

Public Health Administration
Large Conference Room
2240 E. Gonzales, 2nd Floor
Oxnard, CA 93036

Pre-hospital Services Committee
Agenda

July 11, 2013
9:30 a.m.

I.	Introductions
II.	Approve Agenda
III.	Minutes
IV.	Medical Issues
	A. CAM Update
	B. Lasix
	C. Other
V.	New Business
	A. Morphine/Ondansetron
	B. Air Q Trial Study
	C. Cardiac Monitor for ondansetron
	D. LVAD training
	E. Other
VI.	Old Business
	A. Sidewalk CPR
	B. Other
VII.	Informational/Discussion Topics
	A. 1402 – Trauma Committees
VIII.	Policies for Review
	A. 150 – Unusual Occurrences
	B. 350 – PCC Duties
	C. 604 – Transport Guidelines
	D. 1200 – Air Unit
IX.	Agency Reports
	A. Fire Departments
	B. Ambulance Providers
	C. Base Hospitals
	D. Receiving Hospitals
	E. ALS Education Programs
	F. EMS Agency
	G. Other
X.	Closing



**TEMPORARY
PARKING PASS
Expires July 12, 2013**

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

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

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.

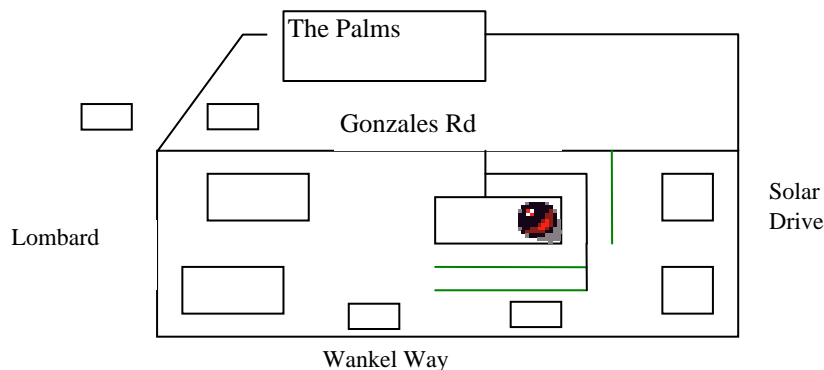
2100 Solar Drive

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.



PSC: July 11, 2013

IV. B.: Furosemide (Lasix).

Furosemide has been removed from the new paramedic regulations, effective April 1, 2013. See page 5 in: http://www.emsa.ca.gov/laws/files/ch3_aemt.pdf. Some LEMSAs have submitted requests to add furosemide back in as a local optional SOP, however it is only being approved if used in patients who have a 30 minute or greater transport time. Most EMS systems throughout the state and country have removed, or severely restricted the use of furosemide. Reasons include:

- 1) Diagnosing CHF in the field is difficult and often inaccurate,
- 2) Furosemide can be harmful in CHF mimics (e.g., pneumonia, sepsis, COPD),
- 3) Its onset of action is too slow to be helpful in addressing the chief complaint (SOB), and
- 4) There is a much quicker and more effective treatment (CPAP).

We'll have information on furosemide use so far in 2013.

Please see included article.

I'd like to discuss deleting it.

V. A.: Morphine & Ondansetron

Should ondansetron be given before the MS?

V. B.: Air-Q:

In our King/ITD study, the King Airway was possibly associated with poorer neurological outcomes in cardiac arrest survivors. One hypothesis is that the balloon compressed the carotid artery. This is also a concern with the LMA.

One solution may be the Air-Q. The balloon inflates with each ventilation, but at other times is deflated. See here: <http://cookgas.com/index.php/air-qsp/>

I would like to discuss participating in a trial study that would start in October. We may use a new Air-Q which would include the blocker – a tube and balloon inserted into the esophagus. See here: <http://cookgas.com/index.php/air-q-blocker/>

V. C.: Cardiac monitor for ondansetron

Ondansetron has a dose-related effect on QT – which we've discussed before. See attached FDA warning. Although we use very small doses, should we be putting all patients receiving ondansetron on a monitor first?

V. D.: LVAD Training.

There are regular and probably increasing numbers of LVAD patients in the county. Should we have basic LVAD training for everyone? See here:

<http://www.mylvad.com/ems>.

