

VCEMS TRAINING BULLETIN

Bulletin 028
Date: May 21, 2015

IMPROVING QUALITY...CONTINUOUSLY



Ventura County Emergency Medical Services Agency

Spring 2015 EMS UPDATE INFORMATION

Spring 2015 EMS Update was cancelled due to the small amount of information from PSC, however, there are some policy changes effective June 1 that you need to be aware of. This Training Bulletin is being created for that purpose. Please read carefully.

VCEMS Policy 430—STEMI Receiving Center (SRC) Standards

- The term 'Meets ST Segment Elevation MI Criteria' was added to the policy to reflect new language found on 12 Lead ECG performed on the Lifepak 15.
- Additional minor spelling and formatting changes were applied to the policy as well.
- ***There are no changes to the procedural aspects of this policy, only language added to reflect current practice related to the Physio-Control LP15.***

VCEMS Policy 705.07—Cardiac Arrest Asystole/PEA

- BLS Procedures were merged and updated to better reflect CAM procedures.
 - Calcium Chloride was placed in front of Sodium Bicarbonate for patients with a history of renal failure.
 - PRESTO Blood Draw was added to IV/IO Access
- See Attached Draft Policy**

VCEMS Policy 705.08—Cardiac Arrest VF/VT

- BLS Procedures were merged and updated to better reflect CAM procedures.
 - Calcium Chloride was placed in front of Sodium Bicarbonate for patients with a history of renal failure.
 - PRESTO Blood Draw was added to IV/IO Access
- See Attached Draft Policy**

VCEMS Policy 705.11—Crush Injury / Syndrome

- Actual v Potential Crush Injury was defined throughout the policy.
 - Minor formatting change applied to reflect true abbreviation of grams as 'g' for Calcium Chloride. BLS procedures were also merged.
 - Prior to Base Contact Procedures for Adult and Pediatric were merged.
- See Attached Draft Policy**

VCEMS Policy 705.19—Pain Control

Dosing for elderly patients (65 years of age or older) was revised:

- 0.05 mg IV/IM for patients that are 65 years of age and older.
 - Subsequent 2nd and 3rd doses, if needed, will remain 1/2 of original dose (maximum 2.5 mg for each dose).
- Symptomatic bradycardia was also added to the special considerations in the notes of this policy. Under this special consideration, symptomatic bradycardia patients requiring pain control for transcutaneous pacing would receive 0.05 mg/kg of Morphine Sulfate for pain control.
- BLS procedures were also merged.

See Attached Draft Policy

CONTINUED ON PAGE 2

VCEMS TRAINING BULLETIN

Bulletin 028
May 21, 2015

VCEMS Policy 705.24—Symptomatic Bradycardia

- Minor formatting changes applied, and 'gm' was changed to 'g' under Calcium Chloride.
- 705.19—Pain Control was referenced related to Morphine Sulfate administration.
- ***There are no changes to the dosages or treatment guidelines for this policy.***

VCEMS Policy 1000—Documentation of Prehospital Care

- DIP (Distal Interphalangeal Joint) was added as an approved abbreviation to Attachment A of this policy.
- The abbreviation for Grams was changed from 'gm' to 'g' to better reflect current standards in healthcare documentation.

VCEMS Policy 1201—Air Unit Staffing Requirements

- Minor formatting changes were applied throughout the policy to better reflect approved acronyms for EMT and Paramedic (EMT-I to EMT, and EMT-P to Paramedic).

VCEMS Policy 1404—Guidelines for Interfacility Transfer of Patients to a Trauma Center

Additional conditions were added to the list of approved criteria that is used as a guideline for the transfer of a trauma patient to a trauma center.

- Amputation or partial amputation of any part of the hand
- Penetrating injury to the globe of the eye, at risk for vision loss

See Attached Draft Policy

VCEMS Policy 1405—Trauma Triage and Destination Criteria

Additional conditions were added to Step 4—Other Criteria on VCEMS Trauma Triage Decision Scheme:

- Amputation or partial amputation of any part of the hand
- Penetrating injury to the globe of the eye, at risk for vision loss
- A list of antiplatelet and anticoagulant drugs will be developed and continuously reviewed and maintained through the prehospital services committee (PSC). This list will be uploaded to FieldBridge through the ImageTrend system so that it is available for reference on scene by prehospital personnel.

See Attached Draft Policy

All remaining policies not attached to this training bulletin will be distributed prior to June 1.

VENTURA COUNTY EMS AGENCY

Phone: 805-981-5301

Fax: 805-981-5300

Web Page: www.vchca.org/ems

These updated policies will be posted on the VCEMS Web Site:

