Virtual	Pre-hospital Services Committee Agenda	March 11, 2021 9:30 a.m.

I.	**Introductions**	
II.	**Approve Agenda**	
III.	**Minutes**	
IV.	**Medical Issues**	
	A. Coronavirus Update	Dr. Shepherd/Steve Carroll
V.	**New Business**	
	A. 310 – Paramedic Scope of Practice	Chris Rosa
	B. 705.12 – Heat Emergencies	Andrew Casey
	C. 705.14 – Hypovolemic Shock	Andrew Casey
	D. 1105 - Mobile MICN Developmental Course and Examination Procedure	Karen Beatty
VI.	**Old Business**	
	A. PSC Chairman Nominations	
VII.	**Informational/Discussion Topics**	
	A. 1404 – Guidelines for IFT of Patients to a Trauma Center	Karen Beatty
	B. 1405 – Trauma Triage and Destination Criteria	Karen Beatty
VIII.	**Policies for Review**	
	A. 303 – EMT Optional Skills	
	B. 507 – Critical Care Transports	
	C. 705.13 – Cold Emergencies	
	D. 717 – Intraosseous Infusion	
IX.	**Agency Reports**	
	A. Fire Departments	
	B. Ambulance Providers	
	C. Base Hospitals	
	D. Receiving Hospitals	
	E. Law Enforcement	
	F. ALS Education Program	
	G. EMS Agency	
	H. Other	
X.	**Closing**	

Virtual	Pre-hospital Services Committee Minutes	February 11, 2021 9:30 a.m.

Topic	Discussion	Action	Approval
II. Approve Agenda		Approved	Motion: Kathy McShea Seconded: John Gillett Passed unanimous
III. Minutes		Approved	Motion: Charles Drehsen Seconded: Tom O'Connor Passed unanimous
IV. **Medical Issues**			
Coronavirus Update	• COVID numbers are improving. • Hospitals are still very busy. • Currently in most restrictive tier. • There is a very strong possibility we will experience a variant surge in March.		
V. New Business			
A. 1602 – Public Safety-First Aid Optional Skills Approval Training	This policy incorporates the new state regulations. Also allows for optional skills for use in remote areas.	Chris Rosa will follow up with all impacted agencies via email.	Motion: Kathy McShea Seconded: Heather Ellis Passed unanimous
VI. Old Business			
A.			
VII. Informational/Discussion Topics			
A. PSC Chair	The committee was asked to volunteer to assist with choosing candidates for PSC Chairman.	We will accept nominations at March 11th meeting.	
VIII. Policies for Review			
A. 100 – Local EMS Agency		Approved	Motion: Kathy McShea Seconded: Ira Tilles Passed unanimous
B. 701 – Medical Control PLP		Approved	
C. 705.27 – Sepsis Alert	The policy was presented to the committee. There was a lengthy	Approved as is until March 11th meeting. Dr. Shepherd and Andrew will	Motion: John Gillett Seconded: Ira Tilles

		discussion about renaming it to "Distributed Shock" or "Hypotension/Shock". Dr. Chase would like to add "push-dose epi if you strongly suspect shock due to sepsis".	make changes and bring back to the committee.	Passed unanimous
X.	**Agency Reports**			
	A. Fire departments	**VCFPD** – none **VCFD- none** **OFD** – none **Fed. Fire** – none **SPFD** – none **FFD** – none		
	B. Transport Providers	**LMT –** none **AMR/GCA** – none **AIR RESCUE – none**		
	C. Base Hospitals	**SAH** – none **LRRMC** – none **SJRMC –** Construction is 1 month from completion. No change to ambulances. The day our base station is moved, VCMC will act as base. **VCMC** – none		
	D. Receiving Hospitals	**PVH –** none **SPH** – none **CMH** –. none **OVCH** – none		
	E. Law Enforcement	**VCSO –**none **CSUCI PD –** none		
	F. ALS Education Programs	**Ventura College** – Students are at clinical sites and will be in the field in March.		
	G. EMS Agency	**Steve –** Ambulance contracts expire in June. We will keep our stakeholders posted on this process. **Dr. Shepherd –** none **Chris** – none **Katy** –none **Karen** – none **Julie** –none **Randy** – none		
	H. Other			
	XI. Closing	**Meeting adjourned at 11:30**		

Prehospital Services Committee 2021

For Attendance, please initial your name for the current month

Agency	LastName	FirstName	1/7/2021	2/11/2021	3/11/2020	4/8/2021	5/13/2021	6/10/2021	7/8/2021	8/12/2021	9/9/2021	10/14/2021	11/11/2021	12/9/2020	%
AMR	Goguen	Daniel													
AMR	Riggs	Cassie													
CMH - ER	Levin	Ross		RL											
CMH - ER	Querol	Amy													
OVCH - ER	Pulido	Ed													
OVCH - ER	Ferguson	Catherine													
CSUCI PD	Drehsen	Charles		CD											
CSUCI PD	Deboni	Curtis													
FFD	Herrera	Bill													
FFD	Panke	Chad													
GCA	TBD														
GCA	Sanders	Mike		MS											
Lifeline	Rosolek	James													
Lifeline	Williams	Joey													
LRRMC - ER	Brooks	Kyle													
LRRMC - ER	Moore	Bethany		BM											
OFD	Strong	Adam													
OFD	Villa	Jaime		JV											
SJPVH - ER	Hutchison	Stacy													
SJPVH - ER	Sikes	Chris													
SJRMC - ER	Larsen	Todd		TL											
SJRMC - ER	McShea	Kathy		KM											
SVH - ER	Tilles	Ira		IT											
SVH - ER	Shorts	Kristen													
V/College	O'Connor	Tom		TO											
VCFD	Tapking	Aaron		AT											
VCFD	Ellis	Heather		HE											
VNC	Williams	Joseph		JW											
VNC	Schwab	David													
VNC - Dispatch	Gregson	Erica													
VCMC - ER	Gillett	John		JG											
VCMC - ER	Gallegos	Tom													

