Public Health Administration Large Conference Room 2240 E. Gonzales, 2nd Floor Oxnard, CA 93036	Pre-hospital Services Committee Agenda	May 14, 2015 9:30 a.m.

I.	**Introductions**	
II.	**Approve Agenda**	
III.	**Minutes**	
IV.	**Medical Issues**	
	A. 705.02 - Allergic/Adverse Reaction and Anaphylaxis	Dr. Salvucci
	B. 705.04 – Behavioral Emergencies	Dr. Salvucci
	C. Other	
V.	**New Business**	
	A. Vote for PSC Chair	Julie Frey
	B. 705.19 – Pain Control	Dr. Salvucci/Karen Beatty
	C. 460 – Urgent Interfacility Transfers of Acute Stroke Patients	Dr. Salvucci/Karen Beatty
	D. Other	
VI.	**Old Business**	
	A. Anticoagulant and Antiplatelet Medications List	Karen Beatty/Dr. Salvucci
	B. 705.24 – Symptomatic Bradycardia	Dr. Salvucci
	D. Other	
VII.	**Informational/Discussion Topics**	
	A. 440 – Code STEMI Interfacility Transfer (Update)	Karen Beatty
	B. CAM/ART Certification Issues	Mark Komins
	C. air-Q Study Trial Update	Dr. Salvucci
	D. PRESTO Trial Update	Dr. Salvucci
	E. Other	
VIII.	**Policies for Review**	
	A. 351 – EMS Update Procedure	
	B. 614 – Spinal Immobilization	
	C. 619 – Safely Surrendered Babies	
	D. 705.16 – Neonatal Resuscitation	
	E. 1401 – Trauma Center Designation	
IX.	**Agency Reports**	
	A. Fire Departments	
	B. Ambulance Providers	
	C. Base Hospitals	
	D. Receiving Hospitals	
	E. Law Enforcement	
	F. ALS Education Program	
	G. TAG	
	H. EMS Agency	
	I. Other	
X.	**Closing**	

Health Administration Large Conference Room 2240 E. Gonzales, 2nd Floor Oxnard, CA 93036	Pre-hospital Services Committee Minutes	March 12, 2015 9:30 a.m.

Topic	Discussion	Action	Assigned
II. Approve Agenda		Approved	Approved by Todd Larson Seconded by Scott Carroll
III. Minutes		Approved	Approved by Todd Larson Seconded by Scott Zeller
IV. Medical Issues			
V. New Business			
A. Nomination Committee for PSC Chair	Julie asked the committee to volunteer on the PSC Chair nominating committee. A list of nominees will be developed and an election will be held at the next scheduled PSC meeting.	**Nominating Committee Volunteers**: Stephanie Huhn, Jennie Hoffman and Debbie Licht	
B. 705.19 – Pain Control	Dr. Canby is concerned about the Morphine dose. He has had several elderly patients with hip fractures that have received 9 and 10 mg of MS, which he feels is too much for an elderly patient. Dr. Canby would like Dr. Salvucci to consider adding something to cover this issue.	Dr. Salvucci will look at it. Bring back to PSC.	
VI Old Business			
A. 1 Liter Resuscitation Bags with Manometer	Dr. Salvucci asked the providers if they have had any problems getting the 1 Liter Resuscitation Bags. After a brief discussion, it was clear that all providers are working to get the 1 Liter Bags.		
B. 705.24 – Symptomatic Bradycardia	Add language to policy stating that Morphine should be given at ½ the normal dose for bradycardia patients.	Look at all policies to change “gm” to “g”	
C. 705.08 – Cardiac Arrest VF/VT	Under “BLS Procedures”, merge the adult and pediatric statement into one statement. Also, add “begin CPR	Check other policies for same change.	

		immediately" right after it says "If witnessed". Under "Adult - Base Hospital Orders Only", #2, Put Calcium Chloride first and Sodium Bicarb. second.		
VII.	**Informational/Discussion Topics**			
	A. Update on 440 – Code STEMI Interfacility Transfer	Karen stated that the STEMI committee is still working on this policy.	Policy will be brought back to PSC after language changes are made.	
	B. CAM/ART Certification Issues	The committee will be meeting to discuss CAM/ART issues and report at the next PSC.		
	C. air-Q Study Trial Update	Dr. Salvucci said there have been 110 cases. 4 of them were unsuccessful.	For the small number of air leaks, Flex the neck to compress the airway. Make sure to use a generous amount of lube. There have been a few issues with low CO2. These are being used successfully around the country with no CO2 issues. We need to find out why we are having this issue in Ventura County. Chris reminded all providers that they can borrow the EMS Agencies air-Q mannequin any time.	
	D. PRESTO Trial Update	Dr. Salvucci stated that in the 1st month of this study, there were 14 tubes of blood drawn. Dr. Chase wanted to make sure that field personnel are not delaying administration of medication to draw blood. Dr. Salvucci said he expects the field personnel to try it once and move on.	Dr. Chase asked what the age range is for drawing blood. Dr. Salvucci will check with the VCMC contract and get back to him.	
	E. 1404 – Guidelines for Interfacility Transfer of	Added to step #4 – Penetrating injury to globe of eye who is at risk for vision loss may be sent to VCMC if the		

	Patients to a Trauma Center	contacted Base/area hospital does not have an Ophthalmologist.		
	F. 1405 – Trauma Triage and Destination Criteria	Change "Head Injury and on Coumadin" to the more generic "Anti-coagulants". A list will be developed with all current anti-coagulants. Add – Hands with an amputation proximal to the distal interphalangeal joint (DIP) or any part of the thumb, the MICN should consider sending to LRRMC.		
VIII.	**Policies for Review**			
	A. 400 – Ventura County Emergency Departments	Approved		Approved by Kathy McShea Seconded by Debbie Licht
	B. 502 – Advanced Life Support Service Provider Approval Process	Approved		Approved by Betsy Patterson Seconded by James Rosolek
	C. 1000 – Documentation of Prehospital Care	Approved with changes	*Add "DIP" to Attachment A *Change "gm" to "g" –Page 7 of 8	Approved by Debbie Licht Seconded by Scott Zeller
	D. 1201 - Air Unit Staffing Requirements	Approved with changes	Change EMT-I and EMT-P to EMT.	Approved by Don Hadland Seconded by Kathy McShea
	E. 1202 – Air Unit dispatch	Approved		Approved by Todd Larson Seconded by Kathy McShea
XI	**TAG Report**	We need more data on Sepsis from the hospitals.		
X.	**Agency Reports**	Chris Rosa presented Dede Utley with a plaque and heartfelt thank you for all she has contributed to the EMS System in Ventura County.		
	A. Fire departments	**VCFPD** – The EMS Coordinator/Nurse position is open again. The dept. has promotions to BC. **VCFD -** Dept. is going through promotions and retirements. Dede is leaving town in 3 weeks. Her position is open. John Van Mannekes will be the interim coordinator until a full time replacement is found. **OFD** – Academy is ½ done. There are seven firefighters in the academy. Stephanie thanked everyone for "all the good work on the train derailment". **Fed. Fire** – none		