Public Health Administration
 Large Conference Room
 2240 E. Gonzales, 2nd Floor
 Oxnard, CA 93036

Pre-hospital Services Committee
 Agenda

April 14, 2013
 9:30 a.m.

Topic	Discussion	Action	Assigned
I. Introductions	Meeting called to order at 0935. James Rosolek, taking over as LMT representative. Randy Perez, EMSA AED Coordinator, will take over Sidewalk CPR Dede Utley taking over EMS Coordinator role at VEN.		
II. Approve Agenda			Approved by Patterson Seconded by Carroll
III. Minutes			Approved by Dowd Seconded by Patterson
IV. Medical Issues			
A. CAM Update	Meeting to review where we were and decide what to do. Relatively minor changes to be made in training program, OXD experience has been positive and looking forward to moving training out county-wide. Dr. Chase thinks it can be addressed in the fall. Reports from the field are positive.		
B. King Airway/ITD Study	Dr. Chase has power point that will be presented toward the end of the meeting, time allowing. 1110, time allowing for Dr. Chase to present. Statistics presented for 9-month chunks during KA/RQP Study.		
C. Lasix Discussion	Hoped to look at data and recommend lasix is no longer useful, but data indicates patient have improved with the use of lasix.	Opinions are mixed as to prehospital use, will continue to research before coming to a conclusion for county-wide determination.	
D. D50 Shortage, Policy 705.03	D50 is on shortage list. Other EMS systems have gone to D10, which has advantages over D50. In packet is	Policy ok'd to reflect necessary changes based on shortage of drugs, per general consensus. Angelo prefers	

		policy that Chad worked on that gives option for D50, D10, D5, glucagon. Should we continue to carry D50? Is it confusing to have so many?	D10 as first line, then one of the others can be used.	
E.	Sidewalk CPR	Statewide event June 4 or 5 or 6? Conflicting dates, will clarify. Randy will be contact. Locations will be reduced to around 10, perhaps one in each city.	Randy will be in touch with confirmed date and participation/sponsorship.	
F.	Morphine Dosing	Feasibility of using weight-based morphine. July 2012 2 units began using weight-based morphine administration, which appeared to reduce pain with fewer doses. AMR proposing moving to county-wide and revision policy.	Angelo in favor of moving forward with policy change county-wide. Consider reducing dose with elderly patients.	
G.	Other			
V.	New Business			
A.	(ADDED) PSC guidelines	According to PSC guidelines, in March PSC elects a nominating committee to come up with new chair.	Committee moves to keep Jeff Winter for 2 more years.	Approved by Plott Seconded by McShea
B.	Policy 124: Hospital Emergency Services Reduction Impact Assessment	Tabled		
C.	Policy 131: MCI	Numerous changes made to policy, lots of formatting issues that will be fixed. Content related discussion invited. Trauma patients should be taken to trauma centers, particularly Steps 1 and 2. Our goal is to train personnel to prioritize. Need to have agreements with facilities in other counties for trauma patients to be taken to trauma centers. Worksheets (in separate attachment) are the same as they've been. Tony Norton suggests increasing row size on worksheets.	MICN training for 2014 Providers by June 1 "go-live" will start pushing out training.	Approved by Panke Seconded by Wilke

		Discussed mandating MICNs for MCI training but pulled back. Will develop specialized MICN training course, ReddiNet focused and based, and will have better idea of what goes on in the field. To have approved by December EMS Update, training in 2014.		
D.	Policy 506: Paramedic Support Vehicle	Policy for review last PSC and was tabled for naming revision needs.		Approved by Licht Seconded by McShea
D.	Policy 705.01: Trauma Treatment Guidelines	Language added on page 3, section 3A3, talks about permissive hypotension to thoracic trauma. With low perfusion states, maintaining brachial pulse might be better goal than fixating on numbers of blood pressures. “,,,and peripheral perfusion, as evidenced by brachial pulses.” (maintaining easily palpable brachial pulse)	Revise language to “maintain SBP greater than 80 or palpable peripheral pulse.”	Approved by Bentley Seconded by Wilkie
E.	Policy 705.26: Suspected Stroke	Oxygen changes.		Approved by Larson Seconded by Licht
F.	Policy 710 Airway Management	ResQPOD is optional for use. Wrong version of policy included in packet.	Will be pushed out by email so may be included in EMS Update.	
G.	Policy 720: LBC	Discussed at Feb meeting, brought back with changes.		Approved Rosolek Seconded by Patterson
H.	Policy 724: ALTE	Discussed changes at Feb meeting, changed wording from “may be normal” to “will probably be normal.” Changed refusal of care to AMA.	Will confirm and send out by email so may be included in EMS Update.	
I.	Policy 728: King Airway	LTD, should be LTSD, changes volumes in policy. Form is deleted. Information contained in ePCR.	Size 3: 40-55 Size 4: 50-70 Size 6: 60-80	Approved by Bentley Seconded by Licht
J.	Other			
VI	Old Business			
A.	Policy 318: ALS Response Standards	Series of changes that were approved in February, check off list at the end and table for paramedic approval. Updated check-off list. Changed Base		Approved by Bently Seconded by Licht