<http://www.vchca.org/ems/policies>

Cardiac Arrest – Asystole/Pulseless Electrical Activity (PEA)	
ADULT	PEDIATRIC
BLS Procedures	
Initiate Cardiac Arrest Management (CAM) Protocol Airway management per VCEMS policy	
ALS Prior to Base Hospital Contact	
<p>Assess/treat causes IV/IO access</p> <ul style="list-style-type: none"> • PRESTO Blood Draw <p>Epinephrine</p> <ul style="list-style-type: none"> • IV/IO – 1:10,000: 1 mg (10 mL) q 3-5 min <p>If suspected hypovolemia:</p> <ul style="list-style-type: none"> • Normal Saline <ul style="list-style-type: none"> ○ IV/IO bolus – 1 Liter <p>ALS Airway Management</p> <ul style="list-style-type: none"> • If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures 	<p>Assess/treat causes IV/IO access</p> <ul style="list-style-type: none"> • PRESTO Blood Draw <p>Epinephrine 1:10,000</p> <ul style="list-style-type: none"> • IV/IO – 0.01mg/kg (0.1 mL/kg) q 3-5 min <p>If suspected hypovolemia:</p> <ul style="list-style-type: none"> • Normal Saline <ul style="list-style-type: none"> ○ IV/IO bolus – 20 mL/kg <ul style="list-style-type: none"> • Repeat x 2 <p>ALS Airway Management</p> <ul style="list-style-type: none"> • If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures <p>Make early Base Hospital contact for all pediatric cardiac arrests</p>
Base Hospital Orders only	
<p>Tricyclic Antidepressant Overdose</p> <ul style="list-style-type: none"> • Sodium Bicarbonate <ul style="list-style-type: none"> • IV/IO – 1 mEq/kg <ul style="list-style-type: none"> • Repeat 0.5 mEq/kg q 5 min <p>Beta Blocker Overdose</p> <ul style="list-style-type: none"> • Glucagon <ul style="list-style-type: none"> ○ IV/IO – 2 mg <ul style="list-style-type: none"> • May give up to 10mg if available <p>Calcium Channel Blocker Overdose</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> ○ IV/IO – 1 g <ul style="list-style-type: none"> • Repeat x 1 in 10 min • Glucagon <ul style="list-style-type: none"> ○ IV/IO – 2 mg <ul style="list-style-type: none"> • May give up to 10mg if available <p>History of Renal Failure/Dialysis</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> • IV/IO – 1 g <ul style="list-style-type: none"> • Repeat x 1 in 10 min • Sodium Bicarbonate <ul style="list-style-type: none"> • IV/IO – 1 mEq/kg <ul style="list-style-type: none"> • Repeat 0.5 mEq/kg q 5 min x2 	<p>Tricyclic Antidepressant Overdose</p> <ul style="list-style-type: none"> • Sodium Bicarbonate <ul style="list-style-type: none"> • IV/IO – 1 mEq/kg <ul style="list-style-type: none"> • Repeat 0.5 mEq/kg q 5 min <p>Beta Blocker Overdose</p> <ul style="list-style-type: none"> • Glucagon <ul style="list-style-type: none"> • IV/IO – 0.1 mg/kg <ul style="list-style-type: none"> • May give up to 10mg if available <p>Calcium Channel Blocker Overdose</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> • IV/IO – 20 mg/kg <ul style="list-style-type: none"> • Repeat x 1 in 10 min • Glucagon <ul style="list-style-type: none"> • IV/IO – 0.1 mg/kg <ul style="list-style-type: none"> • May give up to 10mg if available <p>History of Renal Failure/Dialysis</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> • IV/IO – 20 mg/kg <ul style="list-style-type: none"> • Repeat x 1 in 10 min • Sodium Bicarbonate <ul style="list-style-type: none"> • IV/IO – 1 mEq/kg <ul style="list-style-type: none"> • Repeat 0.5 mEq/kg q 5 min x2
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
<p>Additional Information :</p> <ul style="list-style-type: none"> • If sustained ROSC (> 30 seconds), perform 12-lead EKG. Transport to SRC. • If suspected hypovolemia, initiate immediate transport • In cases of normothermic cardiac arrest patients 18 years and older with unwitnessed cardiac arrest, adequate ventilations, vascular access, and persistent asystole or PEA despite 20 minutes of standard advanced cardiac life support, the base hospital should consider termination of resuscitation in the field. If transported, the patient may be transported Code 2. If unable to contact the base hospital, resuscitative efforts may be discontinued and patient determined to be dead. • If patient is hypothermic – only ONE round of medication administration prior to Base Hospital contact. Field determination of death is discouraged in these patients and they should be transported to the most accessible receiving facility. 	