		SPFD – none **FFD-** none	
B.	Transport Providers	**LMT –** Thank you AMR/GCA for the Community Paramedic Training **Program you invited them to.** **AMR/GCA** – June 1st is the kick off for the Hospice Community Paramedicine program.	
C.	Base Hospitals	**SVH –** Dr. Tilles said that the new E.R. should be open in a few weeks. The hospital has added an Interventional Cath Lab. **LRRMC** – Had their first CPR classes at WLV and T.O H.S. The 9th and 12th graders participated. Debbie thanked everyone who helped with the training. She will continue to need volunteer CPR Instructors for the schools. The hospital CEO will donate mannequins to schools that want the program. **SJRMC –** The MICN class ends on March 13th. They will have 14 graduates. **VCMC** – none	
D.	Receiving Hospitals	**SPH –** none **CMH** – There have been some traffic issues at the hospital. Ambulances have been coming in through the back, which is problematic. Please have crews utilize the Loma Vista entrances. The new parking structure will be breaking ground soon. **PVH –** none **OVCH** – none	
C.	Law Enforcement	**VCSO -** none **CSUCI PD –** none	
F.	ALS Education Programs	**Ventura College** – James thanked everyone who helped by opening up clinical sites for their students. They have 18 students starting their field training soon.	
G.	EMS Agency	**Dr. Salvucci –** none **Steve** – none **Chris** – Thank you to everyone involved with the Train Incident. It was a great success from MCI perspective. Reddinet was utilized perfectly. Good job everyone! AAR on March 27th at the EMS Agency. **Katy –**.none **Julie** – none **Randy** – none **Karen** – none	
H.	Other		
XI.	**Closing**	**Meeting adjourned at 1200**	

Prehospital Services Committee 2015

For Attendance, please initial your name for the current month

Agency	LastName	FirstName	1/8/2015	2/12/2015	3/12/2015	4/9/2015	5/14/2015	6/11/2015	7/9/2015	8/13/2015	9/10/2015	10/8/2015	11/12/2015	12/10/2015	%
AMR	Stefansen	Adriane	AS		AS										
AMR	Panke	Chad	CP		CP										
CMH - ER	Canby	Neil	NC		NC										
CMH - ER	Cobb	Cheryl			CC										
OVCH - ER	Popescu	Dan	DP												
OVCH - ER	Patterson	Betsy	BP		BP										
CSUCI PD	Drehsen	Charles	CD		CD										
CSUCI PD	Morris	Michael	KM		GD										
FFD	Herrera	Bill			BH										
FFD	Scott	Bob	BS		BS										
GCA	Norton	Tony	TN		TN										
GCA	Shultz	Jeff	JS		JS										
Lifeline	Rosolek	James	JR		JR										
Lifeline	Winter	Jeff	JW		JW										
LRRMC - ER	Beatty	Matt	MB		MB										
LRRMC - ER	Licht	Debbie	DL		DL										
OFD	Carroll	Scott	SC		SC										
OFD	Huhn	Stephanie	SH		SH										
SJPVH - ER	Hall	Elaina													
SJPVH - ER	Davies	Jeff			KH										
SJRMC - ER	Larsen	Todd			TL										
SJRMC - ER	McShea	Kathy	KM		KM										
SPFD	Lazenby	Dustin	DL												
SVH - ER	Tilles	Ira	IT		IT										
SVH - ER	Hoffman	Jennie	JH		JH										
V/College	O'Connor	Tom	TO												
VCFD	Tapking	Aaron	AT												
VCFD	VanMannekes	John	DU		DU										
VNC	Zeller	Scott	SZ		SZ										
VNC	Dullam	Joe	JD												
VNC - Dispatch	Gregson	Erica	EG		EG										
VCMC - ER	Chase	David	DC		DC										

Agency	LastName	FirstName	1/8/2015	2/12/2015	3/12/2015	4/9/2015	5/14/2015	6/11/2015	7/9/2015	8/13/2015	9/10/2015	10/8/2015	11/12/2015	12/10/2015	%
VCMC - ER	Gallegos	Tom	TG		TG										
VCMC-SPH	Gautam	Pai													
VCMC-SPH	Melgoza	Sarah	SM		SM										
VCSO SAR	Hadland	Don	DH		DH										
VCSO SAR	Seabrook	Jeff	JS												
VFF	Rhoden	Crystal													
VFF	Pena	Greg	GP												
Eligible to Vote	**Date Change/cancelled - not counted against member for attendance**														
Non Voting Members															
AMR	Whitmore	Geneva													
AMR	Taigman	Mike	MT												
EMS	Carroll	Steve	SC												
EMS	Frey	Julie	JF		JF										
EMS	Hadduck	Katy	KH		KH										
EMS	Perez	Randy	RP												
EMS	Rosa	Chris	CR		CR										
EMS	Salvucci	Angelo	AS		AS										
EMS	Hansen	Erik	EH		EH										
EMS	Beatty	Karen	KB		KB										
LMT	Frank	Steve			SF										
VCMC	Duncan	Thomas			TD										
VNC	Shedlosky	Robin			RS										
VNC	Komins	Mark	MK		MK										

TEMPORARY
PARKING PASS
Expires April 9, 2015

Health Care Services
2240 E. Gonzales Rd
Oxnard, CA 93036

For use in "Green Permit Parking" Areas only, EXCLUDES Patient parking areas

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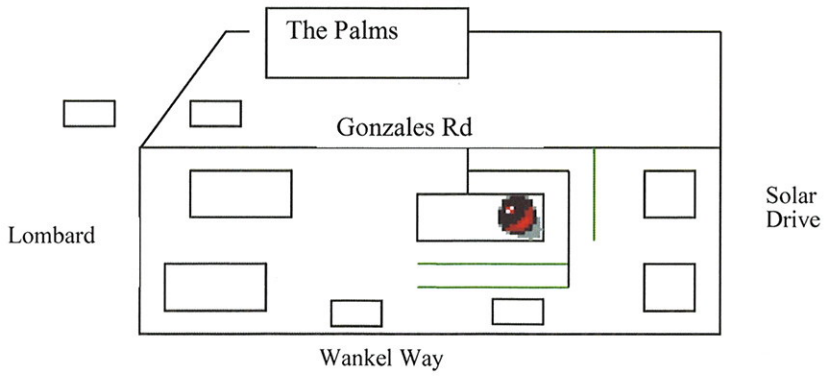
Parking Instructions: Parking at workshop venue is limited. Arrive early to allow for offsite parking if venue parking lot is full.

2240 Gonzales Rd. location
If you park in a designated "green permit parking" slot, fold this flyer in half and place pass face-up on the dash of your car, to avoid receiving a ticket.

2100 Solar Drive
An additional amount of "Green Permit Parking" spaces (only 30) are available in adjacent parking lot, those that back-up against venue parking area, (Enter this parking lot off of Gonzales[3rd driveway] or Solar Drive). Place this flyer on your dash. If all of those stalls are occupied, overflow parking is available at The Palms shopping area or side streets.

The Palms - shopping mall
Enter The Palms at Lombard and Gonzales. Allow for a ten minute walk to venue location.

Additional parking is available on side streets, Lombard, Solar and Wankel Way.