		Hospital Physician to PLP, deleted intralingual, no interviews or scenarios by PLP.		
B.	Policy 705.14: Hypovolemic Shock	Cross-referenced to trauma treatment guidelines.		Approved by Larson Seconded by Patterson
C.	Policy 705.25: Vtach, Not in Arrest	Clarifying mode of administration of Amiodarone.		Approved by Bentley Seconded by Patterson
D.	Policy 715: Needle Thoracostomy	Changed language to VCePCR.		Approved by Larson Seconded by McShea
E.	Other			
VII. Informational/Discussion Topics				
A.	Rescue Under Force protection Medical Kits --Tourniquets	Building small scale first aid kit for rapid treatment and evacuation of patients under fire. Combat tourniquet (CAT) is better device vs. MAT. Trying to prevent there being two separate pieces of equipment of fire apparatus. MAT tourniquet causes less pain, less additional injury and tissue damage. If fire depts. are OK with having 2 separate devices on board, it's their decision, but it's advisable to have just one. County Fire going with the CAT on all apparatus.		
B.	11376.5 Law Enforcement and Drug Use	Recent law passed that states it's not illegal to have drug paraphernalia or to have overdosed on drugs. Patients are arriving in EDs without being searched and have guns and other weapons. Safety alert for field care providers. You may be seeing patients who have not been searched. If no crime has been committed, law enforcement has no reason to search anyone. Variable around the county. From perspective of crews, much better off searching and not finding anything than not search and have		

		concealed firearms used against them.	
D.	Policy 1404: Guidelines for IFT to a Trauma Center	Language changed to reflect practice of calling trauma hotline and accessing ED physician and a trauma surgeon consult if necessary.	
E.	Policy 1405: Trauma Triage and Destination Criteria	Discussion about changes regarding Step 1 and Step 3.	
C.	Other		
VIII.	Policies for Review		
A.	No policies for review		
XI	TAG Report		No meeting
X.	Agency Reports		
A.	ALS Providers	<p>VNC continues to monitor improvement phase of ePCR data, attempting to encourage charting in procedures instead of in narrative. 5 full arrest saves so far this year. Thanks to EMSA for processing EMTs and CPR recerts. VNC and LAC thanks LRHMC and Debbie Licht for help in difficult situation when fire captain took his own life.</p> <p>AMR/GC CPR day on 4/22, Debbie has helped with locations. Any organization is welcome to participate. If you want to, and to get your organizations logo on the posters, just let AMR know. Partnership with CSCI, training with CAM, useful with recent cardiac arrest event,</p> <p>VEN nothing</p> <p>SAR nothing</p> <p>LMT nothing</p>	
B.	BLS Providers	<p>SPA nothing</p> <p>FFD Airshow has been cancelled</p> <p>OXD New Chief Williams started in March. Graduated 10 new firefighters, hiring more.</p> <p>CI nothing.</p>	
C.	Base Hospitals	<p>SVH 8 hr CE day, partnering with AMR. May 3 0830 to 1700 at SVPD.</p> <p>LRHMC Dan Davis coming to present 1230 to 1330, then 2-hr presentation, Zoll</p>	