Cardiac Arrest – VF/VT	
ADULT	PEDIATRIC
BLS Procedures	
Initiate Cardiac Arrest Management (CAM) Protocol Airway management per VCEMS policy	
ALS Prior to Base Hospital Contact	
<p>Defibrillate</p> <ul style="list-style-type: none"> Use the biphasic energy settings that have been approved by service provider medical director Repeat every 2 minutes as indicated <p>IV or IO access</p> <ul style="list-style-type: none"> PRESTO Blood Draw <p>Epinephrine</p> <ul style="list-style-type: none"> IV/IO – 1:10,000: 1 mg (10 mL) q 3-5 min <p>Amiodarone</p> <ul style="list-style-type: none"> IV/IO – 300 mg – after second defibrillation If VT/VF persists, 150 mg IV/IO in 3-5 minutes <p>ALS Airway Management</p> <ul style="list-style-type: none"> If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures <p>If VF/VT stops, then recurs, perform defibrillation at the last successful biphasic energy setting</p>	<p>Defibrillate – 2 Joules/kg</p> <ul style="list-style-type: none"> If patient still in VF/VT at rhythm check, increase to 4 Joules/kg Repeat every 2 minutes as indicated <p>IV or IO access</p> <ul style="list-style-type: none"> PRESTO Blood Draw <p>Epinephrine 1:10,000</p> <ul style="list-style-type: none"> IV/IO – 0.01mg/kg (0.1 mL/kg) q 3-5 min <p>Amiodarone</p> <ul style="list-style-type: none"> IV/IO – 5 mg/kg – after second defibrillation If VT/VF-persists, 2.5 mg/kg IV/IO in 3-5 minutes <p>ALS Airway Management</p> <ul style="list-style-type: none"> If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures <p>If VF/VT stops, then recurs, perform defibrillation at the last successful biphasic energy setting</p>
Base Hospital Orders only	
<p>Tricyclic Antidepressants</p> <ul style="list-style-type: none"> Sodium Bicarbonate <ul style="list-style-type: none"> IV/IO – 1 mEq/kg <ul style="list-style-type: none"> Repeat 0.5 mEq/kg q 5 min <p>Torsades de Pointes</p> <ul style="list-style-type: none"> Magnesium Sulfate <ul style="list-style-type: none"> IV/IO – 2 gm over 2 min <ul style="list-style-type: none"> May repeat x 1 in 5 min 	<p>Tricyclic Antidepressants</p> <ul style="list-style-type: none"> Sodium Bicarbonate <ul style="list-style-type: none"> IV/IO – 1 mEq/kg <ul style="list-style-type: none"> Repeat 0.5 mEq/kg q 5 min
<p>Consult with ED Physician for further treatment measures <u>ED Physician Order Only</u></p> <ol style="list-style-type: none"> If patient converts to narrow complex rhythm greater than 50 bpm and not in 2nd or 3rd degree heart block, and amiodarone not already given, consider amiodarone 150 mg IVPB History of Renal Failure/Dialysis <ul style="list-style-type: none"> Calcium Chloride <ul style="list-style-type: none"> IV/IO – 1g <ul style="list-style-type: none"> Repeat x 1 in 10 min Sodium Bicarbonate <ul style="list-style-type: none"> IV/IO – 1 mEq/kg <ul style="list-style-type: none"> Repeat 0.5 mEq/kg q 5 min 	<p>Consult with ED Physician for further treatment measures <u>ED Physician Order Only</u></p> <ol style="list-style-type: none"> If patient converts to narrow complex rhythm greater than 50 bpm and not in 2nd or 3rd degree heart block, and amiodarone not already given, consider amiodarone 2.5 mg/kg IVPB History of Renal Failure/Dialysis <ul style="list-style-type: none"> Calcium Chloride <ul style="list-style-type: none"> IV/IO – 20 mg/kg over 1 min <ul style="list-style-type: none"> Repeat x 1 in 10 min Sodium Bicarbonate <ul style="list-style-type: none"> IV/IO – 1 mEq/kg <ul style="list-style-type: none"> Repeat 0.5 mEq/kg q 5 min
<p>Additional Information:</p> <ul style="list-style-type: none"> If sustained ROSC (>30 seconds), perform 12-lead EKG. Transport to SRC If patient is <u>hypothermic</u>—only ONE round of medication administration and limit <i>defibrillation to 6 times</i> prior to Base Hospital contact. Field determination of death is discouraged in these patients and they should be transported to the most accessible receiving facility Ventricular tachycardia (VT) is a rate > 150 bpm 	

Effective Date: June 1, 2015
Next Review Date: May 31, 2017

Date Revised: Jan 8, 2015
Last Reviewed: Jan 8, 2015



VCEMS Medical Director

Crush Injury/Syndrome	
ADULT	PEDIATRIC
BLS Procedures	
Perform spinal precautions as indicated Determine Potential vs. Actual Crush Syndrome Administer oxygen as indicated	
ALS Prior to Base Hospital Contact	
Potential for Crush Syndrome <ul style="list-style-type: none"> • IV access • Maintain body heat • Release compression • Monitor for cardiac dysrhythmias 	
Communication Failure Protocol	
Crush Syndrome <ul style="list-style-type: none"> • Initiate 2nd IV access • Normal Saline <ul style="list-style-type: none"> ○ IV bolus – 1 Liter <ul style="list-style-type: none"> • Caution with cardiac and/or renal history • Sodium Bicarbonate <ul style="list-style-type: none"> ○ IV mix – 1 mEq/kg <ul style="list-style-type: none"> • Added to 1st Liter of Normal Saline • Albuterol <ul style="list-style-type: none"> ○ Nebulizer – 5 mg/6 mL <ul style="list-style-type: none"> • Repeat x 2 • Morphine – Per Policy 705 - Pain Control • Maintain body heat • Release compression • Monitor for cardiac dysrhythmias • For cardiac dysrhythmias: <ul style="list-style-type: none"> ○ Calcium Chloride <ul style="list-style-type: none"> • IV – 1 g over 1 min For continued shock <ul style="list-style-type: none"> • <i>Repeat Normal Saline</i> <ul style="list-style-type: none"> ○ IV bolus – 1 Liter 	Crush Syndrome <ul style="list-style-type: none"> • Initiate 2nd IV access if possible or establish IO • Normal Saline <ul style="list-style-type: none"> ○ IV/IO bolus – 20 mL/kg <ul style="list-style-type: none"> • Caution with cardiac and/or renal history • Sodium Bicarbonate <ul style="list-style-type: none"> ○ IV mix– 1 mEq/kg <ul style="list-style-type: none"> • Added to 1st Liter of Normal Saline • Albuterol <ul style="list-style-type: none"> ○ Less than 2 years old <ul style="list-style-type: none"> • Nebulizer – 2.5 mg/3 mL <ul style="list-style-type: none"> ○ Repeat x 2 ○ 2 years old and greater <ul style="list-style-type: none"> • Nebulizer – 5 mg/6 mL <ul style="list-style-type: none"> ○ Repeat x 2 • Maintain body heat • Release compression • Monitor for cardiac dysrhythmias • For cardiac dysrhythmias: <ul style="list-style-type: none"> ○ Calcium Chloride <ul style="list-style-type: none"> • IV/IO – 20 mg/kg over 1 min For continued shock <ul style="list-style-type: none"> • <i>Repeat Normal Saline</i> <ul style="list-style-type: none"> ○ IV/IO bolus – 20 mL/kg
Base Hospital Orders only	
For persistent hypotension after fluid bolus: <ul style="list-style-type: none"> • Dopamine <ul style="list-style-type: none"> ○ IVPB – 10 mcg/kg/min Consult with ED Physician for further treatment measures	For persistent hypotension after fluid bolus: <ul style="list-style-type: none"> • Dopamine <ul style="list-style-type: none"> ○ IVPB – 10 mcg/kg/min Consult with ED Physician for further treatment measures
Additional Information: <ul style="list-style-type: none"> • Potential Crush Syndrome – Continuous crush injury to torso or extremity above wrist or ankle for 2 hours or less. • Crush Syndrome – Continuous crush injury to torso or extremity above wrist or ankle for greater than 2 hours. • If elderly or cardiac history is present, use caution with fluid administration. Reassess and treat accordingly. • Dysrhythmias are usually secondary to Hyperkalemia. ECG monitor may show: Peaked T-waves, Absent P-waves, widened QRS complexes, bradycardia • Calcium Chloride and Sodium Bicarbonate precipitate when mixed. Strongly consider starting a second IV (if feasible) for administration of Calcium Chloride 	