Agency	LastName	FirstName	1/7/2021	2/11/2021	3/11/2020	4/8/2021	5/13/2021	6/10/2021	7/8/2021	8/12/2021	9/9/2021	10/14/2021	11/11/2021	12/9/2020	%
VCMC-SPH	Holt	Carrie													
VCSO SAR	Conahey	Dave		DC											
VCSO SAR	Tolle	Jonathon													
VFF	Lane	Mike													
VFF	Vilaseca	James		JV											
Below names a	**Date Change/cancelled - not counted against member for attendance**														
EMS	Carroll	Steve		SC											
EMS	Frey	Julie		JF											
EMS	Perez	Randy		RP											
EMS	Shepherd	Daniel		DS											
EMS	Rosa	Chris		CR											
EMS	Salvucci	Angelo													
EMS	Hansen	Erik													
EMS	Beatty	Karen													
EMS	Gil-Stefansen	Adriane		AS											
EMS	Garcia	Martha		MG											
EMS	Casey	Andrew		AC											
LMT	Winter	Jeff		JW											
LMT	Frank	Steve													
AMR/GCA	Gonzales	Nicole													
State Parks	Futoran	Jack		JF											
VCMC	Hill	Jessica													
VCMC	Duncan	Thomas		TD											
CMH	Hall	Elaina													
VNC	James	Lauri													
VCSO SAR	Hadland	Don													

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Paramedic Scope of Practice	Policy Number: 310
APPROVED: Administration: Steven L. Carroll, Paramedic	Date: DRAFT
APPROVED: Medical Director: Daniel Shepherd, M.D.	Date: DRAFT
Origination Date: May, 1984 Date Revised: ~~January 16, 2020~~March 11, 2021 Date Last Reviewed: ~~January 16, 2020~~March 11, 2021 Review Date: ~~January 31, 2022~~March 31, 2023	Effective Date: DRAFT

I. PURPOSE: To define the scope of practice of a Paramedic accredited and practicing in Ventura County.

II. AUTHORITY: Health and Safety Code Section 1797.172 and 1797.185. California Code of Regulations, Division 9, Chapter 4, Section 100145.

III. POLICY:

A. ~~A.~~ A paramedic may perform any activity identified in the Scope of Practice of an EMT or Advanced EMT (AEMT) as defined in regulations governing those certification levels.

~~A.~~B. The medical director of the LEMSA may develop policies and procedures or establish standing orders allowing the paramedic to initiate any paramedic activity in the approved scope of practice without voice contact for medical direction from a physician, authorized registered nurse, or mobile intensive care nurse (MICN), provided that an EMSQIP is in place

~~B~~C. A paramedic student or a licensed paramedic, as part of an organized EMS system, while caring for patients in a hospital as part of his/her training or continuing education (CE) under the direct supervision of a physician, registered nurse, or physician assistant, or while at the scene of a medical emergency or during transport, or during interfacility transfer, may perform the following procedures or administer the following medications when such are approved by the medical director of the LEMSA and are included in the written policies and procedures of the LEMSA.~~A paramedic trainee or paramedic accredited in Ventura County, while caring for patients in a hospital as part of their training or continuing education, under the direct supervision of a physician, registered nurse, or physician assistant, or while at the scene of a medical emergency, during transport, or during inter-facility transfer when medical direction is maintained by a physician or an MICN according to the policies and procedures approved by the Ventura County Emergency Medical Services Medical Director, may~~:

D. Basic Scope of Practice:

1. Utilize electrocardiographic devices and monitor electrocardiograms (ECG), including 12-lead ECG.

2. Perform pulmonary ventilation by use of lower airway multi-lumen adjuncts, the esophageal airway, perilaryngeal airways, stomal intubation, and adult oral endotracheal intubation.~~Perform pulmonary ventilation by use of oral endotracheal intubation or a Ventura County EMS approved alternative ALS airway management device~~.
3. Utilize mechanical ventilation devices for continuous positive airway pressure (CPAP)/bi-level positive airway pressure (BPAP) and positive end expiratory pressure (PEEP) in the spontaneously breathing patient.~~Utilize mechanical ventilation devices for continuous positive airway pressure (CPAP).~~
4. Institute intravenous (IV) catheters, saline locks, needles or other cannulae (IV) lines, in peripheral veins.
5. Monitor and access pre-existing peripheral and central vascular access lines.
6. Institute intraosseous (IO) needles or catheters.
7. Administer IV or IO glucose solutions and n~~N~~ormal s~~S~~aline solutions.
8. Obtain venous blood samples
9. Use laboratory devices, including point of care testing, for pre-hospital screening use to measure lab values including, but not limited to: glucose, capnometry, capnography, and carbon monoxide when appropriate authorization is obtained from State and Federal agencies, including from the Centers for Medicare and Medicaid Services pursuant to the Clinical Laboratory Improvement Amendments (CLIA).
10. Administer approved medications by the following routes: IV, IO, intramuscular, subcutaneous, inhalation, transcutaneous, rectal, sublingual, endotracheal, intranasal, oral or topical

~~9~~11. Administer the following ~~drugs:~~medications:

a. Activated charcoal

~~a.~~b. Adenosine

b. Amiodarone

c. Aspirin

d. Atropine sulfate

e. Bronchodilators, n~~N~~ebulized beta-2 specific

f. Calcium chloride

g. Dextrose, 5%, 10%, 25%, and 50%

h. Diazepam

i. Diphenhydramine hydrochloride

j. Dopamine hydrochloride

k. Epinephrine

l. Fentanyl

m. Glucagon hydrochloride

~~m.~~n. Heparin (i~~I~~nterfacility transfers only)