	<p>representative coming. April 19, CR 1. Trauma verification is complete.</p> <p>SJRMC Dr. Russell introduced, will be taking over Dr. Larson's role.</p> <p>VCMC Karen Beatty, ED Mgr, resigned as of May 25. No word on new hire. Survey for Primary Stroke Center is May 22 and 23. Completed ATLS Provider and ATLS Provider Refresher Course.</p>	
D. Receiving Hospitals	<p>SPH nothing</p> <p>CMH expecting stroke survey next week, if there's any issues with access, please let Cheryl Cobb know.</p> <p>OVH orange blossoms are delightful</p> <p>SJRMC nothing</p>	
E. ALS Education Programs	<p>Paramedic students still in the field, graduation on May 18.</p>	
F. EMS Agency	<p>Active shooter assessment report is being written, thanks for cooperation. ReddiNet satellite project ready to go to board for approval. Once we get approval, will be on fast track to get everything done by February 2014. Debbie Haney has been out for about 6 weeks, should be back within next couple of weeks, we appreciate extra time and understanding. Katy will be out for a few weeks, for trauma related issues, send to Chris. EMSAAC conference is last week of May, should be good conference.</p>	
G. Other		
XI. Closing	Meeting adjourned at 1140.	

EVALUATION OF PREHOSPITAL USE OF FUROSEMIDE IN PATIENTS WITH RESPIRATORY DISTRESS

Jason Jaronik, MD, Paul Mikkelson, MD, William Fales, MD, FACEP,
David T. Overton, MD, FACEP

ABSTRACT

Objective. To evaluate the appropriateness of prehospital use of furosemide. **Methods.** All patients over 18 years old receiving prehospital furosemide were retrospectively identified, and cases were matched to subsequent hospital records. Data collected included ED and hospital primary and secondary diagnoses, brain-type natriuretic peptide (BNP) levels and final disposition. Furosemide was considered appropriate when the primary or secondary ED or hospital diagnoses included congestive heart failure (CHF) or pulmonary edema, or the BNP was >400 . Furosemide was considered inappropriate when none of the diagnoses included CHF, when the BNP was <200 , or when an order for IV fluid hydration was given. Furosemide was considered potentially harmful when the diagnoses included sepsis, dehydration or pneumonia, without a diagnosis of CHF or BNP >400 . **Results.** Of the 144 included patients, a primary or secondary diagnosis of CHF was reported in 42% and 17% patients, respectively. The initial BNP was >400 in 44% of the 120 patients in which this lab test was obtained. Sixty patients (42%) did not receive a diagnosis of CHF, 30 (25%) patients had a BNP <200 , and 33 (23%) had an order for IV fluid hydration. A diagnosis of sepsis, dehydration or pneumonia without a diagnosis of CHF or a BNP >400 occurred in 17% of patients. Seven of the 9 deaths did not receive a diagnosis of CHF. Furosemide was considered appropriate in 58%, inappropriate in 42% and potentially harmful in 17% of patients. **Conclusions.** In this EMS system, prehospital furosemide was frequently administered to patients in whom its use was considered inappropriate, and not uncommonly to patients when it was considered potentially harmful. EMS systems should reconsider the appropriateness of prehospital diuretic use. **Key words:** emergency medical services; furosemide; quality assurance; health care.

PREHOSPITAL EMERGENCY CARE 2006;10:194–197

Received June 12, 2005 from Department of Emergency Medicine, Michigan State University Kalamazoo Center for Medical Studies (JJ, PM, WF, DTO) and the Kalamazoo County Medical Control Authority, Kalamazoo, Michigan (WF). Revision received October 21, 2005; accepted for publication November 22, 2005.

Presented at NAEMSP Annual Meeting, Naples, January, 2005; SAEM Western Regional Meeting, Marina Del Rey, April, 2005; and Emergency Medicine Residents Association of Michigan Research Day, East Lansing, April, 2005.

Address correspondence to: David T. Overton, MD, Department of Emergency Medicine, MSU/KCMS, 1000 Oakland Drive, Kalamazoo, MI 48009. e-mail: <overton@kcms.msu.edu>.

doi:10.1080/10903120500541282

INTRODUCTION

Prehospital providers commonly administer intravenous furosemide to patients with suspected decompensated congestive heart failure. However, we have noted incidents in which prehospital furosemide was administered to patients who, upon subsequent arrival to the ED, were found to have diagnoses other than CHF or were determined to be hypotensive. The use of furosemide in such situations is unnecessary and may be harmful. In light of these issues and concerns, we studied the appropriateness of use of prehospital furosemide within our EMS system.

METHODS

Study Design

This retrospective chart review included all patients treated with furosemide over a 12-month period by EMS providers in Kalamazoo County and transported to one of our two primary hospitals. Patients were identified using a computerized EMS database, which keeps records of all EMS runs in the county. Institutional Review Board approval was obtained from Bronson Methodist Hospital and Borgess Medical Center.