Effective Date: June 1, 2015
Next Review Date: March 31, 2017

Date Revised: March 11, 2015
Last Reviewed: March 11, 2015



VCEMS Medical Director

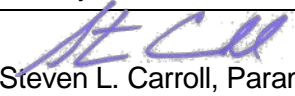

Pain Control	
ADULT	PEDIATRIC
BLS Procedures	
Place patient in position of comfort Administer oxygen as indicated	
ALS Prior to Base Hospital Contact	
<p>IV/IO access</p> <p>Cardiac Monitor</p> <p>Ondansetron</p> <ul style="list-style-type: none"> IV/IM/ODT – 4 mg <p>Morphine – Pain 5 out of 10 or greater</p> <p>Initial IV Dose</p> <ul style="list-style-type: none"> Slow IVP - 0.1 mg/kg over 2 minutes¹ Maximum for ANY IV dose is 10 mg 65 years of age or older <ul style="list-style-type: none"> IV 0.05 mg/kg MAX dose 5 mg <p>Initial IM Dose</p> <ul style="list-style-type: none"> IM - 0.1 mg/kg¹ Maximum for ANY IM dose is 10 mg 65 years of age or older <ul style="list-style-type: none"> IM 0.05 mg/kg MAX dose 5 mg <p>Second IV/IM Dose, if pain persists 5 minutes after IV morphine, or 15 minutes after IM morphine</p> <ul style="list-style-type: none"> Administer half of the initial morphine dose <p>Third IV/IM Dose, if pain persists 5 minutes after 2nd IV morphine, or 15 minutes after 2nd IM morphine</p> <ul style="list-style-type: none"> Ondansetron (only if third dose of morphine needed) IV/IM/ODT – 4 mg Administer half of the initial morphine dose <p>Check and document vital signs before and after each administration</p> <ul style="list-style-type: none"> Hold if SBP < 100 mmHg <p><i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i></p>	<p>IV/IO access</p> <p>Cardiac Monitor</p> <p>Ondansetron: Patient 4 years of age or older</p> <ul style="list-style-type: none"> IV/IM/ODT – 4 mg <p>Morphine – Pain 5 out of 10 or greater</p> <p>Morphine – given for burns and isolated extremity injuries only. Consider early base contact for other pediatric complaints of pain (e.g. dog bite, cancer)</p> <p>Initial IV Dose</p> <ul style="list-style-type: none"> Slow IVP - 0.1 mg/kg over 2 minutes¹ Maximum for ANY IV dose is 10 mg <p>Initial IM Dose</p> <ul style="list-style-type: none"> IM - 0.1 mg/kg¹ Maximum for ANY IM dose is 10 mg <p>Second IV/IM Dose, if pain persists 5 minutes after IV morphine, or 15 minutes after IM morphine</p> <ul style="list-style-type: none"> Administer half of the initial morphine dose <p>Third IV/IM Dose, if pain persists 5 minutes after 2nd IV morphine, or 15 minutes after 2nd IM morphine</p> <ul style="list-style-type: none"> Ondansetron (only if third dose of morphine needed) <ul style="list-style-type: none"> IV/IM/ODT – 4 mg Administer half of the initial morphine dose <p>Check and document vital signs before and after each administration</p> <ul style="list-style-type: none"> Hold if SBP < 100 mmHg <p><i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i></p>
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	
<p>Additional Information</p> <p>1. Special considerations, administer 0.05 mg/kg</p> <ul style="list-style-type: none"> Chest pain not resolved by nitroglycerine (NTG) Patient with history of adverse reaction to morphine Symptomatic bradycardia for patients receiving transcutaneous pacing. 	