~~n.~~a. ~~Glucagon hydrochloride~~

o. Hydroxocobalamin

~~o.~~p. Ipratropium bromide

q. Lidocaine hydrochloride

~~p.~~r. Lorazepam

~~q.~~s. Magnesium sulfate

~~r.~~t. Midazolam

~~s.~~u. Morphine sulfate

~~t.~~v. Naloxone hydrochloride

~~u.~~w. Nitroglycerin preparations: oral, IV (interfacility transfers only)

~~v.~~x. Ondansetron

~~w.~~y. Pralidoxime Chloride

~~x.~~z. Sodium bicarbonate

~~y.~~aa. Tranexamic Acid

~~10~~12. Perform defibrillation

13~~1~~. Perform synchronized cardioversion

14~~2~~. Perform transcutaneous pacing

15~~3~~. Visualize the airway by use of the laryngoscope and remove foreign body(ies) with Magill forceps

16~~4~~. Perform Valsalva maneuver

17~~5~~. Perform nasogastric and orogastric tube insertion and suction

18. Monitor thoracostomy tubes

19~~16~~. Monitor and adjust IV solutions containing potassium ~~<=~~ equal to or less than ~~20~~ 40 mEq/L.

20~~17~~. Monitor c~~C~~apnography/c~~C~~apnometry

21~~18~~. Perform needle thoracostomy

22~~19~~. Perform blood glucose level determination

E. Local Optional Scope of Practice

1. The medical director of the LEMSA shall submit a written request to the Director of the California EMS Authority (CalEMSA) for approval of any procedures or

medications proposed for use in accordance with Section 1797.172(b) of the Health and Safety Code prior to implementation.

2. CalEMSA shall, within fourteen (14) days of receiving request, notify the medical director of the LEMSA that the request has been received and shall specify what information, if any, is missing.

3. The Director of CalEMSA, in consultation with the Emergency Medical Services Medical Directors Association of California's (EMDAC) Scope of Practice Committee, shall approve or disapprove the request for additional procedures and/or administration of medications and notify the LEMSA medical director of the decision within ninety (90) days of receipt of the completed request. An approved status shall be in effect for a period of three (3) years. An approved status may be renewed for another three (3) year period, upon the CalEMSA's receipt of a written request that includes, but is not limited to, the following information:

   a. the utilization of the procedure(s) or medication(s),
   b. beneficial effects,
   c. adverse reactions or complications,
   d. statistical evaluation,
   e. general conclusion

4. The Director of CalEMSA, in consultation with the EMDAC Scope of Practice Committee, may suspend or revoke approval of any previously approved additional procedure(s) or medication(s) for cause.

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Heat Emergencies

ADULT	PEDIATRIC
BLS Procedures	
Place patient in cool, shaded environment Initiate active cooling measures • Remove clothing • Fan the patient, or turn on air conditioner • Apply ice packs to axilla, groin, back of neck • Other active cooling measures as available Administer oxygen as indicated If patient is altered, determine blood glucose level If less than 60 mg/dl refer to Policy 705.03	
ALS Prior to Base Hospital Contact	
If patient is altered, determine blood glucose if not already performed by BLS personnel or post oral glucose administration If less than 60 mg/dl, refer to Policy 705.03 IV/IO access **Normal Saline** • IV/IO bolus – 1 Liter ○ Caution with cardiac and/or renal history ○ Repeat x 1 for persistent hypotension	If patient is altered, determine blood glucose if not already performed by BLS personnel or post oral glucose administration If less than 60 mg/dl, refer to Policy 705.03 IV/IO access **Normal Saline** • IV/IO bolus – 20 mL/kg ○ Caution with cardiac and/or renal history ○ Repeat x 1 for persistent hypotension
~~**Communication Failure Protocol**~~	
~~If hypotensive after initial IV/IO fluid bolus:~~ ~~• *Repeat* **Normal Saline**~~ ~~○ IV/IO bolus – 1 Liter~~	~~If hypotensive after initial IV/IO fluid bolus:~~ ~~• *Repeat* **Normal Saline**~~ ~~○ IV/IO bolus – 20 mL/kg~~
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	

Hypovolemic Shock

ADULT	PEDIATRIC
BLS Procedures	
Place patient in supine position Administer oxygen as indicated	Place patient in supine position Administer oxygen as indicated
ALS Standing Orders	
IV/IO access **Normal Saline** • IV/IO bolus – 1 Liter ○ Caution with cardiac and/or renal history ○ May repeat x 1 for persistent signs of shock • ~~Evaluate lung sounds. If signs of CHF, decrease IV/IO to TKO~~ ~~• If vital signs return to within normal limits, decrease IV/IO to TKO~~ • Traumatic Injury • Do not delay transport for IV/IO attempts • Tranexamic Acid – For patients 15 years of age and older as indicated in VCEMS Policy 734 ○ IV/IOPB - 1gm TXA in 100mL NS over 10 minutes • Refer to Policy 705.01- Trauma Treatment Guidelines, for permissive hypotension ○ Goal is to maintain palpable peripheral pulses (SBP of greater than 80 mmHg) • Attempt second IV/IO during transport to ED	~~IV/IO access~~ ~~**Normal Saline**~~ ~~• IV/IO bolus – 20 mL/kg~~ ~~Caution with cardiac and/or renal history~~ ~~Repeat x 1 for persistent signs of shock~~ ~~• Evaluate lung sounds. If signs of CHF, decrease IV/IO to TKO~~ ~~• If vital signs return to within normal limits, decrease IV/IO to TKO~~ ~~Traumatic Injury~~ ~~• Do not delay transport for IV/IO attempts~~ ~~• Attempt second IV/IO while during transport to ED~~
If shock persists: • *Repeat* **Normal Saline** ○ IV/IO bolus – 1 Liter	If shock persists: • *Repeat* **Normal Saline** ○ IV/IO bolus – 20 mL/kg
Base Hospital Orders only	
Consult with ED Physician ~~for further treatment measures~~when orders are needed for interventions within scope but not addressed in policy. ~~Consult with ED Physician for further treatment measures~~	
~~Additional Information~~ ~~• Prepare and administer TXA concentration consistent with standards outlined in VCEMS Policy 734 – Tranexamic Acid (TXA) Administration~~	