Allergic/Adverse Reaction and Anaphylaxis

ADULT

BLS Procedures

Assist with prescribed **Epi-Pen**
Administer oxygen as indicated

ALS Prior to Base Hospital Contact

Allergic Reaction or Dystonic Reaction
- **Benadryl**
  - IV/IM – 50 mg

If Wheezing is present
- **Albuterol**
  - Nebulizer – 5 mg/6 mL
    - Repeat as needed

Anaphylaxis without Shock
- **Epinephrine 1:1,000**
  - IM –
    - Less than 40 years old – 0.5 mg
    - 40 years old and greater – 0.3 mg
      - Only if severe respiratory distress is present
- IV access
- **Benadryl**
  - IV/IM – 50 mg
    - May repeat x 1 in 10 min

Anaphylaxis with Shock
- Treatment as above for Anaphylaxis without Shock
- Initiate 2nd IV
- **Normal Saline**
  - IV bolus – 1 Liter

For Profound Shock
- **Epinephrine 1:10,000**
  - Slow IVP – 0.1 mg (1 mL) increments
    - Max 0.3 mg (3 mL) over 1-2 min

Communication Failure Protocol

Anaphylaxis without Shock
- *Repeat* **Epinephrine 1:1,000**
  - IM – 0.3 mg q 5 min x 2 as needed

Anaphylaxis with Shock
- For continued shock
  - *Repeat* **Normal Saline**
    - IV bolus – 1 Liter
  - *Repeat* **Epinephrine 1:1,000**
    - IM – 0.3 mg q 5 min x 2 as needed

For Profound Shock
- **Epinephrine 1:10,000**
  - Slow IVP – 0.1 mg (1 mL) increments
    - Max 0.3 mg (3 mL) over 1-2 min

Base Hospital Orders only

Consult with ED Physician for further treatment measures

PEDIATRIC

BLS Procedures

Assist with prescribed **Epi-Pen Jr.**
Administer oxygen as indicated

ALS Prior to Base Hospital Contact

Allergic Reaction or Dystonic Reaction
- **Benadryl**
  - IV/IM – 1 mg/kg
    - Max 50 mg

If Wheezing is present
- **Albuterol**
  - Less than 2 years old
    - Nebulizer – 2.5 mg/3 mL
      - Repeat as needed
  - 2 years old and greater
    - Nebulizer – 5 mg/6 mL
      - Repeat as needed

Anaphylaxis without Shock
- **Epinephrine 1:1,000**
  - IM – 0.01 mg/kg
    - Max 0.3 mg
- IV access
- **Benadryl**
  - IV/IM – 1 mg/kg
    - May repeat x 1 in 10 min
    - Max 50 mg

Anaphylaxis with Shock
- Treatment as above for Anaphylaxis without Shock
- Initiate 2nd IV if possible or establish IO
- **Normal Saline**
  - IV/IO bolus – 20 mL/kg

For Profound Shock
- **Epinephrine 1:10,000**
  - Slow IVP – 0.01 mg/kg (0.1 mL/kg) increments
    - Max 0.3 mg (3 mL) over 1-2 min

Communication Failure Protocol

Anaphylaxis without Shock
- *Repeat* **Epinephrine 1:1,000**
  - IM – 0.01 mg/kg q 5 min x 2 as needed

Anaphylaxis with Shock
- For continued shock
  - *Repeat* **Normal Saline**
    - IV/IO bolus – 20 mL/kg
  - *Repeat* **Epinephrine 1:1,000**
    - IM – 0.01 mg/kg q 5 min x 2 as needed

For Profound Shock
- **Epinephrine 1:10,000**
  - Slow IVP – 0.01 mg/kg (0.1 mL/kg)
    - Max 0.3 mg (3 mL) over 1-2 min

Base Hospital Orders only

Consult with ED Physician for further treatment measures

Diphenhydramine Hydrochloride

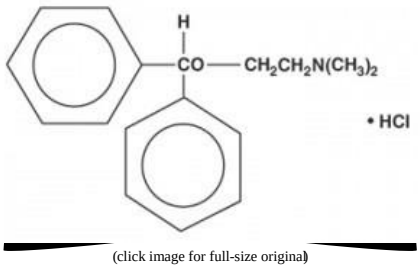
By Hospira, Inc. | Last revised: 10 February 2014

DIPHENHYDRAMINE HYDROCHLORIDE- diphenhydramine hydrochloride injection, solution Hospira, Inc.

Rx only

DESCRIPTION

Diphenhydramine hydrochloride is an antihistamine drug having the chemical name 2-(Diphenylmethoxy)-N,N-dimethylethylamine hydrochloride. It occurs as a white, crystalline powder, is freely soluble in water and alcohol and has a molecular weight of 291.82. The molecular formula is C_{17} H_{21} NO • HCl and the structural formula is as follows:



(click image for full-size original)

Diphenhydramine hydrochloride in the parenteral form is a sterile, pyrogen-free solution available in a concentration of 50 mg of diphenhydramine hydrochloride per mL for intramuscular or intravenous use. The solution for parenteral use has been adjusted to a pH between 4 and 6.5 with either sodium hydroxide or hydrochloric acid.

CLINICAL PHARMACOLOGY

Diphenhydramine hydrochloride is an antihistamine with anticholinergic (drying) and sedative side effects. Antihistamines appear to compete with histamine for cell receptor sites on effector cells.

Diphenhydramine hydrochloride in the injectable form has a rapid onset of action. Diphenhydramine hydrochloride is widely distributed throughout the body, including the CNS. A portion of the drug is excreted unchanged in the urine, while the rest is metabolized via the liver. Detailed information on the pharmacokinetics of Diphenhydramine Hydrochloride Injection is not available.

INDICATIONS AND USAGE

Diphenhydramine hydrochloride in the injectable form is effective in adults and pediatric patients, other than premature infants and neonates, for the following conditions when diphenhydramine hydrochloride in the oral form is impractical.

Antihistaminic: For amelioration of allergic reactions to blood or plasma, in anaphylaxis as an adjunct to epinephrine and other standard measures after the acute symptoms have been controlled, and for other uncomplicated allergic conditions of the immediate type when oral therapy is impossible or contraindicated.

Motion sickness: For active treatment of motion sickness.

Antiparkinsonism: For use in parkinsonism, when oral therapy is impossible or contraindicated, as follows: parkinsonism in the elderly who are unable to tolerate more potent agents; mild cases of parkinsonism in other age groups, and in other cases of parkinsonism in combination with centrally acting anticholinergic agents.

CONTRAINDICATIONS

Use in Neonates or Premature Infants: This drug should not be used in neonates or premature infants.

Use in Nursing Mothers: Because of the higher risk of antihistamines for infants generally, and for neonates and prematures in particular, antihistamine therapy is contraindicated in nursing mothers.

Use as a Local Anesthetic: Because of the risk of local necrosis, this drug should not be used as a local anesthetic.

Antihistamines are also contraindicated in the following conditions: Hypersensitivity to diphenhydramine hydrochloride and other antihistamines of similar chemical structure.

WARNINGS

Antihistamines should be used with considerable caution in patients with narrow-angle glaucoma, stenosing peptic ulcer, pyloroduodenal obstruction, symptomatic prostatic hypertrophy, or bladder-neck obstruction.

Local necrosis has been associated with the use of subcutaneous or intradermal use of intravenous diphenhydramine.