Effective Date: June 1, 2015
Next Review Date: May 31, 2017

Date Revised: May 14, 2015
Last Reviewed: May 14, 2015



VCEMS Medical Director

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Guidelines for Interfacility Transfer of Patients to a Trauma Center		Policy Number 1404	
APPROVED: Administration:	 Steven L. Carroll, Paramedic	Date: June 1, 2015	
APPROVED: Medical Director:	 Angelo Salvucci, M.D.	Date: June 1, 2015	
Origination Date:	July 1, 2010	Effective Date: June 1, 2015	
Date Revised:	March 3, 2015		
Date Last Reviewed:	March 3, 2015		
Review Date:	March 31, 2017		

- I. PURPOSE: To establish guidelines for the transfer of a trauma patient from a hospital in Ventura County to a Level II trauma center.
- II. AUTHORITY: Health and Safety Code, §1797.160, §1797.161, and §1798, and California Code of Regulations, Title 22, §100255.
- III. DEFINITIONS:
 - A. **EMERGENT** Transfer: A process by which a patient with potential life-or-limb threatening traumatic injuries is transferred to a trauma center. The patient requires an immediate procedure at a trauma center, and a delay in transfer will result in deterioration of the patient's condition, and the treating physician requests immediate transport to a trauma center.
 1. Trauma Call Continuation: A process by which a patient with potential life-or-limb threatening traumatic injuries who has been taken to the emergency department by ALS ambulance is transferred to a trauma center. The patient requires an immediate procedure at a trauma center, the ALS ambulance is still on the premises, and the treating physician requests immediate transport to a designated trauma center.
 - B. **URGENT** Transfer: A process by which a patient with time-critical traumatic injuries is transferred to a trauma center. The patient requires a timely procedure at a trauma center, and a lengthy delay will result in deterioration of the patient's condition, and the treating physician requests prompt transport to a trauma center.
- IV POLICY: The following criteria will be used as a guideline for the transfer of a trauma patient to a trauma center.

- A. For patients who are in the emergency department at a community hospital and have one or more of the following injuries, if the referring physician requests transfer to a trauma center, the trauma center will immediately accept the patient.
1. Carotid or vertebral arterial injury
 2. Torn thoracic aorta or great vessel
 3. Cardiac rupture
 4. Bilateral pulmonary contusion with PaO₂ to FiO₂ ratio less than 200
 5. Major abdominal vascular injury
 6. Grade IV, V or VI liver injuries
 7. Grade III, IV or V spleen injuries
 8. Unstable pelvic fracture
 9. Fracture or dislocation with neurovascular compromise
 10. Penetrating injury or open fracture of the skull
 11. Glasgow Coma Scale score <14 or lateralizing neurologic signs
 12. Unstable spinal fracture or spinal cord deficit
 13. >2 unilateral rib fractures or bilateral rib fractures with pulmonary contusion
 14. Open long bone fracture
 15. Significant torso injury with advanced co-morbid disease (such as coronary artery disease, chronic obstructive pulmonary disease, type 1 diabetes mellitus, or immunosuppression)
 16. Amputations or partial amputations of any portion of the hand¹
 17. Injury to the globe at risk for vision loss²
- B. Ventura County Level II Trauma Centers:
1. Agree to immediately accept from Ventura County community hospitals, patients with conditions included in the guidelines above.
 2. Will publish a point-of-contact phone number for an individual authorized to accept the transfer of a patient with a condition included in the guidelines above, or to request consultation with a trauma surgeon.
 3. Will establish a written interfacility transfer agreement with every hospital in Ventura County.
 4. Immediately post on ReddiNet and notify EMS Administrator on-call when there is no capacity to accept trauma patients due to:
 - a. Diversion for internal disaster
 - b. CT scanner(s) non-operational

- c. Primary and back-up trauma surgeons in operating rooms with trauma patients
- C. Community Hospitals:
 1. Are not required to transfer patients with conditions included in the guidelines above to a trauma center when resources and capabilities for providing care exist at their facility.
 2. Will enter into a written interfacility transfer agreement with every trauma center in Ventura County.
- D. **EMERGENT** Transfers
 1. **EMERGENT** transfers are indicated for patients with life-or-limb threatening injuries in need of emergency procedures at a trauma center. Criteria **MUST** include at least one of the following:
 - a. Indications for an immediate neurosurgical procedure.
 - b. Penetrating gunshot wounds to head or torso.
 - c. Penetrating or blunt injury with shock.
 - d. Vascular injuries that cannot be stabilized and are at risk of hemorrhagic shock or loss of limb acutely (excluding fingers/toes).
 - e. Pregnancy with indications for an immediate Cesarean section.
 2. For **EMERGENT** transfers, trauma centers will:
 - a. Publish a single phone number (“hotline”), that is answered 24/7, for an individual authorized to accept the transfer of patients who have a condition as described in Section D.1 of this policy.
 - b. Immediately upon initial notification by a transferring physician, accept in transfer all patients who have a condition as described in Section D.1 of this policy.
 3. For **EMERGENT** transfers, community hospitals will:
 - a. Assemble and maintain a “Emergency Transfer Pack” in the emergency department to contain all of the following:
 1. Checklist with phone numbers of Ventura County trauma centers.
 2. Patient consent/transfer forms.
 3. Treatment summary sheet.
 4. Ventura County EMS “Emergency Trauma Patient Transfer QI Form.”