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Effective Date: June 1, 2019
Next Review Date: January 30, 2021

Date Revised: January 10, 2019
Last Reviewed: January 10, 2019

VCEMS Medical Director

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Effective Date: June 1, 2019
Next Review Date: January 30, 2021

Date Revised: January 10, 2019
Last Reviewed: January 10, 2019

VCEMS Medical Director

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Mobile Intensive Care Nurse Developmental Course and Examination Procedure	Policy Number 1105
APP ROVED: Administration: Steven L. Carroll, EMT-A	Date: December 1, 2014
APPROVED: Medical Director: Angelo Salvucci, M.D.	Date: December 1, 2014
Origination Date: July 2, 1984 Date Revised: September 11, 2014 Date Last Reviewed: September 11, 2014 Next Review Date: September, 2017	Effective Date: December 1, 2014

I. PURPOSE: To prepare nurses for their role in directing the prehospital care activities of paramedics. In order for the nurse to attain these necessary skills, practical as well as didactic (including field care audit) sessions shall be provided. Only nurses who fulfill the criteria in Policy 321 are eligible to take the course. The Ventura County EMS Agency shall approve all programs.

II. AUTHORITY: Health and Safety Code 1797.56 and 1797.58

III. COURSE REQUIREMENTS:

A. Minimum of 40 hours in length, only one class day may be missed.

B. Topics will include:

1. VCEMS Overview
2. MICN Role
3. Communication Protocol/Terminology
4. Legal Issues
5. Documentation
6. Paramedic Reporting
7. Hazmat
8. EMS Overview
9. Pharmacology
10. All VCEMS Policy 705 Treatment Guidelines, as well as policies referenced within 705 Policies
11. STEMI
12. Stroke and ELVO

13. Ventura County Trauma System/Trauma Triage/Trauma Treatment Guidelines
14. AED/Dispatch
15. CISM
16. Cardiac Arrest/Dysrhythmias
17. ~~ART/BART, and~~ CAM and Post ROSC
18. ~~Homework Review~~
19. MICN Practice
20. MCI/Triage
21. Diversion/ReddiNet
22. Pediatrics (may be presented as its own topic or incorporated into each of the above)
23. BRUE
24. Weapons of Mass Destruction

C. Course shall be coordinated by a Prehospital Care Coordinator (PCC) from a Ventura County Base Hospital, in consultation with an Emergency Department Physician involved in prehospital care.

D. Individual topics may be taught by medical/nursing personnel with recent Advanced Life Support prehospital care and teaching experience. The course coordinator must approve all instructors.

E. Each topic shall have predetermined behavioral objectives which clearly specify the relevancy of the material to the MICN's role.

F. The course shall be reviewed and revised annually to keep up with additions and/or changes to policies and protocol.

IV. COUNTY EXAMINATION:

A. Only those candidates who successfully pass the MICN Course will be eligible to sit for the County Examination for purposes of working as an MICN in a Base Hospital.

B. The exam shall consist of 100 questions covering all of the topics listed above in III.B.

C. Candidates shall pass the exam with an overall score of 80%.

D. The exam shall be compiled and reviewed by the EMS Medical Director and the PCC's. The Course Coordinator or individual instructors may submit questions for

the exam. Each question shall be correlated to the Objectives, and be based on current standards of care in ALS services.

E. The Exam shall be given as needed. Scheduling of the exam shall be the responsibility of the Course Coordinator. The EMS Agency will administer the test.

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, 2021
APPROVED: Medical Director: Daniel Shepherd, M.D.	Date: June 1, 2021
Origination Date: July 1, 2010 Date Revised: March 4, 2021 Date Last Reviewed: March 4, 2021 Review Date: March 31, 2024	Effective Date: June 1, 2021

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 hand[1]
17. Injury to the globe at risk for vision loss[2]
18. Requiring Blood transfusion
19. ABC Score-anticipated Mass Transfusion Protocol (MTP) meets 2 or more criteria below:
    a) SBP < 90
    b) HR > 120
    c) + Fast exam
    d) Penetrating trauma to torso

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 injury 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.
    f. Blood Product given
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.

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 en-route 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.

[1]For 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.

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

Emergent and Urgent Trauma Transfer QI Form

Use Link:

Emergent and Urgent trauma Transfer QI form

-OR-

Scan QR Code:

Ventura County Field Triage Decision Scheme

For patients with visible or suspected traumatic injuries

Measure vital signs and level of consciousness

STEP 1

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)

Yes → **Contact base trauma center**

Transport to trauma center

No

Assess anatomy of injury

STEP 2

- **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
- **2.9** Seat belt injury: significant bruising to neck, chest, or abdomen
- **2.10** Diffuse abdominal tenderness from blunt trauma

Yes → **Contact base trauma center**

Transport to trauma center

No

Assess mechanism of injury and evidence of high-energy impact

STEP 3

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

Yes → **Contact base trauma center for destination decision**

No

Assess special patient or system considerations

STEP 4

- **4.1** Age > 65
- **4.2** Head injury with loss of consciousness AND on an anticoagulant or antiplatelet drug[1]
- **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 hand[2]
- **4.8** Penetrating injury to the globe of the eye, at risk for vision loss[3]