Use in Pediatric Patients: In pediatric patients, especially, antihistamines in overdosage may cause hallucinations, convulsions, or death.

As in adults, antihistamines may diminish mental alertness in pediatric patients. In the young pediatric patient, particularly, they may produce excitation.

Use in the Elderly (approximately 60 years or older): Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients.

PRECAUTIONS

General: Diphenhydramine hydrochloride has an atropine-like action and, therefore, should be used with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease or hypertension. Use with caution in patients with lower respiratory disease including asthma.

Information for Patients: Patients taking diphenhydramine hydrochloride should be advised that this drug may cause drowsiness and has an additive effect with alcohol.

Patients should be warned about engaging in activities requiring mental alertness such as driving a car or operating appliances, machinery, etc.

Drug Interactions: Diphenhydramine hydrochloride has additive effects with alcohol and other CNS depressants (hypnotics, sedatives, tranquilizers, etc).

MAO inhibitors prolong and intensify the anticholinergic (drying) effects of antihistamines.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals to determine mutagenic and carcinogenic potential have not been performed.

Pregnancy: Pregnancy Category B. Reproduction studies have been performed in rats and rabbits at doses up to 5 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to diphenhydramine hydrochloride. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Pediatric Use: Diphenhydramine should not be used in neonates and premature infants (see CONTRAINDICATIONS).

Diphenhydramine may diminish mental alertness, or in the young pediatric patient, cause excitation. Overdosage may cause hallucinations, convulsions, or death (see WARNINGS and OVERDOSAGE).

See also DOSAGE AND ADMINISTRATION section.

ADVERSE REACTIONS

The most frequent adverse reactions are underscored:

1. General: Urticaria, drug rash, anaphylactic shock, photosensitivity, excessive perspiration, chills, dryness of mouth, nose, and throat.

2. Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

3. Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

4. Nervous System: Sedation, sleepiness, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesia, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis, neuritis, convulsions.

5. GI System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

6. GU System: Urinary frequency, difficult urination, urinary retention, early menses.

7. Respiratory System: Thickening of bronchial secretions, tightness of chest or throat and wheezing, nasal stuffiness.

Behavioral Emergencies

ADULT	PEDIATRIC
ALS Prior to Base Hospital Contact	
IV Access For Extreme Agitation • **Midazolam** ○ IV – 2 mg • Repeat 1 mg q 2 min as needed • Max 5 mg ○ IM – 5 – 10 mg FOR IV USE: Dilute 5 mg (1 mL) Midazolam with 4 mL NS for a final volume of 5 mL concentration of 1 mg/mL When safe to perform, determine blood glucose level	For Extreme Agitation • **Midazolam** ○ IM – 0.1 mg/kg • Max 5 mg When safe to perform, determine blood glucose level
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures

Additional Information:

- If patient refuses care and transport, and that refusal is because of "mental disorder", consider having patient taken into custody according to Welfare and Institutions Code Section 5150. "Mental disorders" do not generally include alcohol or drug intoxication, brain injury, hypoxemia, hypoglycemia, or similar causes.
- Refer to VC EMS pre-hospital provider fact sheet for suspected excited delirium patients. Be sure to consider and rule out other possible causes or behavior (traumatic or medical).
- Use of restraints (physical or chemical) shall be documented and monitored in accordance with VCEMS policy 732
- Welfare and Institutions Code Section 5150:
  - A patient may be taken into custody if, as a result of a mental disorder, there is a danger to self and others or is gravely disabled. A California peace officer, a California licensed psychiatrist in an approved facility, Ventura County Health Officer or other County-designated individuals, can take the individual into custody, but it must be enforced by the police in the field.
- Patients shall be medically cleared prior to transporting to a psychiatric facility if patient is placed on 5150 hold by law enforcement.
- Patient may be transported directly to a psychiatric facility if evaluated by Crisis Team or PAT Team in the field.
- All patients that are deemed medically unstable shall be transported to the most accessible Emergency Department.

Ventura County Mental Health Crisis Team: (866) 998-2243

Dosing of midazolam for sedation

We are considering increasing the time until second dose of IM midazolam for sedation in Policy 705-04. The peak level is around 25 minutes, so 10 minutes may be too short.

Epilepsy Res. 1991 Nov-Dec;10(2-3):183-90.

A comparative pharmacokinetic study of intravenous and intramuscular midazolam in patients with epilepsy.

Bell DM1, Richards G, Dhillon S, Oxley JR, Cromarty J, Sander JW, Patsalos PN.

Author information

Abstract

The pharmacokinetics of midazolam, a water soluble 1,4-benzodiazepine, has been studied in 12 patients (11 male, 1 female; age range 19-57 years) with epilepsy. All patients were taking hepatic enzyme inducing antiepileptic drugs (AEDs) on a regular basis. Midazolam (5 mg) was administered intravenously and 1 week later midazolam was administered intramuscularly, the dose used being dependent on the sedative response to the intravenous dose (10 mg, n = 2; 7 mg, n = 8; 5 mg, n = 2). Serial blood samples were collected at timed intervals for 5-7 h. After intravenous administration initial distribution was rapid with a mean half-life (t 1/2 alpha) of 0.06 +/- 0.03 h followed by a terminal half-life (t 1/2 beta or gamma) of 1.5 +/- 0.3 h. Volume of distribution was 0.62 +/- 0.27 l/kg. After intramuscular administration midazolam was rapidly absorbed with peak serum concentrations achieved at 25 +/- 23 min. Two patients showed delayed absorption. Mean terminal half-life was 2.8 +/- 1.7 h. The absolute bioavailability of intramuscular midazolam was calculated in 11 patients as 87 +/- 18%. Sedation was rapid (less than 1-2 min) but transient (7-75 min) after intravenous and slower (2-30 min) and for a longer period (20-120 min) after intramuscular administration. Since intravenous administration of AEDs including diazepam is not always feasible in status epilepticus there are obvious advantages in having an effective intramuscular formulation. Our data suggest that midazolam may be such a drug.

Am J Vet Res. 2013 Feb;74(2):294-9. doi: 10.2460/ajvr.74.2.294.

Pharmacokinetics and pharmacodynamics of midazolam after intravenous and intramuscular administration in alpacas.

Aarnes TK1, Fry PR, Hubbell JA, Bednarski RM, Lerche P, Chen W, Bei D, Liu Z, Lakritz J.

Author information

Abstract

OBJECTIVE:

To determine pharmacokinetic and pharmacodynamic properties of midazolam after IV and IM administration in alpacas.

ANIMALS:

6 healthy alpacas.

PROCEDURES:

Midazolam (0.5 mg/kg) was administered IV or IM in a randomized crossover design. Twelve hours prior to administration, catheters were placed in 1 (IM trial) or both (IV trial) jugular veins for drug administration and blood sample collection for determination of serum midazolam concentrations. Blood samples were obtained at intervals up to 24 hours after IM and IV administration. Midazolam concentrations were determined by use of tandem liquid chromatography-mass spectrometry.