- b. Have policies, procedures, and a quality improvement system in place to track and review all **EMERGENT** transfers and Trauma Call Continuations.
 - c. Maintain an ambulance arrival to emergency department (ED) departure time of no longer than ten minutes.
 - d. Establish policies and procedures to make personnel available, when needed, to accompany the patient during the transfer to the trauma center.
 4. For **EMERGENT** transfers, Ventura County Fire Communications Center (FCC) will:
 - a. Respond to an **EMERGENT** transfer request by immediately dispatching the closest available ALS ambulance to the requesting hospital.
 - b. Consider Trauma Call Continuation transfers to be a follow-up to the original incident, and will link the trauma transfer fire incident number to the original 911 fire incident number.
 5. For **EMERGENT** transfers, ambulance companies will:
 - a. Respond immediately upon request.
 - b. For “Trauma Call Continuation” requests, immediately transport the patient to a trauma center with the same ALS personnel and vehicle that originally transported the patient to the community hospital.
 - c. Not be required to consider **EMERGENT** transports as an “interfacility transport” as it pertains to ambulance contract compliance.
- E. **URGENT** Transfers
 1. **URGENT** transfers are indicated for patients with time-critical injuries in need of timely procedures at a trauma center.
 2. For **URGENT** transfers, trauma centers will:
 - a. Publish a single phone number, that is answered 24/7, for a community hospital to request an urgent trauma transfer. Additionally, this line may be used to request additional consultation with a trauma surgeon if needed
 3. For **URGENT** transfers, community hospitals will:
 - a. Maintain an ambulance arrival to emergency department (ED) departure time of no longer than twenty minutes.

4. For **URGENT** transfers, ambulance companies will:
 - a. Arrive at the requesting ED no later than thirty minutes from the time the request was received.

V. PROCEDURE:

A. **EMERGENT** Transfers

1. After discussion with the patient, the transferring hospital will:
 - a. Call the trauma hotline of the closest trauma center to notify of the transfer.
 - b. Call FCC, advise they have an **EMERGENT** transfer, and request an ambulance. If the patient's clinical condition warrants, the transferring hospital will call FCC *before* calling the trauma center's hotline.
 - c. Complete transfer consent and treatment summary.
 - d. Prepare copies of the ED triage assessment form and demographic information form.
2. Upon request for an **EMERGENT** transfer, the dispatch center will dispatch the closest ALS ambulance and verbalize "MEDxxx E MERGENCY Trauma Transfer from [transferring hospital]". The trauma center will be denoted in the incident comments, which will display on the mobile data computer (MDC). If a unit does not have an operational MDC, the transferring hospital will advise the responding ambulance personnel of the destination trauma center.
3. Upon notification, the ambulance will respond Code (lights and siren).
4. FCC will track ambulance dispatch, enroute, on scene, en-route hospital, at hospital, and available times.
5. The patient shall be emergently transferred without delay. Every effort will be made to limit ambulance on-scene time in the transferring hospital ED to ten minutes.
 - a. All forms should be completed prior to ambulance arrival.
 - b. Any diagnostic test or radiologic study results may either be relayed to the trauma center at a later time, or if time permits, copied and sent with the patient to the trauma center.
 - c. Intravenous drips may be discontinued or remain on the ED pump.
 - d. The transporting paramedic will contact the trauma base hospital enroute and provide updated patient information.

B. Trauma Call Continuation

1. Upon determination of a Trauma Call Continuation, and after discussion with the patient, the community hospital will:
 - a. Direct the ambulance personnel to prepare to continue the transport to the trauma center.
 - b. Notify the designated trauma center ED of the immediate re-triage of a trauma patient, and communicate the patient's apparent injuries or reason for the re-triage, after the call is continued and the patient is enroute to the trauma center.
2. Upon notification of Trauma Call Continuation, the ambulance personnel will notify FCC of their assignment to a Trauma Call Continuation. FCC will link the trauma transfer to the original 911 incident and continue tracking enroute hospital (departure from community hospital), at hospital (arrival at trauma center) and available times.
3. When the transferring physician determines the patient is ready and directs ambulance personnel to continue the transport, the ambulance will emergently transport the patient to the trauma center. The transporting paramedic will contact the trauma base hospital enroute and provide updated patient information.

C. **URGENT** Transfers

1. After discussion with the patient, the transferring hospital will:
 - a. Call the trauma hotline for the closest trauma center to request an urgent trauma transfer. This call may be used to request additional consultation with the trauma surgeon if needed.
 - b. Call the transport provider to request an ambulance.
 - c. Complete transfer consent and treatment summary.
 - d. Prepare copies of the ED triage assessment form.
 - e. Limit ambulance on-scene time in the transferring hospital ED to twenty minutes.
2. Upon request for an Urgent transfer, the transport provider will dispatch an ambulance to arrive no later than thirty minutes after the request.

D. For all **EMERGENT** transfers, the transferring hospital will submit a completed Emergency Trauma Patient Transfer QI Form to the Ventura County EMS Agency within 72 hours. The transfer will be reviewed for appropriate and timely care and

to identify opportunities for improvement. Results will be reviewed and discussed at the Countywide EMS Trauma Operational Review Committee.

