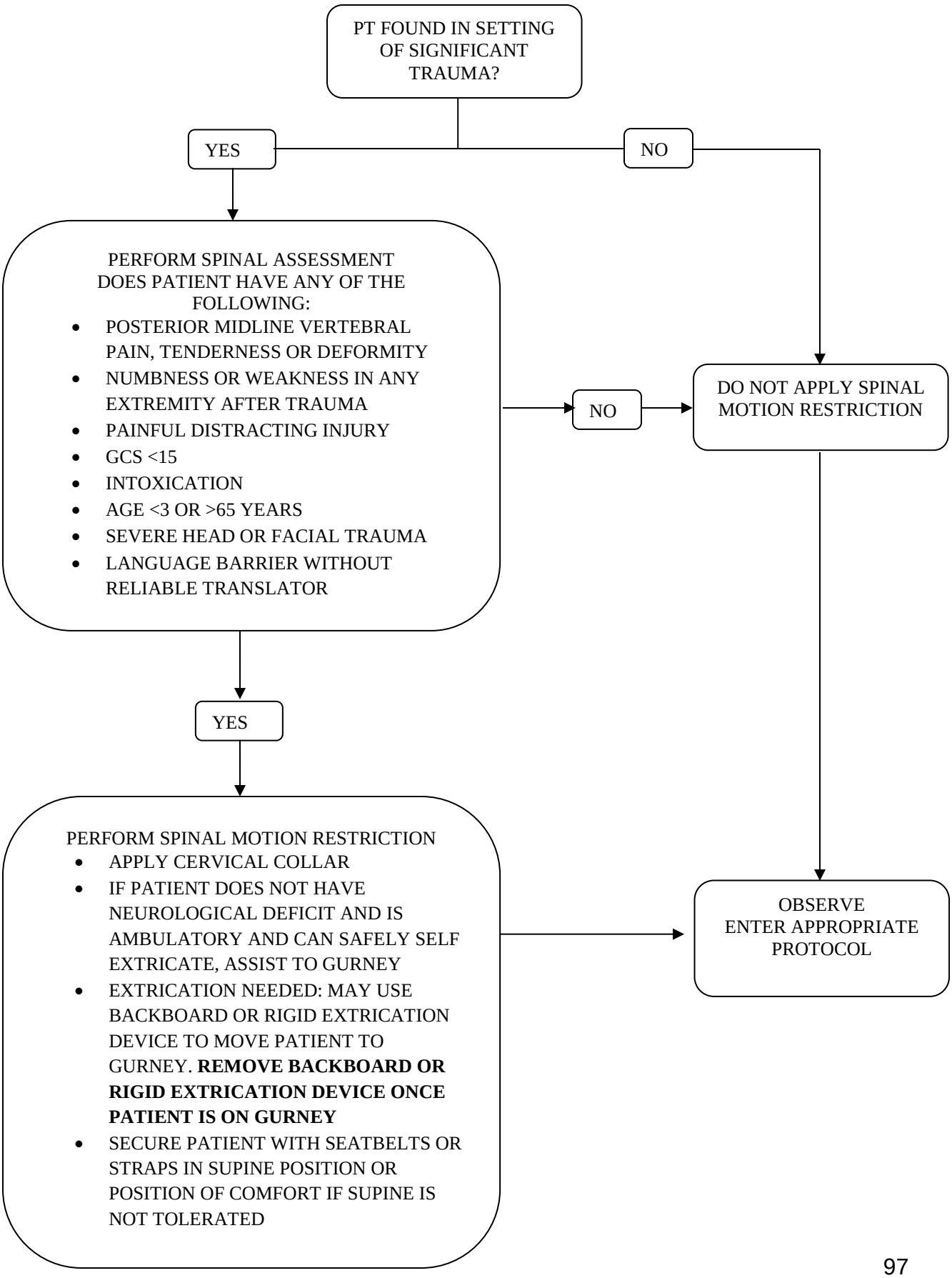
8. CPAP must be used in accordance with manufacturer guidelines. CPAP pressures should be titrated to desired effect, demonstrated by improved respiratory status, decrease in heart rate, and an increase in $Sp0_2$. Pressure should be titrated between 5cm/water to a maximum of 15 cm/water. Typically 10 cm/water is effective for pulmonary edema and 5 cm/water is effective for other respiratory complaints.

9. Patients receiving CPAP require close observation of respiratory status and hemodynamic stability. Vitals signs, including respiratory rate, heart rate, blood pressure, and $Sp0_2$ must be recorded every five minutes throughout treatment and transport until release from care. Prepare to assist ventilations or intubate if patient condition worsens.