RESULTS:

Maximum concentrations after IV administration (median, 1,394 ng/mL [range, 1,150 to 1,503 ng/mL]) and IM administration (411 ng/mL [217 to 675 ng/mL]) were measured at 3 minutes and at 5 to 30 minutes, respectively. Distribution half-life was 18.7 minutes (13 to 47 minutes) after IV administration and 41 minutes (30 to 80 minutes) after IM administration. Elimination half-life was 98 minutes (67 to 373 minutes) and 234 minutes (103 to 320 minutes) after IV and IM administration, respectively. Total clearance after IV administration was 11.3 mL/min/kg (6.7 to 13.9 mL/min/kg), and steady-state volume of distribution was 525 mL/kg (446 to 798 mL/kg). Bioavailability of midazolam after IM administration was 92%. Peak onset of sedation occurred at 0.4 minutes (IV) and 15 minutes (IM). Sedation was significantly greater after IV administration.

CONCLUSIONS AND CLINICAL RELEVANCE:

Midazolam was well absorbed after IM administration, had a short duration of action, and induced moderate levels of sedation in alpacas.

Pain Control

ADULT	PEDIATRIC
BLS Procedures	
Place patient in position of comfort Administer oxygen as indicated	Place patient in position of comfort Administer oxygen as indicated
ALS Prior to Base Hospital Contact	

IV/IO access
 	
Cardiac Monitor
 	
Ondansetron
• IV/IM/ODT – 4 mg
 	
Morphine – Pain 5 out of 10 or greater
 	
Initial IV Dose
• Slow IVP - 0.1 mg/kg over 2 minutes[1]
• Maximum for **ANY** IV dose is 10 mg
 	
Initial IM Dose
• IM - 0.1 mg/kg[1]
• Maximum for **ANY** IM dose is 10 mg
 	
Second IV/IM Dose, if pain persists
5 minutes after IV morphine, or
15 minutes after IM morphine
• Administer half of the initial morphine dose
 	
Third IV/IM Dose, if pain persists
5 minutes after 2nd IV morphine, or
15 minutes after 2nd IM morphine
• **Ondansetron** (only if third dose of morphine needed)
  • IV/IM/ODT – 4 mg
• Administer half of the initial morphine dose
 	
Check and document vital signs before and after each administration
• Hold if SBP < 100 mmHg
 	
*If patient has significant injury to head, chest, abdomen or is hypotensive, **DO NOT** administer pain control unless ordered by ED Physician*
	IV/IO access
	
	Cardiac Monitor
	
	Ondansetron: Patient 4 years of age or older
	• IV/IM/ODT – 4 mg
	
	Morphine – Pain 5 out of 10 or greater
	
	Morphine – given for burns and isolated extremity injuries only. Consider early base contact for other pediatric complaints of pain (e.g. dog bite, cancer)
	
	Initial IV Dose
	• Slow IVP - 0.1 mg/kg over 2 minutes[1]
	• Maximum for **ANY** IV dose is 10 mg
	
	Initial IM Dose
	• IM - 0.1 mg/kg[1]
	• Maximum for **ANY** IM dose is 10 mg
	
	Second IV/IM Dose, if pain persists
	5 minutes after IV morphine, or
	15 minutes after IM morphine
	• Administer half of the initial morphine dose
	
	Third IV/IM Dose, if pain persists
	5 minutes after 2nd IV morphine, or
	15 minutes after 2nd IM morphine
	• **Ondansetron** (only if third dose of morphine needed)
	  • IV/IM/ODT – 4 mg
	• Administer half of the initial morphine dose
	
	Check and document vital signs before and after each administration
	• Hold if SBP < 100 mmHg
	
	*If patient has significant injury to head, chest, abdomen or is hypotensive, **DO NOT** administer pain control unless ordered by ED Physician*

Communication Failure Protocol	
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
1. Special considerations, administer 0.05 mg/kg • Chest pain not resolved by nitroglycerine (NTG) • Consider lower dose for patients older than 65 years of age • Patient with history of adverse reaction to morphine	

Effective Date: December 1, 2013
Next Review Date: October, 2015
Date Revised: October 10, 2013
Last Reviewed: October 10, 2013

VCEMS Medical Director

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Urgent Interfacility Transfer of Acute Stroke Patients	Policy Number 460
APPROVED: Administration: Steven L. Carroll, EMT-P	Date: DRAFT
APPROVED: Medical Director: Angelo Salvucci, M.D.	Date: DRAFT
Origination Date: DRAFT Date Revised: Last Reviewed: Review Date:	Effective Date: DRAFT

I. PURPOSE: To define the interfacility transfer process by which patients with an acute stroke are transferred to: 1) an Acute Stroke Center (ASC) or 2) a neuroendovascular center (NEC) for treatment of a emergent large vessel occlusion (ELVO).

II. AUTHORITY: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, 100170.

III. DEFINITIONS:

A. ASC: Acute Stroke Center designated according to VC EMS Policy 450

B. NEC: Neuroendovascular Center is a certified Primary Stroke Center (PSC) that has the capability to perform neuroendovascular procedures for acute stroke including mechanical thrombectomy and intra-arterial thrombolysis. (VC EMS to verify compliance)

C. ELVO: Emergent large vessel occlusion

D. PSC: Primary Stroke Center, certified by either The Joint Commission, Det Norske Veritas, or the Healthcare Facilities Accreditation Program.

IV. POLICY:

A. Hospitals will:

1. Assemble and maintain a “Stroke Transfer Pack” in the emergency department to contain all of the following:
    a. Phone numbers of all Ventura County Primary Stroke Centers and NECs.
    b. Phone numbers of the closest Primary Stroke Centers and NECs outside the County.
    c. Preprinted template order sheet with recommended prior-to-transfer treatments. Treatment guidelines will be developed with input from the ED, Neurologists and the NEC.
    d. Patient Consent/Transfer Forms.
    e. Treatment summary sheet.
2. Have policies, procedures, and a quality improvement system in place to minimize door-to-brain imaging interpretation, door to thrombolytic initiation and ischemic stroke diagnosis-to-transfer times.

3. Establish policies and procedures to make personnel available to accompany the patient during the transfer to the NEC or ASC. These policies will include patient criteria for requiring an RN or physician to accompany patient when medications or procedures outside of the paramedic scope of practice are being used.

B. Ventura County Fire Communications Center (FCC) will:

1. Respond to a stroke transfer request by immediately dispatching the closest available ALS ambulance to the requesting hospital.

C. Ambulance Companies:

1. Will respond an ALS ambulance immediately upon request for a “stroke transfer”.
2. Transfers performed according to this policy are not considered an interfacility transport as it pertains to ambulance contract compliance.

D. NEC or ASC will:

1. Maintain accurate status information on ReddiNet regarding the availability of neuroendovascular capability for NEC, or status availability for ASC.
2. Publish a single phone number, that is answered 24/7, to receive notification of a stroke transfer.
3. Immediately upon initial notification by a transferring physician at the hospital, accept transfer of all patients who have been diagnosed with an acute stroke and who, in the judgment of the transferring physician, require either 1) an urgent endovascular procedure, or 2) a higher level of care.
4. Authorize the emergency physician on duty to confirm the acceptance in transfer of any patient with an acute stroke in need of an endovascular procedure or higher level of care.
5. Establish an internal communications plan that assures the immediate notification of all necessary individuals, including the on-call neurologist and, for ELVO transfers, endovascular intervention staff.
6. Adopt procedures to make an ICU/CCU bed available or to make alternate arrangements for inpatient care.