Yes → **Contact regular catchment base hospital**

Consider transport to trauma center or specific resource hospital

[1]See list
[2] Consider LRHMC
[3] Consider VCMC

No

Transport to closest ED or by patient preference

Version 5 Revised 6-1-2018
Version 5 Reviewed 3-4-2021

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, Paramedic	Date: June 1, 2021
APPROVED: Medical Director: Daniel Shepherd, MD	Date: June 1, 2021
Origination Date: July 1, 2010 Date Revised: April 12, 2018 Date Last Reviewed: March 4, 2021 Review Date: March 31, 2024	Effective Date: June 1, 2021

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 less than 14
2. Systolic blood pressure less than 90 mmHg
   (Less than 110 mmHg in patients older than 65 years of age)
3. Respiratory rate less than 10 or greater than 29 breaths per minute
   (Less than 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
9. Seat belt injury: significant bruising to neck, chest, or abdomen
10. Diffuse abdominal tenderness as a result of blunt trauma

C. Mechanism of Injury Criteria, Step 3:

1. Adults: Greater than 20 feet (one story is equal to 10 feet)
   Children less than 15 years old: Greater than 10 feet, or two times the height of the child
2. High-risk auto crash:
   a. Intrusion: interior measurement greater than 12 inches patient site or greater than 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 greater than 20 mph impact
4. Unenclosed vehicle (e.g. motorcycle, bicycle, skateboard) crash greater than 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 greater than 65 years old
2. Head injury with loss of consciousness AND on an anticoagulant or antiplatelet drug[1]
3. Burns with trauma mechanism
4. Time sensitive extremity injury (open fracture, neurovascular compromise)
5. Pregnancy greater than 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 hand[2]
8. Penetrating injury to the globe of the eye, at risk for vision loss[3]

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.

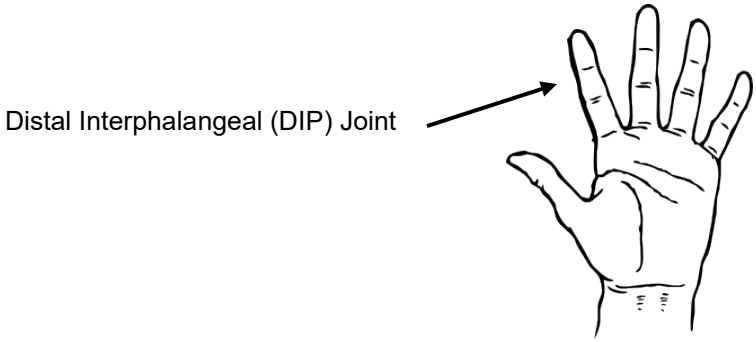
E. Paramedics providing care for patients who are injured but meet only the trauma triage criteria listed in Section D above will contact the base hospital in whose catchment area the incident occurred. Destination will be determined by the base hospital MICN or ED physician. If the patient is directed 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.

[1]For 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.

[2]For 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.



[3]For 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.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: EMT Optional Skills		Policy Number 303
APPROVED: Administration:	Steve L. Carroll, Paramedic	Date: December 1, 2017
APPROVED: Medical Director:	Daniel Shepherd, M.D.	Date: December 1, 2017
Origination Date: Date Revised: Date Last Reviewed: Review Date:	July 13, 2017 July, 2018	Effective Date: December 1, 2017

I. PURPOSE: To define the process related to authorizing EMT optional skills and EMT trial studies

II. AUTHORITY: Health and Safety Code, Section 1797.107, 1797.109, 1797.160, 1797.170, and California Code of Regulations, Title 22, Division 9, Section 100064

III. POLICY:

A. In addition to the skills outlined in VCEMS Policy 300 – EMT Scope of Practice, the VCEMS Medical Director may establish policies and procedures for local accreditation of an EMT student or certified EMT to perform any or all of the following optional skills specified in this policy. Accreditation for EMTs to practice optional skills shall be limited to those whose EMT certification is active and are employed within the County of Ventura by an employer who is part of the organized EMS system.

1. Administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe for suspected anaphylaxis and/or severe asthma.

a. Training in the administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe for suspected anaphylaxis and/or severe asthma shall consist of no less than two (2) hours to result in the EMT being competent in the use and administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe and managing a patient of a suspected anaphylactic reaction and/or experiencing severe asthma symptoms. Included in the training hours listed above shall be the following topics and skills:

1) Names

2) Indications and contraindications

3) Complications

4) Side/adverse effects and interactions
5) Routes of administration
6) Dosage calculation
7) Mechanisms of drug actions
8) Medical asepsis
9) Disposal of contaminated items and sharps
10) Medical administration

b. At the completion of this training, the student shall complete a competency based written and skills examination for the use and/or administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe, which shall include:
1) Assessment of when to administer epinephrine,
2) Managing a patient before and after administering epinephrine,
3) Using universal precautions and body substance isolation procedures during medication administration,
4) Demonstrating aseptic technique during medication administration,
5) Demonstrating preparation and administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe, and
6) Proper disposal of contaminated items and sharps

2. Administration of Atropine and Pralidoxime Chloride, utilizing the DuoDote auto-injector following an exposure to a nerve-agent.
a. In addition to a basic weapons of mass destruction training, the DuoDote training shall consist of no less than two (2) hours of didactic and skills training to result in competency. Training in the profile of the medications contained in the DuoDote auto-injector shall include, but not limited to:
1) Indications and contraindications
2) Side/adverse effects
3) Routes of administration
4) Dosages
5) Mechanisms of drug action
6) Disposal of contaminated items and sharps

7) Medication administration

b. At the completion of this training, the student shall complete a competency based written and skills examination for the administration of the Duo-dote auto-injector.