10. Patients with CPAP in use may only be released to a paramedic with equal training for transport to the hospital. In cases where the transport paramedic is not trained in the use of the device, the paramedic who initiated CPAP must accompany the patient to the hospital.

SPINAL MOTION RESTRICTION

Policy Number: **603**	Effective Date: **July 1, 2015**	Revision Date: **July 1, 2015**



1. Implement spinal motion restriction in the following circumstances in the setting of significant trauma:

   A. Posterior midline spinal pain or tenderness with a history of or suspicion of trauma.
   B. Numbness or weakness in any extremity after trauma.
   C. Unreliable exam including:

      1) 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.)
      2) Penetrating trauma does not require spinal motion restriction unless injury is suspected
      3) Altered Mental Status GCS <15
      4) Intoxication
      5) Language barrier, unless reliable translation is available
      6) Age less than 3 or greater than 65

2. 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.

3. Patients who require spinal motion restriction are determined by the above criteria, **not mechanism of injury alone.**

4. Complete spinal motion restriction includes cervical collar (C-Collar) and gurney straps or seatbelts only. Head blocks may be used to prevent rotation.

5. 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.

6. 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.

7. Providers should use a slide board or flat to facilitate movement between gurney and other surfaces such as ambulance bench seat or hospital bed.

8. 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):

A. If the helmet and chin strap fail to hold the head securely.
B. If the helmet and chin strap design prevent adequate airway control, even after facemask removal.
C. If the facemask cannot be removed.
D. If the helmet prevents adequate proper for transport spinal motion restriction.

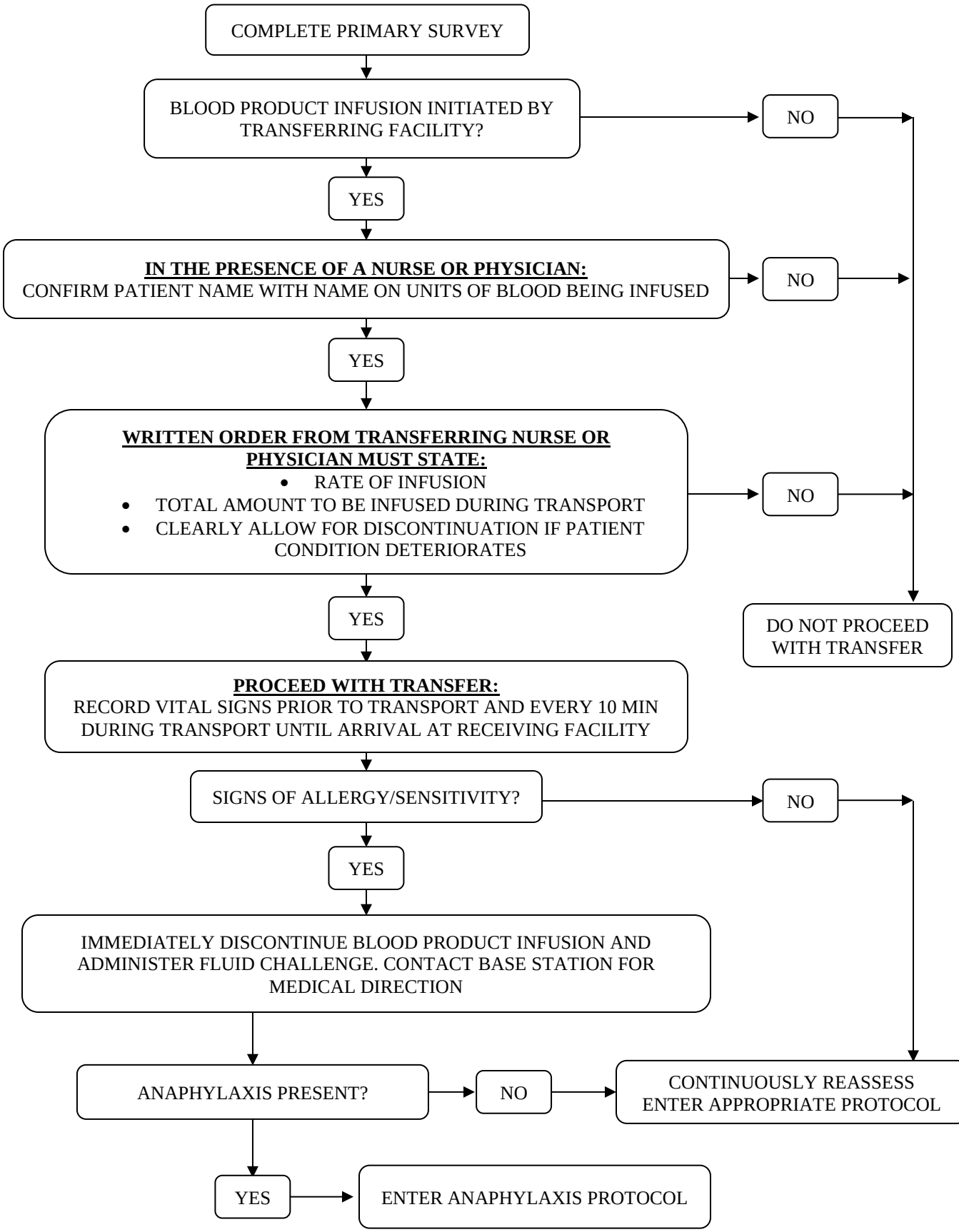
9. Patients with isolated **non-traumatic** mid-to-low back pain do not need spinal motion restriction of the cervical spine with a cervical collar.