V. PROCEDURE:

A. Upon diagnosis of ELVO stroke or a stroke needing a higher level of care; and after discussion with the patient or patient’s family/caregiver, the hospital will:

1. Determine availability of the NEC or ASC by checking ReddiNet.
2. Immediately call the Ventura County Fire Communication Center at 805-384-1500 for an ALS ambulance.
3. Identify their facility to the dispatcher and advise they have a “stroke transfer”.

4. After calling for ambulance, the ED transferring physician will notify the NEC or ASC emergency physician of the transfer.
5. Perform all indicated diagnostic tests and treatments.
6. Complete transfer consent, treatment summary, and stroke data forms.
7. Include copies of the ED face sheet and demographic information.
8. Have available if needed, one or more healthcare staff, as determined by the clinical status of the patient, to accompany the patient to the NEC or ASC.

    a. If, because of unusual and unanticipated circumstances, healthcare staff is unavailable for transfer, a Critical Care Transport (CCT) transfer may be requested by calling the CCT provider ambulance dispatch center.

B. Upon request for “stroke transfer”, the dispatch center will dispatch the closest ALS ambulance and verbalize “MEDxxx “stroke transfer” from [hospital]”. The destination hospital 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 hospital.

C. Upon notification, the ambulance will respond Code 3 (lights & sirens) and personnel will notify their ambulance company supervisor of the stroke transfer.

D. Ambulance units will remain attached to the incident and FCC will track their dispatch, en-route, on scene, en-route hospital, at hospital, and available times.

E. The patient shall be urgently transferred without delay. Every effort will be made to minimize on-scene time.

1. All forms should be completed prior to ambulance arrival.
2. Diagnostic test results may be relayed to the NEC or ASC at a later time.
3. Intravenous drip t-PA will continue infusing on the ED pump, accompanied by an RN or physician.
4. Nurse report will be given to the receiving hospital at the time of, or immediately after, ambulance departure.

F. Upon notification, the NEC or ASC will notify appropriate staff to prepare for patient.

G. The hospital and NEC or ASC shall review all stroke transfers within 24 hours for appropriate and timely care and to identify opportunities for improvement. Results will be reviewed and discussed at the Countywide EMS Stroke CQI Committee.

H. e-PCR documentation will be completed by ambulance personnel.

EMS Trauma/Stroke

List of Anticoagulant and Antiplatelet Medications

Anticoagulant Medications

Brand Name	Generic Name
Arixtra	fondaparinux
Coumadin	warfarin
Eliquis	apixaban
Jantoven	warfarin
Lixiana	edoxaban
Lovenox	enoxaparin
Pradaxa	dabigatran
Savaysa	edoxaban
Xarelto	rivaroxaban

Antiplatelet Medications

Brand Name	Generic Name
Aspirin (325mg NOT 81mg)	acetylsalicylic acid
Brillinta	ticagrelor
Effient	prasugrel
Persantine	dipyridamole
Plavix	clopidogrel
Pletal	cilostazole

Updated 4/2/2015

Symptomatic Bradycardia

ADULT (HR < 45 bpm)	PEDIATRIC (HR < 60 bpm)
BLS Procedures	
Administer oxygen as indicated Supine position as tolerated	Administer oxygen as indicated Assist ventilations if needed If significant ALOC, initiate CPR
ALS Prior to Base Hospital Contact	
IV access **Atropine** • IV – 0.5 mg (1 mg/10 mL) **Transcutaneous Pacing (TCP)** • Should be initiated only if patient has signs of hypoperfusion • Should be started immediately for 3º heart blocks and 2º Type 2 (Mobitz II) heart blocks • If pain is present during TCP ○ **Morphine** – per policy 705 - Pain Control	IV access • IO access only if pt in extremis **Epinephrine 1:10,000** • IV/IO – 0.01 mg/kg (0.1 mL/kg) q 3-5 min
Communication Failure Protocol	

If symptoms persist for 3 minutes after first atropine dose and if no capture with TCP
• **Atropine**
  ○ IV – 0.5 mg q 3-5 min
  • Max 0.04 mg/kg
 	
• **Dopamine**
  ○ IVPB – 10 mcg/kg/min
  • Use if patient continues to be unresponsive to atropine and TCP	

Base Hospital Orders only	

For suspected hyperkalemia
• **Calcium Chloride**
  ○ IV – 1 gm over 1 min
  • Withhold if suspected digitalis toxicity
• **Sodium Bicarbonate**
  ○ IV – 1 mEq/kg
	Atropine
	• IV/IO – 0.02 mg/kg
	  ○ Minimum dose – 0.1 mg

Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
Additional Information • Bradycardia does not require treatment unless signs and symptoms are present (chest pain, altered level of consciousness, abnormal skin signs, profound weakness, or low BP)	

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: EMS Update Procedure		Policy Number 351
APPROVED: Administration:	Steven L. Carroll, EMT-P	Date: 12/01/09
APPROVED: Medical Director:	Angelo Salvucci, M.D.	Date: 12/01/09
Origination Date: Date Revised: Last Reviewed: Review Date:	February 9, 2005 September 10, 2009 September 10, 2009 September 30, 2012	Effective Date: December 1, 2009

I PURPOSE: To establish a standard for the method, design, approval, and delivery of information to EMS personnel on new and amended policies as well as general EMS information.

II AUTHORITY: Ventura County Emergency Medical Services Agency (VC EMS Agency).

III POLICY: VC EMS Agency will develop a method by which all EMS providers will be notified of changes or amendments in County EMS policies as well as general EMS information.

V PROCEDURE:

A. EMS Update will be presented in May and November of each year.

1. Dates, times and locations for EMS Update will be determined by the base hospital PCCs and submitted to VC EMS Agency and providers no later than 30 days prior to the presentation of the first EMS Update.
2. Each base station shall offer a minimum of three EMS Updates in May and in November.

B. EMS Update will consist of the following:

1. All new and revised policies approved by the Prehospital Services Committee since the last EMS Update.
2. Pertinent “information” items discussed at PSC not included in policy updates.
3. Information submitted to the PCCs by the VC EMS Agency

C. EMS Update training materials will be designed by the EMS Update Design Team.

1. Dates and times of the EMS Update design meetings will be determined on an “as needed” basis by the EMS Update Design Team.
2. Membership of the EMS Design Team will include all PCC’s, a representative from the EMS Agency, and a BLS and ALS representative.
3. The training package will include the following materials:
    a. Power Point Presentation
    b. Instructional objectives
    c. Course outline
    d. Lesson plan
    e. Method of evaluation (written and/or skills competency based valuation tool).
    f. Make up exam.
4. The review, editing, and final approval of the EMS Update will be done by the VC EMS Staff.

D. Copies of the final EMS Update will be delivered via email by the VC EMS Agency to the EMS Update training providers prior to the first presentation.

E. BLS provider Agencies will receive a copy by e-mail to adapt materials for EMT-1 providers.

F. Changes to EMS Update following approval of final draft.
1. Errors or omissions discovered following release of the final draft by VC EMS will be reported to VC EMS Agency CQI Coordinator who will be responsible for notifying all EMS training providers of the corrected information.