Setting

The Kalamazoo County Medical Control Authority services a county with a population of 238,603 residents, and transports greater than 15,000 patients annually. County wide there are approximately 1,200 transports with a respiratory related complaint annually. Two primary EMS services provide EMS transports. All are two-person, single-tier, ALS, with BLS medical first response. All paramedics are ACLS-trained and have been licensed for a median of seven years. There are two level I trauma center, community teaching hospitals in the county—Borgess Medical Center and Bronson Methodist Hospital. Applicable transports to these two hospitals comprise this study. The average transport time to these facilities is 12 minutes.

Our medical control authority has a Standing Field Treatment Protocol for congestive heart failure (CHF), which defines CHF as difficulty in breathing with rales on auscultation of the lung fields. Such patients may be given sublingual nitroglycerine and intravenous furosemide 40 mg per protocol.

Subjects

The patient population was identified using the sorting capabilities of the EMS database to identify all transports to the two hospitals during the study period that received prehospital furosemide. Then 146 such patients were identified, and their subsequent ED and hospital records were obtained and reviewed. Patients were excluded if we were unable to locate all relevant medical records.

Observations

After records were matched using name, date of birth and transport dates, identifying information was eliminated from the data to protect patient confidentiality. Data was collected on a standardized data form, and included: (1) age, (2) gender, (3) primary diagnosis, (4) secondary diagnoses, (5) BNP value, (6) intravenous fluid order, (7) additional furosemide given, and (8) disposition.

The criteria used by the investigators for determination of appropriate, inappropriate and potentially harmful use of furosemide were defined as follows:

- **Appropriate Use:** Either the primary or secondary ED or the primary or secondary hospital diagnoses included congestive heart failure or pulmonary edema (CHF), or the BNP was >400
- **Inappropriate Use:** Neither the primary or secondary ED nor the primary or secondary hospital diagnoses included CHF, and the BNP <200, or patient received an order for IV fluids (beyond KVO)
- **Potentially Harmful:** Either the primary or secondary ED or the primary or secondary hospital diagnoses

included sepsis, dehydration or pneumonia, without a diagnosis of CHF or BNP>400

Although the BNP is increasingly obtained in the ED for the evaluation of CHF, a specific value for BNP as a marker to define heart failure has yet to be identified. Currently accepted ranges for BNP in relation to CHF defined by the New York Heart Association. Classification are as follows; Class I BNP less than 200, Class II BNP 200–400, Class III and IV BNP greater than 400.⁴ Based on this classification, BNP values of 200 and 400 were used in this study to help categorize patient data.

RESULTS

A total of 146 patients met the inclusion criteria for the study. Two patients were excluded, because of the inability to accurately identify their hospital records. Therefore, 144 patients had complete hospital records available and were included in data analysis. The mean age was 74.9 (range 40–99). Seventy-seven patients (53%) were male. A primary or secondary diagnosis of CHF was reported in 60 (42%) and 24 (17%) patients, respectively, while 60 patients (42%) did not receive a diagnosis of CHF (Figure 1). The initial BNP was >400 in 65 (44%) of the 120 patients in which this study was obtained, and 30 (25%) patients had a BNP < 200. An additional 17% of patients had a BNP between 200 and 400, and another 17% of all patients did not have a BNP obtained (Figure 2). There were 33 (23%) patients who received an order for IV fluid hydration. A diagnosis of sepsis, dehydration or pneumonia without a diagnosis of CHF or BNP >400 occurred in 24 (17%) of patients. There were 9 deaths. Seven of these (78%)