10. 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.

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

SECTION 700: INTERFACILITY TRANSFER

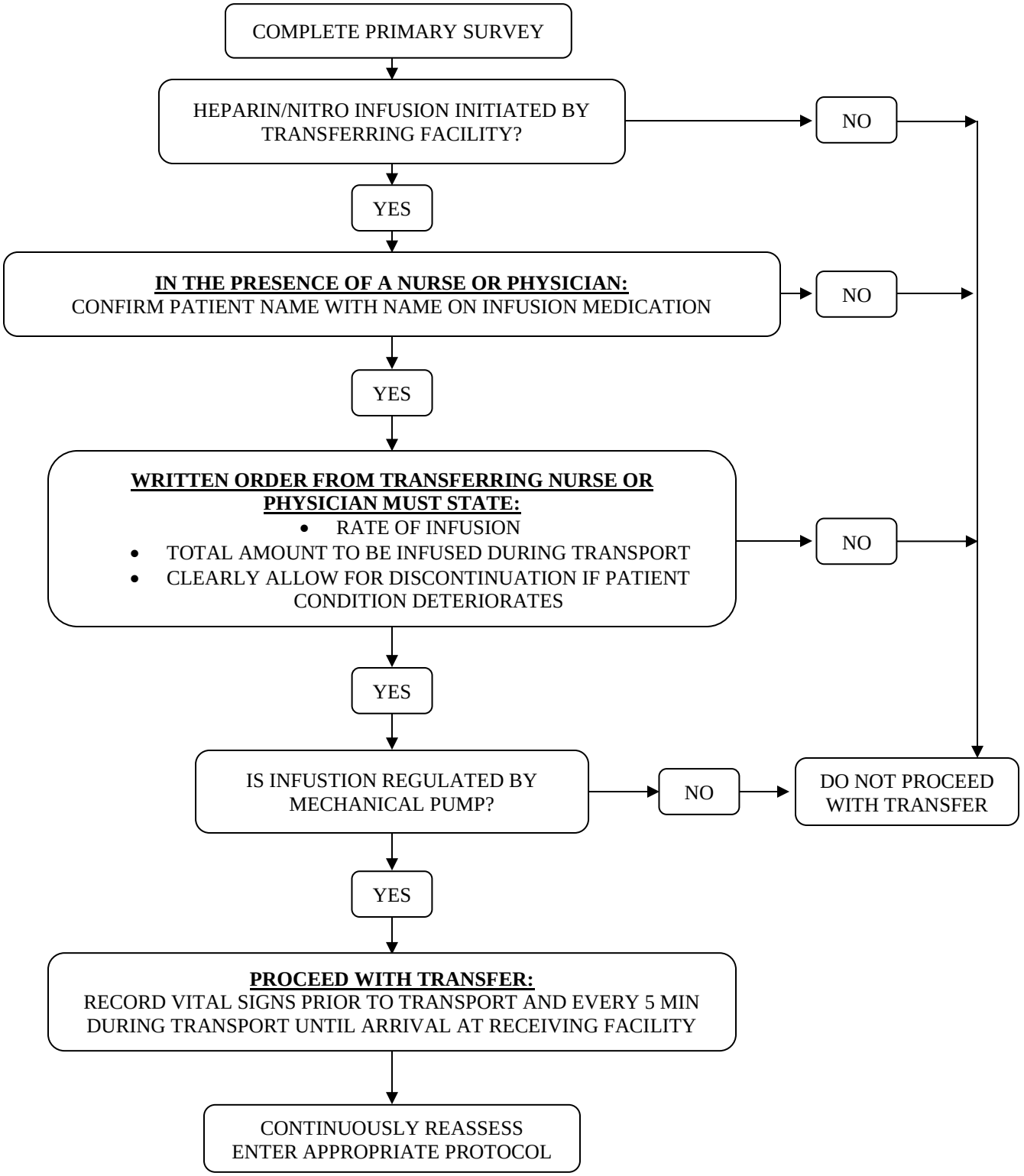
Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
BLOOD PRODUCT TRANSFER		
Policy Number: **701**	Effective Date: **August 15, 1995**	Revision Date: **July 1, 2014**



Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
BLOOD PRODUCT TRANSFER		
Policy Number: **701**	Effective Date: **August 15, 1995**	Revision Date: **July 1, 2014**

1. This protocol does not authorize the paramedic to start, hang or otherwise initiate the infusion of blood products.
2. Blood product infusion must be started by transferring facility prior to transport of patient.
3. Patients shall be placed and maintained on cardiac and pulse oximetry monitors during transport.
4. No flow adjustments shall be made by the transporting paramedic other than to discontinue the infusion.
5. True anaphylactic reactions are treated with epinephrine, fluids and antihistamines. Hemolytic reactions may require a diuretic in addition to large amounts of fluid to maintain intravascular volume.
6. Types of Reactions:
    - **Hemolytic Reactions:** Hemolytic reactions are the most life threatening. Clinical manifestations may vary considerably and include: fever, headache, chest or back pain, pain at the infusion site, hypotension, nausea, generalized bleeding or oozing from a surgical site or shock. The most common cause is from ABO incompatibility is due to clerical error or transfusion to the wrong person. Chances of survival are dose dependent; therefore it is important to STOP the transfusion immediately if a hemolytic reaction is suspected. Administer fluid challenge of NS.
    - **Febrile Non-Hemolytic Reaction:** Chills and fever (rise from baseline temperature of 1 degree C or 1.8 degree F).
    - **Allergic Reaction:** Characterized by appearance of hives and itching (urticaria or diffuse rash). See P-005 Allergic Reaction Protocol after discontinuing the infusion.
    - **Anaphylaxis:** May occur after administration of only a few mls of a plasma containing component. Symptoms include coughing, bronchospasm, respiratory distress, vascular instability, nausea, abdominal cramps, vomiting, diarrhea, shock and loss of consciousness. See Anaphylaxis Protocol after discontinuing the infusion.
    - **Volume Overload:** Characterized by dyspnea, headache, peripheral edema, coughing, frothy sputum or other signs of congestive heart failure occurring during or soon after transfusion. Restrict fluids.
7. Documentation must include:
    - Physicians order
    - Product Received (whole blood, packed cells, plasma, or platelets)
    - Drip rate
    - Volume infused during transport
    - Temperature check every 10 minutes with vitals
    - Any adverse side effects

Kern County Emergency Medical Services Division - Paramedic Treatment Protocols		
HEPARIN & NITROGLYCERIN TRANSFER		
Policy Number: **702**	Effective Date: **August 1, 2010**	Revision Date: **July 1, 2014**



1. A non-invasive blood pressure monitor device that will record and print out blood pressure readings every five (5) minutes shall be utilized.

2. Patients shall be placed and maintained on cardiac and pulse oximetry monitors during transport.

3. Signed transfer orders from the transferring physician must be obtained prior to transport.

4. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc.) the Paramedic may restart the line as delineated in the transfer orders.

5. Infusions must be regulated by a mechanical pump familiar to the paramedic. If pump failure occurs and cannot be corrected, the paramedic is to discontinue the nitroglycerin infusion and notify the transferring physician, or the base physician if the transferring physician is not available.

6. **Nitroglycerin Infusions**

The following parameters shall apply to all patients with pre-existing nitroglycerin infusions:

- Infusion will be either NS or D5W. Medication concentration will be either half-strength (25 mg/250ml or 50 mg/500 ml) or full-strength (50mg/250 ml).
- Regulation of the infusion rate will occur within the parameters as defined by the transferring physician, but in no case will changes be in greater than 5 mcg/minute increments every 5 minutes.
- Paramedics may institute two infusion rate changes prior to consulting with the Base Hospital. Any additional changes must be made only after contact with the Base Hospital.
- Infusion rates may not exceed 50 mcg/minute.
- In cases of severe hypotension (systolic pressure less than 90 mm Hg), the medication infusion will be discontinued and transferring physician from Base Hospital notified.