G. EMS Update Make-Up Session will be held two weeks after the last Update presentation. The Make-Up Session will be held on a date, time and location established by VC EMS Agency.
1. The Power Point training package will used by VC EMS Agency
2. A written post-test, developed by the EMS Update Design Team, will be administered by the VC EMS Agency.
3. A minimum passing score of 85% must be achieved for successful course completion.
4. VC EMS Agency staff will present the Make-Up Session.

H. Course completion records will include the following:
1. Student course evaluation to be retained by training organization.

2. A copy of the continuing education roster shall be submitted to the VC EMS Agency immediately after the completion of each course offered.
3. Documentation of successful course completion for participants.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Spinal Immobilization		Policy Number 614
APPROVED: Administration:	Barry Fisher, MPPA	Date: December 11, 2008
APPROVED: Medical Director:	Angelo Salvucci, M.D.	Date: December 11, 2008
Origination Date: Date Revised: Date Last Reviewed: Review Date:	October 1992 December 11, 2008 December 11, 2008 December 31, 2011	Effective Date: December 11, 2008

I. PURPOSE: To define the use of spinal immobilization by field personnel in Ventura County.

II. AUTHORITY: Health and Safety Code, Sections 1797.214, 1797.220, 1798, and 1798.200, CCR Division 9, Chapter 4, Sections 100175, 100179

II. POLICY: Field personnel in Ventura County may apply spinal immobilization devices under the following circumstances.

III. PROCEDURE: Patients who meet any of the criteria listed in Section A will be carefully evaluated according to criteria in Section B. Spinal immobilization will only be done on patients who meet the criteria of *both* Section A *and* Section B.

A. Patients who meet at least one of the following criteria will require further evaluation as listed in Section B to determine whether spinal immobilization is required. Patients who do *not* meet any of these criteria do *not* require spinal immobilization:

1. Any patient with head or neck trauma who complains of neck or back pain, or weakness, numbness or radiating pain in a trauma setting.
2. Any patient with altered level of consciousness, neurological deficit, or alcohol or drug intoxication to the extent that appreciation of pain is altered, or suffering from severe distracting painful injuries for whom the mechanism of injury is unknown or suspicious for spinal injury.

B. Spinal immobilization will be done on patients who meet criteria listed in Section A above if they have at least one of the following:

1. Neck or spinal pain,
2. Spinal tenderness,
3. A painful distracting injury (e.g., long bone fracture),
4. Neurological deficit, OR
5. Inability to communicate effectively.

The awake, alert patient, not under the influence of alcohol or drugs to the extent that appreciation of pain is altered, with whom you can communicate effectively, who

denies spine pain or tenderness, is neurologically intact, does not have a distracting injury, does NOT require spinal immobilization.

C. Cervical immobilization is not necessary in the awake, alert patient, not under the influence of alcohol or drugs to the extent that appreciation of pain is altered, with whom you can communicate effectively who complains of isolated lumbar pain or tenderness but denies cervical pain or tenderness and does not have weakness or numbness in a trauma setting. Long board immobilization without cervical immobilization is adequate for this type of patient.

D. In patients with penetrating torso or neck injury and unstable vital signs, transportation must be expedited. For potential spinal injury, the patient should be placed on a backboard. The head should be taped if a cervical spine injury is suspected.

VI. Special Procedure for Care of Potentially Spine-Injured Football Athlete

A. The facemask should always be removed prior to transportation, regardless of current respiratory status.

1. Tools for facemask removal include screwdriver, FM Extractor, Anvil Pruners, or ratcheting PVC pipe cutter should be readily accessible.
2. All loop straps of the facemask should be cut and the facemask removed from the helmet, rather than being retracted.

B. The helmet should not be removed during the prehospital care of the football athlete with a potential spinal injury, unless:

1. After a reasonable period of time, the face mask cannot be removed to gain access to the airway,
2. The design of the helmet and chin strap is such that even after removal of the face mask, the airway cannot be controlled or ventilation provided,
3. The helmet and chin straps do not hold the head securely such that immobilization of the helmet does not also immobilize the head, or
4. The helmet prevents immobilization for transport in an appropriate position.

C. If the helmet must be removed, spinal immobilization must be maintained while removing.

1. In most circumstances, it may be helpful to remove cheek padding and/or deflate the air padding prior to helmet removal.
2. If the helmet is removed, the shoulder pads must be removed at the same time.

D. If needed, the front of the shoulder pads can be opened to allow access for CPR and defibrillation. They should only be removed if the helmet is removed at the same time.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Safely Surrendered Babies		Policy Number: 619
APPROVED: Administration:	Steven L. Carroll, EMT-P	Date: 06/01/2008
APPROVED: Medical Director:	Angelo Salvucci, MD	Date: 06/01/2008
Origination Date: Revised Date: Last Reviewed: Review Date:	February 2003 November 8, 2007 August 13, 2009 November 30, 2012	Effective Date: June 1, 2008

I. PURPOSE: This policy outlines the procedures whereby prehospital care providers accept a newborn under the California Safe Haven Law. This law as amended allows a person to surrender a minor child, less than 72 hours old to a person at any *designated* fire station, or emergency room without fear of arrest or prosecution, provided that the infant has not been abused or neglected. According to the law, "no person or entity that accepts a surrendered child shall be subject to civil, criminal, or administrative liability for accepting the child and caring for the child in the good faith belief that action is required or authorized by the bill, including but not limited to instances where the child is older than 72 hours or the person surrendering the child did not have lawful physical custody of the child".

II. AUTHORITY: 1797.220, 1798 Health & Safety Code; CCR Division 9 Chapter 4, 100175; Senate Bill 1368, Chapter 824, and Statutes of 2000; and Ventura County Board of Supervisor Resolution dated May 6, 2003.

III. POLICY: Emergency Medical Services (EMS) personnel shall follow the procedures outlined in this document to ensure the surrendered infant is protected and medically cared for until delivered to the closest hospital emergency department.

IV. PROCEDURE:

A. When an infant is surrendered to a fire station, the personnel shall notify their dispatch center of the situation.

B. The dispatch center will dispatch the closest paramedic transport unit.

C. Fire station personnel will assess the newborn and treat as needed.

D. Initiate first responder form.

E. Open the Newborn Safe Surrender Kit, (available at the fire station).

F. Place a confidential coded bracelet on the infant's ankle and wrist. (Record this number on the first responder form)

G. Provide the surrendering party the inner business reply mail envelope. This contains the Safe Haven medical questionnaire (English and Spanish version), an information sheet and a matching coded, confidential bracelet. Advise the surrendering party that provided that there has been no abuse or neglect, the parent may reclaim the infant within **14 days**, by taking the bracelet back to the hospital. Hospital personnel will provide information about the baby.

H. Upon arrival of the transport paramedic unit, the fire station personnel will provide a copy of the written report and a verbal report of the infants' care and status.

I. If the infant appears to be greater than 72 hours old, abused or neglected, accept the infant and provide medical treatment as necessary.

J. The paramedic transport unit will initiate base station contact and begin transport to the closest appropriate hospital emergency department.

K. The paramedic transport unit will initiate care and treat the infant as needed.

L. The paramedic transport unit will complete a PCR via approved Ventura County Documentation System and will record the confidential coded ankle bracelet number.

M. Upon arrival at the receiving emergency department, the transporting paramedic will provide a verbal and written report.