1) Assessment of when to administer the DuoDote auto-injector,
2) Managing a patient before and after administering the DuoDote auto-injector
3) Using the universal precautions and body substance isolation precautions during medication administration,
4) Demonstrating aseptic technique during medication administration,
5) Demonstrating the preparation and administration of medications by the intramuscular (IM) route, and
6) Proper disposal of contaminated items and sharps.

B. Competency training in procedures and skills for all EMT optional skills shall be completed at least every two (2) years.

C. VCEMS shall develop and maintain specific plans for each optional skill permitted. These plans will include:

1. A description of the need for use of the optional skill
2. A description of the geographic area within which the optional skills will be utilized
3. A description of the data collection methodology which shall also include an evaluation of the effectiveness of the optional skill
4. The policies and procedures to be instituted by the LEMSA regarding medical control and use of the optional skill

D. For an accredited EMT who fails to demonstrate competency in any of the optional skills outlined in this policy:

1. EMT accreditation shall be immediately suspended pending clinical remediation
2. Employer agency will submit a written plan of action to VCEMS to include: method of remediation, course curriculum, date(s) and location(s) of remediation training.
3. VCEMS will review and approve written plan of action prior to commencement of remediation training

4. Once complete, evidence of satisfactory training and minimum competency in the optional skills will be submitted to VCEMS prior to the reinstatement of the EMT accreditation.

COUNTY OF VENTURA EMERGENCY MEDICAL SERVICES	HEALTH CARE AGENCY POLICIES AND PROCEDURES
Policy Title: Critical Care Transports	Policy Number: 507
APPROVED: Administration: Steven L. Carroll, EMT-P	Date: December 1, 2014
APPROVED: Medical Director Angelo Salvucci, M.D.	Date: December 1, 2014
Origination Date: October 31, 1995 Date Revised: October 9, 2014 Date Last Reviewed: October 9, 2014 Review Date: October, 2017	Effective Date: December 1, 2014

I. PURPOSE: To establish requirements for nurse-staffed ALS Units

II. AUTHORITY: Health and Safety Code 1798.170.

III. POLICY: An ALS Ambulance Company may be approved to employ or contract with Registered Nurses to staff ALS inter-facility transports providing the company adhere to the outlined conditions. This policy applies to interfacility ground transports only.

IV. PROCEDURE:

A. Vehicle Staffing Requirements

1. One registered nurse, currently licensed to practice in the State of California, shall be added to the BLS or ALS Support team, and shall meet the following requirements:

a. RN with a minimum of two (2) years experience in a critical care area within the previous three (3) years, prior to employment with the ambulance provider.

b. Current BLS and ACLS certification from the American Heart Association.

c. Successful completion of an in-house orientation program sponsored by the provider agency.

d. For pediatric CCT's only: Pediatric Advanced Life Support (PALS), Pediatric Education for Prehospital Providers (PEPP) or Emergency Nurses Pediatric Course (ENPC).

e. Certification in any one of the following: Certified Emergency Nurse (CEN); Critical Care Registered Nurse (CCRN); Mobile Intensive Care Nurse (MICN); Certified Flight Registered Nurse (CFRN), Certified Nurse Anesthetist; Post Anesthesia Recovery Nurse (PAR), Certified Transport Registered Nurse

(CTRN); may challenge/pass Ventura County MICN certification exam.

2. To maintain authorization as a CCT nurse, s/he will:
   a. Work a minimum of 384 hours in a critical care area (including time worked as a CCT RN) per year, unless employed full time as a critical care transfer nurse.
   b. Maintain current ACLS certification.
   c. For pediatric CCT's only: PALS, PEPP or ENPC.
3. Nurses used to provide ALS in accordance with this policy, may be employed by the ambulance provider or be sub-contracted, at the provider's option.
4. Ambulance providers shall provide an internal orientation to all personnel participating in nurse-staffed ambulance transports.

B. Equipment:
1. In addition of the items required by California Administrative Code, Title 13, the ambulance provider shall provide, at a minimum, the following equipment for nurse-staffed ALS units:
   a. Paramedic Support Vehicle (PSV) equipment List
   b. Manual defibrillator with external pacemaker
   c. Infusion pump(s)
   d. Back-up power source
   e. Pulse oximeter

C. Medical Direction: An agency providing CCTs shall have:
1. Medical protocols to be followed by the RN at the ALS level which have been approved and signed by a Physician, and
2. Either a
   a. Physician Director

      Provider shall have either full or part-time Physician Director qualified by training and/or experience and recent practice in emergency or acute critical care medicine. The candidate for Physician Director must be approved by the Medical Director. The Physician Director shall:
      1) Ensure the ongoing training of all medical personnel involved.

2) Ensure the quality of patient transfers being conducted by the provider by conducting patient care audits.
3) Be familiar with applicable patient transfer laws, or

b. Nursing Coordinator

Provider shall have either full or part-time RN employed as Nursing Coordinator qualified by training and/or experience and recent practice in emergency or acute critical care nursing. The Nursing Coordinator shall:

1) Provide ongoing training of all medical personnel involved.
2) Ensure quality of patient transfers being conducted by the provider by conducting patient care audits.
3) Be familiar with applicable patient transfer laws

3. Procedures/Protocols

a. Each company providing nurse-staffed ALS units shall develop and maintain procedures for the hiring and training of nursing personnel and vehicle staffing.

b. Each provider must develop a manual clearly displaying:

1. Malpractice insurance coverage.
2. Identify and accessibility of the Physician Director and Nursing Coordinator.
3. Vehicle inventory lists
4. Copies of all related interfacility transfer paperwork
5. Statement of responsibility of the sending physician for the patient during transfer and in accordance with COBRA and SB317 laws.
6. Guidelines for change in patient destination due to patient condition
7. Protocols (Standing Orders) based on ACLS, PALS/PEPP, or NALS guidelines.

c. Procedures and protocols shall be subject to review by the VC EMS.