¹For patients with isolated traumatic amputations or partial amputations of any portion of the hand, a community hospital may elect to transfer the patient to a Ventura County trauma center for potential replantation surgery. In these circumstances, the community hospital shall contact Los Robles Hospital and Medical Center (LRHMC) to determine the availability of a hand surgeon trained in microvascular replantation surgery. If a specialty hand surgeon is available the patient shall be preferentially transferred to LRHMC.

²Patients with isolated eye injuries needing transfer to a trauma center for potential ophthalmologic surgery shall be preferentially transferred to Ventura County Medical Center.



**EMERGENT Trauma Transfer
QI Form**
Form: Ventura County EMS Agency Policy 1404

(ALL FIELDS MUST BE COMPLETED)

Date of Incident: _____

Sending Hospital:

- SVH SJPVH SJRMC OVCH CMH SPH

Treating Physician: _____

Patient arrived at sending ED at _____ (time of ED arrival)

- Brought by EMS: Fire Incident Number _____
 Brought by POV or Walk-In

Destination Trauma Center:

- LRHMC
 VCMC
 Other: _____

Patient Transfer Process:

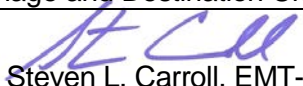

- Ambulance with paramedic ONLY
 Ambulance with accompanying healthcare personnel
 Trauma Call Continuation

Which of the following Policy 1404 criteria applies?

- Indications for an immediate neurosurgical procedure
 Penetrating gunshot wound to head or torso
 Penetrating wound by any mechanism and presents with or develops shock.
 Blunt injury and shock
 Vascular injury that cannot be stabilized and is at risk of hemorrhagic shock or loss of limb acutely
 Pregnancy with indications for immediate Cesarean section

Comments:

Within 72 hours of transfer, fax or scan/email to VCEMS: Fax--(805) 981-5300 Email--katy.haddock@ventura.org

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Trauma Triage and Destination Criteria		Policy Number: 1405	
APPROVED: Administration:	 Steven L. Carroll, EMT-P	Date: June 1, 2015	
APPROVED: Medical Director:	 Angelo Salvucci, M.D.	Date: June 1, 2015	
Origination Date:	July 1, 2010		
Date Revised:	March 3, 2015	Effective Date: June 1, 2015	
Date Last Reviewed:	March 3, 2015		
Review Date:	March 31, 2017		

- I. **PURPOSE:** To guide out-of-hospital personnel in determining which patients require the services of a designated trauma center. To serve as the EMS system standard for triage and destination of patients suffering acute injury or suspected acute injury.
- II. **AUTHORITY:** Health and Safety Code, §1797.160, §1797.161, and §1798. California Code of Regulations, Title 22, §100252 and §100255.
- III. **POLICY:** These criteria apply to any patient who is injured or has a physical complaint related to trauma, and is assessed by EMS personnel at the scene.
 - A. **Physiologic Criteria, Step 1:**
 1. Glasgow Coma Scale < 14
 2. Systolic blood pressure < 90 mmHg
(< 110 in patients older than 65 years of age)
 3. Respiratory rate < 10 or > 29 breaths per minute
(< 20 in infant younger than 1 year of age)
 - B. **Anatomic Criteria, Step 2:**
 1. Penetrating wounds to the head, neck, torso, or extremities proximal to the elbow or knee
 2. Flail chest
 3. Two or more proximal long bone fractures (femur or humerus)
 4. Crushed, degloved, or mangled extremity
 5. Amputations proximal to wrist or ankle
 6. Pelvic fractures
 7. Open or depressed skull fracture
 8. Paralysis
 - C. **Mechanism of Injury Criteria, Step 3:**
 1. Adults: > 20 feet (one story is equal to 10 feet)
Children < 15 years old: > 10 feet, or two times the height of the child
 2. High-risk auto crash:

-
- a. Intrusion: interior measurement > 12 inches patient site; > 18 inches any occupant site
 - b. Ejection: partial or complete from automobile
 - c. Death in same passenger compartment
3. Auto-pedestrian / auto-bicyclist thrown, run over, or with > 20 mph impact
 4. Unenclosed vehicle (e.g. motorcycle, bicycle, skateboard) crash > 20 mph
- D. Other Criteria, Step 4 (these are considerations to be used by the base hospital in determining the appropriate destination hospital):
1. Age > 65 years old
 2. Head injury with loss of consciousness AND on an anticoagulant or antiplatelet drug¹
 3. Burns with trauma mechanism
 4. Time sensitive extremity injury (open fracture, neurovascular compromise)
 5. Pregnancy > 20 weeks with known or suspected abdominal trauma
 6. Prehospital care provider or MICN judgment
 7. Amputation or partial amputation of any part of the hand²
 8. Penetrating injury to the globe of the eye, at risk for vision loss³
- V. PROCEDURE:
- A. Any patient who is suffering from an acute injury or suspected acute injury shall have the trauma triage criteria applied.
 - B. For patients who meet trauma triage criteria listed in Sections A, B, or C above, the closest trauma center is considered to be the base hospital for that patient. Paramedics shall make base hospital contact and provide patient report directly to the trauma center.
 - C. Transportation units (both ground and air) shall transport patients who meet at least one of the trauma triage criteria in Sections A or B to the closest appropriate designated trauma center. If the closest trauma center is on internal disaster, these patients shall be transported to the next closest appropriate trauma center. If the closest trauma center is on CT diversion, the paramedic shall make early base contact and the MICN shall determine the most appropriate destination.
 - D. For patients who meet trauma triage criteria in Section C, the paramedic shall make base hospital contact with the closest designated trauma center. Based on the paramedic's report of the incident and the patient's assessed injuries, the trauma center MICN or ED physician shall direct destination to either the trauma center or the closest appropriate hospital.
 - E. Paramedics providing care for patients who are injured but meet only the trauma triage criteria listed in Section D above will contact the base hospital in whose catchment area the incident occurred. Destination will be determined by the base hospital MICN or ED physician. If the patient is directed other than to the regular catchment base hospital,