Diagnoses Including CHF compared to Non-CHF Diagnoses

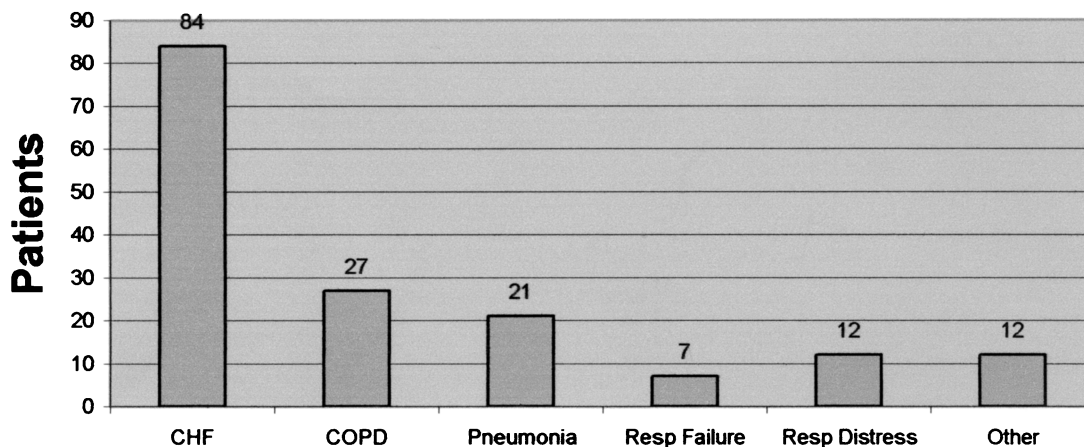


FIGURE 1. All diagnoses made in the study group.

Prehosp Emerg Care Downloaded from informahealthcare.com by 157.145.220.102 on 07/03/13 For personal use only.

Brain-Type Natriuretic Peptide (N=144)

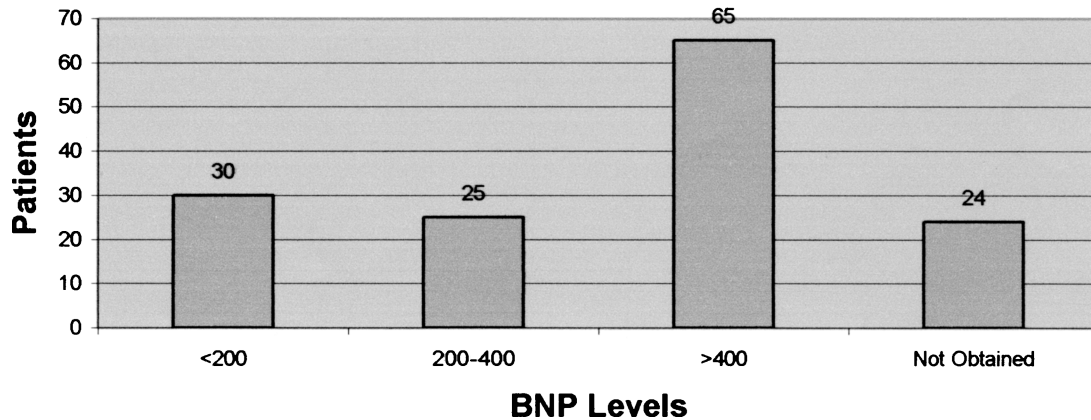


FIGURE 2. Brain-type natriuretic peptide levels in the study group.

patients did not have a diagnosis of CHF. Furosemide was considered appropriate in 84 (58%), inappropriate in 60 (42%) and potentially harmful in 24 (17%) of patients (Figure 3). The most common diagnoses for patients transported without a diagnosis of CHF were COPD and pneumonia.

DISCUSSION

This study suggests that prehospital furosemide administration to patients in respiratory distress may not be as beneficial as previously thought.⁵ Approximately forty 40% of all patients receiving prehospital furosemide in this study ultimately were diagnosed with a condition where furosemide was not medically indicated. This included seven of the nine deaths in our

study population. There were 24 (17%) patients where furosemide was considered potentially harmful.

These findings illustrate the difficulties that prehospital providers may experience in accurately identifying CHF in the field. These findings support those previously identified by Hoffman et al., who found that 23% of such patients presumed to have pulmonary edema actually had another diagnosis, such as pneumonia or COPD.⁶ Our findings were similar, and patients with respiratory distress and rales receiving furosemide were commonly found to have other causes for respiratory distress. The two most common causes identified in our study were also pneumonia and COPD, both of which can present with a similar clinical picture. We additionally found that 23% of our patients who received furosemide in the field required IV

Outcomes (N=144)