4. CQI

a. The Physician Director and/or Nursing Coordinator shall be responsible for performing quality assurance outcome audits.

b. Patient transport record review shall be performed at least quarterly and involve the use of pre-established criteria.

c. All transports resulting in adverse patient outcome shall be reviewed and reported to the VC EMS Agency per Policy 150.

d. Periodic staff conferences on audit and outcomes are required in order to improve or revise protocols.

e. Records of all these activities shall be kept by the provider and be made available for inspection and audit by VC EMS.

f. Report (quarterly) to VC EMS. Reports are to include general statistics (number of runs, types of runs, outcomes, intubation statistics, incidents during which paramedic assistance at ALS level is required).

5. Program Approval

Requests for approval must be made in writing sixty (60) days prior to anticipate service starting date, to the administrator of VC EMS, and must include:

a. Proposed identification and location of the nurse-staffed unit.

b. Procedures and protocols

c. Documentation of qualifications of the proposed Physician Director (if applicable).

d. Documentation of qualifications for the proposed Nursing Coordinator.

e. Preliminary plan for quality assurance audits.

f. Agreement to comply with all policies and procedures of VC EMS.

VC EMS shall notify the applicant in writing within ten (10) working days of lack of documentation. The applicant shall be notified in writing within thirty (30) days of receipt of complete package of approval or denial of the program.

6 Program Review

a. VCEMS may perform periodic on-site audits of records to ensure compliance with this policy.

b. Non-compliance with this policy may cause VC EMS to suspend or revoke approval to provide nurse-staffed ALS inter-facility transports.

Cold Emergencies

BLS Procedures

Gently move patient to warm environment and begin passive warming

Increase ambulance cabin heat, if applicable

Remove wet clothing and cover patient, including head, with dry blankets

Administer oxygen as indicated

If patient is altered, determine blood glucose level
If less than 60 mg/dl refer to Policy 705.03

Monitor vital signs for 1 minute. If vital signs are within the acceptable range for severe hypothermia, do not initiate respiratory assistance or chest compressions

- Acceptable range for severe hypothermia:
  - Respiratory Rate: at least 4 breaths per minute
  - Heart rate: at least 20 beats per minute
- Expedite transport if no shivering (indicates core temp below 90°)

ALS Prior to Base Hospital Contact

If patient is altered, determine blood glucose if not already performed by BLS personnel or post oral glucose administration

If less than 60 mg/dl, refer to Policy 705.03

IV/IO access (if needed for medication or fluid administration)

- If administering fluid, avoid administering cold fluids.

Base Hospital Orders only

Consult with ED Physician for further treatment measures

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: INTRAOSSEOUS INFUSION	Policy Number: 717
APPROVED: Administration: Steven L. Carroll, Paramedic	Date: September 1, 2017
APPROVED: Medical Director: Daniel Shepherd, MD	Date: September 1, 2017
Origination Date: September 10, 1992 Date Revised: April 13, 2017 Date Last Reviewed: April 13, 2017 Review Date: April, 2019	Effective Date: September 1, 2017

I. PURPOSE: To define the indications, procedure, and documentation for intraosseous insertion (IO) and infusion by paramedics.

II. AUTHORITY: Health and Safety Code, Sections 1797.178, 1797.214, 1797.220, 1798 and California Code of Regulations, Title 22, Sections 100145 and 100169.

III. POLICY: IO may be performed by paramedics who have successfully completed a training program approved by the EMS Medical Director.

A. Training

The EMS service provider will ensure their paramedics successfully complete an approved training program and will notify EMS when that is completed.

B. Indications

Patient with an altered level of consciousness (ALOC) or in extremis AND there is an urgent need to administer intravenous fluids or medications AND venous access is not readily available.

1. Manual IO: For patients less than 8 years of age.
2. EZ-IO device: For patients of all ages.

C. Contraindications

1. Recent fracture (within 6 weeks) of selected bone.
2. Congenital deformities of selected bone.
3. Grossly contaminated skin or infection at the insertion site.
4. Excessive adipose tissue at the insertion site with the absence of anatomical landmarks.
5. IO in same bone within previous 48 hours.
6. History of significant orthopedic procedures at insertion site (ex. prosthetic limb or joint).

IV. PROCEDURE:

A. Manual IO insertion

1. Assemble the needed equipment
    a. 16-18 gauge IO needle (1.5 inches long)
    b. Alcohol wipes
    c. Sterile gauze pads
    d. Two (2) 5 mL syringes and a primed IV line (with or without stopcock)
    e. IV fluids: 500 mL NS only
    f. Tape
    g. Splinting device
2. Choose the appropriate insertion site. Locate the landmarks approximately 2 cm below the patella and 1 cm medial, on the anteromedial flat bony surface of the proximal tibia.
3. Prepare the site utilizing aseptic technique with alcohol wipe.
4. Fill one syringe with NS
5. To insert the IO needle:
    a. Stabilize the site.
    b. Grasp the needle with obturator and insert through skin over the selected site at a 90° angle to the skin surface.
    c. Once the bone has been reached, continue to apply pressure rotating and gently pushing the needle forward.
    d. When the needle is felt to 'pop' into the bone marrow space, remove the obturator, attach the empty 5 mL syringe and attempt to aspirate bone marrow.
    e. For responsive patient infuse 2% cardiac lidocaine prior to fluid/medication administration for pain management:
    0.5 mg/kg (max 40 mg) slow IVP over 60 seconds.
    f. Attach the 5 mL syringe containing NS and attempt to flush the IO needle. If successful, remove the syringe, connect the IV tubing and secure the needle.
    g. Infuse NS and/or medications.
    h. Splint and secure the IO needle.
    i. Document distal pulses and skin color to extremity utilized for IO insertion before and after procedure. Monitor for complications.