Nitroglycerin IV Guidelines for Infusion				
Concentration (mcg/ml)	50	100	200	400
Desired Dose (mcg/ml)	60 microdrops = 1 mL Flow Rate (microdrops/min = mL/hr)			
5mcg/min	6	3	--	--
10mcg/min	12	6	3	--
15mcg/min	18	9	--	--
20mcg/min	24	12	6	3
25mcg/min	30	15	--	--
30mcg/min	36	18	9	--
35mcg/min	42	21	--	--
40mcg/min	48	24	12	6
45mcg/min	54	27	--	--

50mcg/min	60	30	15	--

7. <u>Heparin Infusions</u>

The following parameters shall apply to all patients with pre-existing heparin infusions:

- Medication concentration will not exceed 100 units/ml of IV fluid (25,000 units/250 ml or 50,000 units/500 ml).
- Infusion rates must remain constant during transport with no regulation of rates being performed by the paramedic, except for the discontinuation of the infusion (e.g., as in a case of bleeding).
- Infusion rates may not exceed 1600 units per hour. Vital signs are to be monitored as indicated in the transfer orders.

8. All paramedic interfacility transfers will undergo review by provider agency, and standard data elements shall be reported. The provider agencies all must have QI plans approved by the EMS Agency. Specific review for use of intravenous NTG and heparin shall include:
    a. Review of transferring physician's orders and evidence of compliance with orders
    b. Documentation of vital signs
    c. Documentation of any side effects/complications (including hypotension, bradycardia, increasing chest pain, arrhythmia, altered mental status) and interventions with these events
    d. Documentation of any discontinuation of infusions
    e. Review of any base contact or contact of transferring physician for orders during transport

9. Results of reviews shall be communicated in monthly report format from the provider agency to the EMS Medical Director.

10. Significant complications shall be communicated to the EMS agency within 48 hours.

INTER-FACILITY TRANSFER PORTABLE VENTILATOR PROCEDURE

Policy Number: **703**	Effective Date: **June 1, 2016**	Revision Date: **June 1, 2016**

I. Purpose

Ventilators are used to provide respiratory support for patients who are unable to effectively breathe on their own. There are many commercial ventilators on the market. Most of the ventilators used in the pre-hospital settings are fairly simple to use. Most if not all have built-in safety features, which prevent over inflating the lungs causing barotrauma. Paramedics must complete an EMS Division approved training course prior to use.

II. Indication

Continuation of ventilator controlled respirations on chronic ventilator dependent patients during inter-facility transfers.

III. Contraindication

1. Hemodynamically unstable patient
2. Intubated patient WITH a known pneumothorax WITHOUT a chest tube.
3. Patient without adequate sedation/analgesia.

IV. Adverse Effects/Complications

1. Increased intra-thoracic pressure
2. Decrease venous return to the heart and decrease cardiac output (hypotension, tachycardia)
3. Increased V/Q ratio (ventilation/perfusion ratio)
4. Decrease blood flow to the kidney with resultant fluid retention (edema)
5. Air trapping and intrinsic PEEP (auto PEEP)
6. Barotrauma
7. Nosocomial infections of the lungs and sinuses
8. Respiratory alkalosis
9. Agitation and increased respiratory distress
10. Increased work of breathing

V. General Ventilator settings for transport ventilators:

For the most part, there are a few settings that are common/standard to all ventilators:

1. **FIO_2** (Percent of inspired oxygen (room air is 21%): **21% - 100%.** Titrate to maintain pulse ox between 92% - 94%
2. **Tidal Volume**: **6 - 8 ml/kg** (ideal body weight)
3. **Select Mode**: CPAP, Intermittent mandatory ventilation (IMV), Synchronized Intermittent mandatory ventilation (SIMV)

a. To manage work of breathing, use assist/control mode. If patient is paralyzed and sedated, there is no difference between assist control AC and SIMV

4. **Respiratory rate**: **Set between 10 – 16 breaths/minute**. Selection varies on ventilators to accommodate a range of patient ages and conditions.

   NOTE: On some ventilators, inspiratory flow rate (usually 40 – 60 L/second) is determined by tidal volume, respiratory rate, and in the inspiratory: expiratory (I:E) ratio. (The I:E ratio is generally 1:2 to allow for complete exhalation and prevent air trapping). On other ventilators, flow rate is independently set, which allows adjustment of air-flow to the flow wave pattern that is most comfortable for the patient. If the patient is having difficulty with spontaneous breathing, increasing the flow rate may be indicated. However, a higher flow rate means a shorter inspiratory time and usually a higher respiratory pressure secondary to increased resistance, with a lower flow rate requiring a longer inspiratory time with a decreased inspiratory pressure. The paramedic should always consult with medical control before changing the flow rate on any ventilator device.