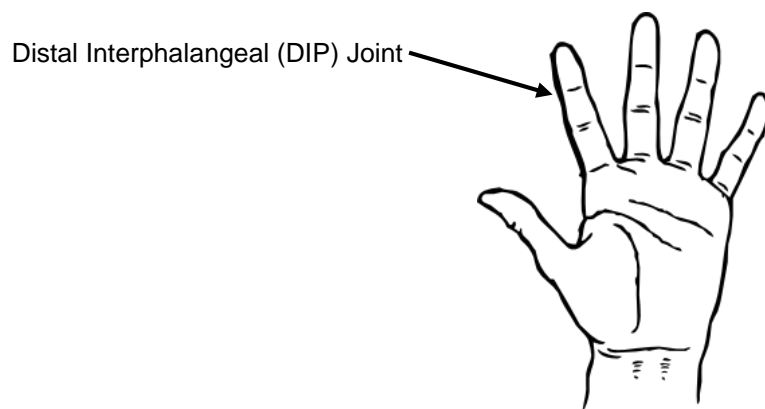
the MICN will notify the receiving hospital or trauma center of an inbound patient and relay paramedic report.

- F. A trauma patient without an effective airway may be transported to the closest available hospital with an emergency department for airway management prior to transfer to a designated trauma center. In this rare event, the paramedic will contact the base hospital in whose catchment area the incident occurred.
- G. A patient who does not meet trauma triage criteria and who, in the judgment of a base hospital, has a high probability of requiring immediate surgical intervention or other services of a designated trauma center shall be directed to a designated trauma center.

¹For a complete list of anticoagulant and antiplatelet drugs that should be considered for inclusion criteria in Step 4.2, please consult VC EMSA approved list.

²For patients with isolated traumatic amputations, partial or complete, of any portion of the hand (at or proximal to the DIP joint of any finger or any part of the thumb) ^{see illustration}, as long as bleeding is controlled and the amputated part may be transported with the patient, the regular catchment base hospital MICN may contact Los Robles Hospital and Medical Center (LRHMC) to determine the availability of a hand surgeon trained in microvascular replantation surgery. If a specialty hand surgeon is available at LRHMC and not at the regular catchment hospital, the MICN shall direct the patient to LRHMC.

³For patients with isolated penetrating injury to the globe of the eye, at risk for vision loss, the regular catchment base hospital MICN may direct the patient to Ventura County Medical Center (VCMC) for specialized ophthalmologic care and possible surgical intervention.





Ventura County Field Triage Decision Scheme

For patients with visible or suspected traumatic injuries

STEP 1

Measure vital signs and level of consciousness

- 1.1 Glasgow Coma Scale < 14
- 1.2 Systolic Blood Pressure < 90 (< 110 in patients > 65 years)
- 1.3 Respiratory Rate < 10 or > 29 breaths per minute (< 20 in infant age < 1 year)

No

Yes

Contact base trauma center
Transport to trauma center

STEP 2

Assess anatomy of injury

- 2.1 All penetrating injuries to head, neck, torso and extremities proximal to elbow and knee
- 2.2 Flail chest
- 2.3 Two or more proximal long-bone fractures (femur, humerus)
- 2.4 Crushed, degloved, or mangled extremity
- 2.5 Amputation proximal to wrist and ankle
- 2.6 Pelvic fractures
- 2.7 Open or depressed skull fracture
- 2.8 Paralysis

No

Yes

Contact base trauma center
Transport to trauma center

STEP 3

Assess mechanism of injury and evidence of high-energy impact

- Falls
 - 3.1.1 Adults: > 20 feet (one story is equal to 10 feet)
 - 3.1.2 Children < 15 years old: > 10 feet, or two times the height of the child
- High-risk auto crash
 - 3.2.1 Intrusion > 12" patient site or > 18" any occupant site, including roof
 - 3.2.2 Ejection: partial or complete from automobile
 - 3.2.3 Death in same passenger compartment
- 3.3 Auto vs. pedestrian/bicyclist thrown, run over, or with > 20 mph impact
- 3.4 Unenclosed vehicle crash > 20 mph

No

Yes

Contact base trauma center for destination decision

STEP 4

Assess special patient or system considerations

- 4.1 Age > 65
- 4.2 Head injury with loss of consciousness AND on an anticoagulant or antiplatelet drug¹
- 4.3 Burns with trauma mechanism
- 4.4 Time sensitive extremity injury (open fracture, neurovascular compromise)
- 4.5 Pregnancy > 20 weeks with known or suspected abdominal trauma
- 4.6 Prehospital care provider or MICN judgment
- 4.7 Amputation or partial amputation of any part of the hand²
- 4.8 Penetrating injury to the globe of the eye, at risk for vision loss³

No

Yes

Contact regular catchment base hospital
Consider transport to trauma center or specific resource hospital

¹See list
² Consider LRHMC
³ Consider VCMC

Transport to closest ED or by patient preference