N. Receiving hospital personnel will make verbal and written notification to the Ventura County HSA Department of Children and Family Services (DCFS).

Neonatal Resuscitation

BLS Procedures

Newly Born Infant

Provide warmth, dry briskly and discard wet linen
- Suction ONLY if secretions, including meconium, cause airway obstruction

Assess while drying infant
1. Full term?
2. Crying or breathing?
3. Good muscle tone?

If "YES" to all three
- Place skin-to-skin with mother
- Cover both with dry linen
- Observe breathing, activity, color

If "NO" to any of three
- Stimulate briefly (<15 seconds)
  - Flick soles of infant's feet
  - Briskly rub infant's back
- Provide warm/dry covering
- Continue to assess

Infant up to 48 hours old

Provide warmth
- Suction ONLY if secretions cause airway obstruction
- Stimulate briefly (<15 seconds)
  - Flick soles of infant's feet
  - Rub infant's back with towel

Provide warm/dry covering
Continue to assess

Assess Breathing
- If crying or breathing, assess circulation
- If apneic or gasping
  - Positive pressure ventilations (PPV) with BVM and ROOM AIR at 40-60 breaths per minute for 30 seconds
    - Continue PPV, reassessing every 30 seconds, until infant is breathing adequately
  - Reassess breathing, assess circulation

Assess Circulation
- If HR between 60 and 100 bpm
  - PPV with BVM and ROOM AIR at 40-60 breaths per minute for 30 seconds
    - Continue PPV, reassessing every 30 seconds, until infant maintains HR >100 bpm
- If HR < 60 bpm
  - CPR at 3:1 ratio for 30 seconds
    - 90/min compressions
    - 30/min ventilations
    - Continue CPR, reassessing every 30 seconds, until HR > 60 bpm
  - If no improvement after 90 seconds of ROOM AIR CPR, add supplemental O_2 until HR > 100

ALS Prior to Base Hospital Contact

Establish IO line only in presence of CPR

Asystole OR Persistent Bradycardia < 60 bpm

- **Epinephrine 1:10,000**
  - IO – 0.01mg/kg (0.1mL/kg) q 3-5 min

PEA

- **Epinephrine 1:10,000**
  - IO – 0.01mg/kg (0.1mL/kg) q 3-5 min
- **Normal Saline**
  - IO bolus – 10mL/kg

Base Hospital Orders only

Consult with ED Physician for further treatment measures

Additional Information:

- Resuscitation efforts may be withheld for extremely preterm infants (< 21 weeks or < 9 inches long). Sensitivity to the desires of the parent(s) may be considered. If uncertain as to gestational age, begin resuscitation.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Trauma Center Designation		Policy Number 1401
APPROVED: Administration:	Steven L. Carroll, EMT-P	Date: July 1, 2010
APPROVED: Medical Director:	Angelo Salvucci, M.D.	Date: July 1, 2010
Origination Date: Date Revised: Date Last Reviewed: Review Date:	July 1, 2010 July 1, 2011	Effective Date: July 1, 2010

I. PURPOSE: To establish a procedure for the designation of Level II trauma centers in Ventura County

II. AUTHORITY: Health and Safety Code, §1797.160, §1797.161, and §1798, and California Code of Regulations, Title 22, §100255.

III. POLICY:

A. Trauma Center Designation

1. Ventura County Emergency Medical Services Agency will issue a request for proposal (RFP) for the designation of the Level II trauma center(s). The RFP will include:

a. Introduction and background information about Ventura County's trauma system.

b. General information and instructions about trauma center designation including eligibility for application, primary service areas, fees and EMS's no guarantee policy of the minimum number of trauma patients

c. Reference to Title 22 and the American College of Surgeons "Resource for Optimal Care of the Injured Patient 2006" as the criteria for designation. Applicants will be required to describe their current compliance with these criteria or to indicate plans to achieve compliance within 6 months of the nomination for designation.

d. List of the minimal requirements for designation that includes: hospital organization, medical staff support, the

trauma program, the trauma medical director, the trauma resuscitation team, the trauma service, the trauma program manager, the trauma registrar and interventional radiology services on site. (Please see page 31- 35 of the "Resource for Optimal Care of the Injured Patient 2006" for full description of the above).

e. A list of Level II trauma center conditions and requirements, which the applicant will be required to accept.

f. A contract between the applicant hospital and Ventura County Emergency Medical Services Agency to be completed when the hospital's application has been approved. Applicants will be required to indicate their acceptance of the contract or to submit alternative language for any clause which they are unwilling to accept.

g A schedule of fees for Level II trauma center applications and ongoing designation/contracts.

2. The RFP will be sent by registered, return-receipt-requested mail to those hospitals in Ventura County who submitted the required letter of interest. Any hospital wishing to respond to the RFP will be required to complete the RFP as outlined in the RFP and submit the application fee by a specified date and time. Thereafter, all communication regarding the process will be sent only to hospitals that have indicated their interest.
3. EMS will host a mandatory pre-proposal conference
4. Hospitals will have up to 60 days to submit an original and six copies of the proposal to ACS. Other submission requirements will be outlined in the RFP.
5. The independent review panel (IRP) will include experts as appropriate for the level of designation such as a trauma surgeon(s), emergency physician(s), trauma program manager(s), hospital administrator(s), EMS Agency administrator(s) and/or individuals with similar qualifications. The IRP shall be composed of individuals who work outside of the County of Ventura and have no affiliation or allegiance to any hospital within the County, and who are selected and approved by the Trauma Working

Group.

6. The proposal review process will be contracted to American College of Surgeons which will include a site visit for the purpose of confirming the information submitted as well as an evaluation of the hospital's capability and commitment to serve as a Level II trauma center. The IRP will evaluate proposals according to but not limited to:
   a. Compliance with minimum standards
   b. Quality and scope of service
   c. Applicant's demonstrated commitment to the care of major trauma patients
   d. Comprehensiveness
   e. Cost effectiveness of the proposed service
   f. Actuality of the demonstrated ability to provide Level II trauma services versus a stated plan to provide the service
7. The nominated designated hospital must agree to obtain verification by the American College of Surgeons as a Level II trauma center within 3 years of designation at cost to the hospital.

B. Designation
   1. Following the site visits, the IRP will report on its findings and decision on designation of trauma hospitals. This will include any recommended corrective action plan that would be required to meet trauma center requirements.
   2. IRP recommendations will be forwarded to the Ventura County Board of Supervisors for final designation.
   3. Reports of the IRP will be made available upon request.

C. Appeals
   1. Notices of findings and copies of reports specific to each applicant will be sent to the appropriate applicant. Applicants will have 10 working days to appeal from the day of receipt of the preliminary recommendations of IRP. Grounds for appeals are limited to alleged failure to follow the RFP or proposal review process. Expert judgments or analyses of the survey team are not subject to appeal.
   2. A three-member appeal panel whose members have expertise in proposal reviews, and have no allegiance or affiliation with any hospital

within the County or to any member of the IRP, and who are selected and approved by the Trauma Working Group, will review the appeal and make a decision. All decisions are final and cannot be appealed further.

3. A fee of $5,000 will be required to request an appeal. These funds shall be used by the County to recover costs of resources used to reply to the appeal.