5. **Adjust the peak flow rate or inspiratory time** to accommodate the patients inspiratory flow demand and to allow for sufficient expiratory time and avoidance of auto-PEEP

6. **Adjust the sensitivity to -1cm H_2O**

7. **Pressure suppor**t: Usually set at **10 cm H_2O**

8. **PEEP (Positive End Expiratory Pressure): Usual setting is 5 cm H_2O**

9. **End Tidal CO_2:** $ETCO_2$ less than 35 mmHg=Hyperventilation/Hypocapnia

   $ETCO_2$ greater than 45mmHg=Hypoventilation/Hypercapnia

10. **Plateau Pressure**: Less than 30cm H_2O

VI. Procedure:

Patient is already on Ventilator

1. As part of your initial patient assessment inquire if patient has any spontaneous respiratory effort or is 100% dependent on the ventilator.

2. Make note of patient's vital signs before any change over occurs. This includes the pulse ox.

3. Assess the ET tube or Tracheal tube placement to assure they are properly secured.

4. Acquire the patient's current ventilator settings from the nurse or RT caring for the patient. Try to match these settings on the transport ventilator to be used (do this before patient is switched to transport ventilator).
    a. If unable to match the settings and there is a significant discrepancy, contact the sending physician for assistance.
5. Patient should already be on cardiac monitor and pulse ox prior to switching ventilators.
6. Ensure adequate analgesia and sedation. Continued analgesia and sedation methods during transport must be within the paramedic scope of practice.
7. IV access shall be established prior to transport.
8. Have an Ambu-Bag and suction available for unexpected emergencies
9. Switch patient over to the transport ventilator and end tidal CO_2 monitor and observe for any distress. It may take a minute or so for the patient to become accustomed to the new ventilator. If necessary, ventilate with an Ambu-Bag for several minutes.
10. Closely monitor pulse ox, capnography, signs of labored respirations, and chest rise for any signs of hypoxia/distress. Remove patient from ventilator and assist respirations with an Ambu-Bag if there are ANY concerns or problems with ventilation after patient was switched to transport ventilator.
11. Once patient has been switched to the transport ventilator and is tolerating this well, then move patient over to the EMS stretcher for transport.
12. The patient shall remain on continuous waveform capnography for the entirety of the transport.
13. If alarm on ventilator sounds, immediately check patient. Reasons for alarm:
    a. Low Battery/power source: sounds when electrical supply to the ventilator is inadequate or the gas inlet pressure is low. It is corrected by restoring the proper power supply.
    b. Low-pressure alarm:
        i. Leak or disconnection (reconnect or tighten connections)
        ii. Cuffed tube may be leaking
        iii. Check O_2 supply
    c. High-pressure alarm:
        i. Ventilator uses too much pressure to deliver the tidal volume
            1) Bronchospasm's
            2) Secretions in airway that increased the resistance/pressure in airway (suction airway)

3) Kinks in ET tube (unkink tube)
4) Biting on ET tube
5) Coughing
6) Gagging
7) Breathing asynchronously or bucking the vent
8) Alveolar over distention
9) Improper ventilator settings (High or low tidal volumes, excessive rate causing stacking and auto PEEP) (Consult medical control for change)
10) Water in the ventilator tubing (disconnect the tubing, empty water, reconnect tubing)
11) Pneumothorax (notify hospital to set up for this if you are in route)
12) Patient anxiety (contact medical control for sedation order)

d. If unable to identify the cause of the ventilator alarm and/or patient's condition deteriorates, disconnect from ventilator and assist respirations via the Ambu-Bag.

e. Contact Base Hospital, if needed, for assistance while transporting.

14. During transport vital signs should be repeated every 5 minutes with reassessment of vent settings, capnography, pulse ox, as well as assessing patient for lung sounds, chest rise and fall, condensation in the tube, etc.
15. Upon arrival at the care facility, follow above steps when transferring from EMS stretcher to care facility stretcher. Report any problems to the accepting staff.
16. Document vent settings used, vital signs, pulse ox, any changes in the patient's condition during transport.
17. Contact medical control during any of the above steps for assistance as needed.
18. All instances where a Mechanical Ventilator is used shall be reviewed for QI purposes.