B. EZ-IO insertion
    1. Assemble the needed equipment

a. Choose appropriate size IO needle
    1) 15 mm needle sets (pink): 3-39 kg
    2) 25 mm needle sets (blue): ≥ 40 kg
    3) 45 mm needle sets (yellow): For humerus insertion or patients with excessive adipose tissue at insertion site
b. Alcohol wipes
c. Sterile gauze pads
d. 10 mL syringe
e. EZ Connect tubing
f. IV fluids
    1) 3-39 kg: 500 mL NS
    2) ≥40 kg: 1 L NS
g. Tape or approved manufacturer securing device

2. Prime EZ Connect tubing with 1 mL fluid
    a. If unresponsive use normal saline.
    b. If responsive prime with cardiac lidocaine as instructed below.
3. Locate the appropriate insertion site. The proximal tibia site is preferred. The proximal humerus is an acceptable alternative for adult patients (18 years of older).
4. For a proximal tibia IO the correct insertion site is on the anteromedial flat surface of the proximal tibia.
    a. Pediatric: 2 cm below the patella, 1 cm medial
    b. Adult: 2 cm medial to the tibial tuberosity
5. The correct insertion site for the proximal humerus is on the most prominent portion of the greater tubicle, 1-2cm above the surgical neck.
6. Prepare the site utilizing aseptic technique with alcohol wipes.
7. To insert the EZ-IO needle at the proximal tibia:
    a. Connect appropriate size needle set to the EZ-IO driver.
    b. Stabilize the site.
    c. Position the EZ-IO needle at 90° to the underlying bone and insert it into the skin. Continue to insert the needle until contacting the bone. Ensure at least one black band is visible above the skin.
    d. Once contact with the bone is made, activate the driver and advance the needle with light steady pressure until the bone has been penetrated.

e. Once properly placed, attach primed EZ Connect tubing and attempt to aspirate bone marrow.

f. For responsive patients, slow infusion of 2% cardiac lidocaine **over 60 seconds** prior to fluid/medication administration for pain management.

1) 3-39 kg: 0.5 mg/kg

2) ≥40 kg: 40 mg

3) Adjust for EZ-IO connector tubing

g. Flush with 10 mL NS to assess patency. If successful, begin to infuse fluid.

h. Splint the IO needle with tape or an approved manufacturer stabilization device.

i. Document time of insertion on included arm band and place on patient's wrist.

j. Document distal pulses and skin color before and after procedure and monitor for complications.

k. Manual insertion can be attempted in the event of driver failure.

8. To insert the EZ-IO at the proximal humerus:

a. Connect the yellow (45mm) needle to the EZ-IO driver.

b. Locate and stabilize the site.

c. Point the needle set tip at a 45-degree angle to the anterior plane and posteromedial. Insert the needle into the skin until you contact bone. Ensure at least one black band (5mm) is visible above the skin.

d. Activate the driver and advance the needle with light, steady pressure until the bone has been penetrated.

e. Once properly placed, attach primed EZ Connect tubing and attempt to aspirate bone marrow.

f. For responsive patients, slow infusion of 2% cardiac lidocaine over 60 seconds prior to fluid/medication administration for pain management.

1) 3 – 39 kg: 0.5 mg/kg

2) ≥40 kg: 40 mg

3) Adjust for EZ-IO connector tubing

g. Flush with 10 ml NS to assess patency. If successful, begin to infuse fluid.

h. Splint the IO needle with tape or an approved manufacturer stabilization device. Maintain adduction of the arm and avoid extension of the shoulder.

i. Document time of insertion on included arm band and place on patient's wrist.

j. Document distal pulses and skin color before and after procedure and monitor for complications.

C. IO Fluid Administration

1. Active pushing of fluids may be more successful than gravity infusion. Use of a pressure to assist with fluid administration is recommended, and usually needed, but not required.

2. Fluid administration on smaller patients should be given via syringe boluses to control/monitor amount infused. Close observation of the flow rate and total amount of fluid infused is required.

3. If infiltration occurs or the IO needle is accidentally removed, stop the infusion, leave the connector tubing attached.

D. Documentation

1. Document any attempt(s) at establishing a peripheral IV prior to attempting/placing an IO infusion in the Ventura County Electronic Patient Care Report (VCePCR) system.

2. The site and number of attempts, success, complications, and any applicable comments related to attempting an IO infusion shall be documented on the VCePCR. Any medications administered shall also be documented in the appropriate manner on the VCePCR.

E. Quality Assurance

Each use of an IO infusion will be reviewed by EMS. Data related to IO attempts will be collected and analyzed directly from the VCePCR system.

Appendix B

VENTURA COUNTY
EMERGENCY MEDICAL SERVICES AGENCY

Skills Assessment

Name_____Agency_____Date_____

- ☐ Demonstrates, proper body substance isolation
- ☐ States indication for EZ-IO use
- ☐ States contraindication for EZ-IO use
- ☐ Correctly locates target site
- ☐ Cleans site according to protocol
- ☐ Considers 2% cardiac lidocaine for patients responsive to pain
- ☐ Correctly assembles EZ-IO Driver and Needle Set
- ☐ Stabilizes the insertion site, inserts EZ-IO Needle Set, removes stylet and confirms placement
- ☐ Demonstrates safe stylet disposal
- ☐ Connects primed extension set and flushes the catheter
- ☐ Connects appropriate fluid with pressure infuser and adjusts flow as instructed
- ☐ Demonstrates appropriate securing of the EZ-IO
- ☐ States requirements for VC EMS documentation

Instructor Signature: _____**Date**_____