SECTION 800: DISASTER PROTOCOLS/PROCEDURES

CHEMPACK

Policy Number: **801**	Effective Date: **June 1, 2016**	Revision Date: **June 1, 2016**

ASSESS FOR SEVERITY OF EXPOSURE

MILD EXPOSURE:
MIOSIS, RHINORRHEA,
INCREASED SALIVATION

ADULT: **DUODOTE** OR **MARK I** KIT X1 IM (MAY REPEAT FOR TOTAL OF 3 IF SYMPTOMS PROGRESS)

PED: **DUODOTE** OR **MARK 1** KIT IM
UP TO 25KG: 1 KIT
26-50KG: 1 KIT MAY REPEAT X1

OR IF UNAVAILABLE

ATROPEN IM, MAY REPEAT EVERY 5 MIN TO MAX OF 6MG
4KG: 0.5MG REPEAT 0.5MG
4- 10.5 KG: 0.5MG REPEAT 1MG
10.5-13KG: 1MG REPEAT 1MG
13-20.5KG: 1MG REPEAT 2MG
20.5-33KG: 1.5MG REPEAT 4 MG

2PAM CHLORIDE 25MG/KG IM/IV X1. MAX OF 1650MG IM OR 1000MG IV

MODERATE EXPOSURE:
MILD SYMPTOMS PLUS
SHORTNESS OF BREATH,
VOMITING. DIARRHEA

ADULT: **DUODOTE** OR **MARK I** KIT X2 IM (MAY REPEAT FOR TOTAL OF 3 IF SYMPTOMS PROGRESS)

PED: **DUODOTE** OR **MARK 1** KIT IM
UP TO 25KG: 1 KIT
26-50KG: 2 KITS

OR IF UNAVAILABLE

ATROPEN IM, MAY REPEAT EVERY 5 MIN TO MAX OF 6MG
4KG: 0.5MG REPEAT 0.5MG
4- 10.5 KG: 0.5MG REPEAT 1MG
10.5-13KG: 1MG REPEAT 1MG
13-20.5KG: 1MG REPEAT 2MG
20.5-33KG: 1.5MG REPEAT 4 MG

2PAM CHLORIDE 25-50MG/KG IM/IV X1. MAX OF 1650MG IM OR 1000MG IV

SEVERE EXPOSURE:
MODERATE SYMPTOMS PLUS
RESPIRATORY DISTRESS OR ARREST,
CYANOSIS, EXTREME SLUDGE,
SEIZURES, UNCONSCIOUSNESS

ADULT: **DUODOTE** OR **MARK I** KIT X3 IM

PED: **DUODOTE** OR **MARK 1** KIT IM
UP TO 25KG: 1 KIT
26-50KG: 2 KITS

ADULT: **VALIUM**: 10MG IM OR 5-10MG IV
OR **VERSED**: 2-5MG IV TITRATE TO SZ CONTROL; 5MG IN OR IM IF NO IV; REPEAT X1 IN 5 MIN TO MAX OF 10MG

PED: **VALIUM** 0.05-0.3 MG/KG IVP/IM; MAY REPEAT IN 5 MIN TO MAX OF 10MG
OR **VERSED** 0.1-0.2 MG/KG IVP/IM/IN. MAY REPEAT IN 5 MIN TO MAX OF 10MG

60 MIN AFTER DUODOTE OR MARK1
PED: **ATROPEN** IM OR 0.1MG/KG IM/IV FROM MULTI-DOSE VIAL
4KG: 0.5MG OR 0.4MG
4-6.5KG: 1MG OR 0.7MG
6.5-8.5KG: 1MG OR 0.9MG
8.5-10.5KG: 1MG
10.5-13KG: 1.5MG OR 1.3MG
13-16.5KG: 2MG OR 1.6MG
16.5-20.5KG: 2MG
20.5-26KG: 4MG OR 2.6MG
26-33KG: 4MG OR 3.3MG

2PAM CHLORIDE 50MG/KG IM/IV X1. MAX OF 1650MG IM OR 1000MG IV

1. Contact HazMat resources if not already done.

2. Don protective equipment/gear appropriate for the exposure according to agency protocol.

3. SLUDGE: salivation, lacrimation, urination, defecation, gastrointestinal distress and emesis.

4. Once resources allow, perform supportive treatment as appropriate according to protocol.

5. Administer additional DuoDote or Mark I kits for a total of 3, if symptoms progress in MILD or MODERATE exposures.

6. PEDIATRICS: 1 DuoDote or Mark I kit can be given to any child, regardless of age or weight, as the initial antidote therapy when no other atropine or pralidoxime source is available.

7. PEDIATRICS: Atropine auto-injectors (AtroPen) come in 0.5mg, 1 mg, and 2mg devices. Initial does based off 0.05mg/kg, repeat dosage based off 0.1mg/kg. May repeat every 5 minutes until secretions begin to dry or maximum 6mg IM.

Revision Listing:

08/09/2011 – Removal of the Mucosal Atomization Device (MAD) administration route for Diazepam (Valium)
08/30/2012 – Changed language in Section III to reference Patient Care Record Policy
12/14/2012- Removed Procainamide from protocols and corrected pediatric Dextrose dosage inconsistencies
02/11/2013- Chest Pain protocol (206) updated and 12-Lead EKG protocol (210) added
03/11/2013- Morphine Sulfate dosage increased to 5 mg (initial and incremental)
03/27/2013- Pitocin removed from protocols secondary to changes in basic scope of practice by EMSA
07/01/2013 – Added Lorazepam to seizure protocol
Changed dose of Versed to 1mg for adult patients and 0.05mg/kg IM for pediatrics and increased Valium dose for adult to max of 30 mg, changed pediatric dose to 0.3 mg/kg.
Dopamine dosage updated to consistent dosage throughout document.
Morphine contraindications update for consistency throughout document.
Added section 106: Destination decision algorithm
08/07/2013 – Administration route of Epinephrine for anaphylaxis and respiratory compromise changed to intramuscular
10/01/2013 – Furosemide (Lasix) medication removed from protocols
11/01/2013 – C-Spine protocol (107) added
07/01/2014- Updated pediatric medication dosages for consistency with AHA PALS.
Added protocols: Neonatal Resuscitation, Apparent Life Threatening Event, Pediatric Post Resuscitation Care, Respiratory Distress-Adult, Respiratory Distress-Pediatric, Diabetic Emergency, Nausea/Vomiting.
Added medication to protocols: Atrovent, Zofran, Fentanyl
Updated protocols: Altered Mental Status- Changed blood sugar level from 80 to 60, Anaphylaxis and Respiratory Distress- Changed Epi IM dose to 0.3mg, Gastric Decontamination changed to Poisoning Ingestion Overdose- removed gastric lavage, Seizure- Changed pediatric dose of versed to 0.2mg/kg IM every 10-15 min with Max dose of 6mg. Deleted Snake Envenomation protocol
Created section 600 and 700 for procedures and interfacility transfers.
Consolidated several separate policies and directives into protocol. Add Lidocaine for pain control in IO infusion of conscious patients.
09/05/2014- Added in max total pediatric dose not to exceed adult dose for fentanyl on pain and burn protocol.
10/10/2014- Revised second page of Traumatic Cardiac Arrest protocol to remove discrepancy with Determination of Death Policy.
01/01/2015- Changed Hypoperfusion/Shock Protocol to reduce fluid bolus from 500 mL to 250 mL, and add Dopamine for extended transport to volume related shock. Changed special considerations for Traumatic Cardiac Arrest to update fluid bolus from 500 mL to 250 mL. Addition of RRH as Base Hospital.
07/01/2015- Removed ET tube administration of medications. Removed Ativan. Updated Seizure protocol. Moved MS and Fentanyl to Level 1 medication status. Deleted PVC protocol. Removed Naso-Tracheal intubation. Removed Verapamil. Removed Atropine from asystole protocol. Updated Spinal Motion Restriction. Many other clarifications made. Dextrose 50% changed to Dextrose 10%
09/01/2015 Updated Seizure protocol; new dosages of Versed; no base contact required if patient is actively seizing.

4/26/2016- Added Kern Medical as Primary Stroke Center. Revised Kern Medical Center to Kern Medical. Add Kern Medical, San Joaquin Community, and Bakersfield Memorial hospitals as Pediatric Receiving Centers, per BOS approval of contracts.

06/01/2016- Add #801 CHEMPACK and #703 Inter-facility Transfer Portable Ventilator Procedure. EMCAB approval.

09/01/2016 Removed Inferior AMI contraindication for NTG. Added Volume limit for IN Versed. Updated Burn and Seizure protocol to reflect Versed and IN changes.

10/07/2016- Removed Bakersfield Heart Hospital as a designated stroke facility due to lapse in primary stroke certification.

01/01/2017- Added protocol 107: Determination of Death (EMCAB Approval)

12/06/2016- Added Delano Regional Medical Center as Pediatric Receiving Center

07/11/2017- Added Burn Center Designation to destination protocol and included Bakersfield Memorial Hospital as a designated burn center

09/17/2017- Changed San Joaquin Community Hospital (SJCH) to Adventist Health-Bakersfield (AH-B). Added Adventist Health-Bakersfield as a designated burn receiving center.

10/31/2017- Added Turn Over of Patient Care Authority to Destination Decision Summary. Removed Adventist Health-Bakersfield as a designated burn receiving center.

01/02/2018- Removed Pediatric Intubation, Blood Products, and Nitroglycerin/Heparin from optional scope of practice and protocols.

05/24/2018- Removed reference to Sub Cutaneous and IV use of Epinephrine from the notes of Respiratory Compromise