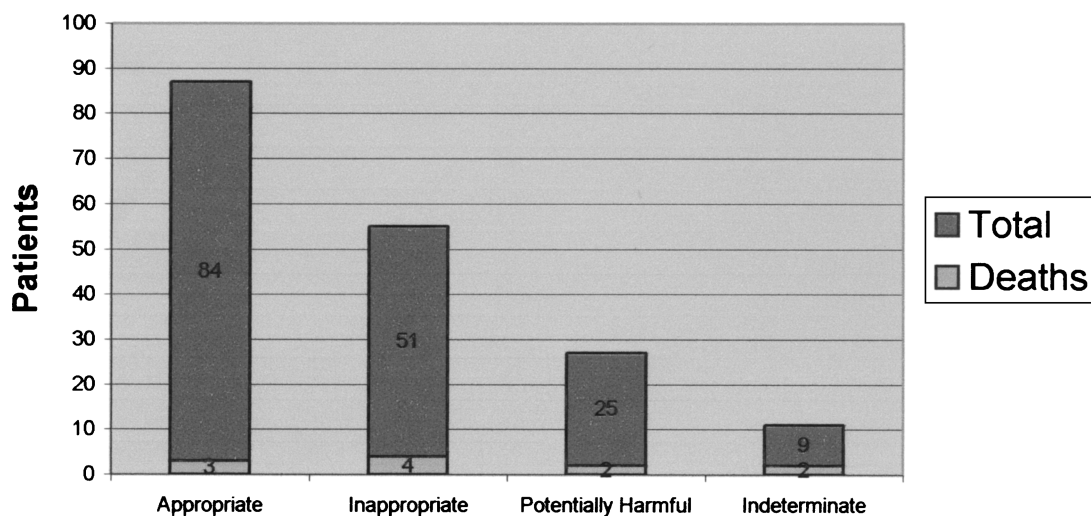


FIGURE 3. Categorization of prehospital furosemide administration based upon emergency department and hospital diagnosis.

Prehosp Emerg Care Downloaded from informahealthcare.com by 157.145.220.102 on 07/03/13 For personal use only.

fluid repletion, similar to the 25% that Hoffman et al. found.⁶

Diuresis is a mainstay of therapy in patients with CHF.⁷ Furosemide, a loop diuretic, is a common first line treatment. However, there are concerns regarding furosemide's pharmacokinetics related to prehospital use. Although the peak effect of furosemide can occur within a half hour of administration,⁸ patients with CHF may show a relative drug resistance, due to decreased renal blood flow and increased reabsorption of sodium at other sites due to hypoperfusion-induced activation of the rennin-angiotensin-aldosterone and sympathetic nervous systems.⁹ This, coupled with a duration of action of about six hours makes it difficult to see justification for its use in environments where prehospital times average 12 minutes. However, settings with extended transport times or different patient populations diuresis may see a more favorable role for its prehospital use.

Diuresis may potentially cause volume depletion and hypotension, and can decrease cardiac output by as much as 20% due to decreased cardiac preload.¹⁰ This can be detrimental to patients who get overdiuresed and harmful to those already dehydrated. Because of potential adverse patient outcome, we considered the 17% of our patients which were considered to have received furosemide inappropriately to be the most concerning finding of our study.¹¹ Mosesso et al, points out that such misdiagnosis subsequent inducement of inappropriate diuresis can led to increased morbidity.⁹

No known studies to date show increased morbidity or mortality due to a delay in diuresis for respiratory distress secondary to CHF. Therefore, we believe that, in our community, the potential benefits from prehospital furosemide do not outweigh the risks. Our study has several limitations. It was retrospective and cases were selected using our prehospital database. It is possible that our database may include missing and inaccurate patient data and that some cases may have been missed. Two cases were excluded due to inability to locate hospital records. In addition, although the vast majority of EMS traffic in our system transports to the two study hospitals, we did identify one patient who received prehospital furosemide during the study period who was transported elsewhere. However, these comprised only 1–2% of all cases, and thus would not alter our findings.

We did not account for the possibility of multiple transports for individual patients. Another potential bias might be the inclusion of patients well-known to

local EMS responders, which may bias individual treatment. We choose not to include chest x-ray findings as an outcome measure, because we found significant discrepancies in the interpretations of radiologists and treating clinicians. Finally, we did not include assessment of the clinical abilities and length of experience of the individual EMS personnel. Finally, our study did not evaluate outcomes and, therefore, we cannot comment on morbidity or mortality.

CONCLUSIONS

In this EMS system setting, prehospital furosemide was frequently administered to patients not determined to have CHF and was occasionally given to patients when clinically contraindicated. Accordingly, our EMS system now requires online medical control approval for the administration of prehospital furosemide. EMS systems should reconsider the appropriateness of prehospital diuretic use.

References

1. Maisel AS. B-Type Natriuretic Peptid (BNP) Levels: diagnostic and therapeutic potential. *Reviews in Cardiovascular Medicine*. 2001;2:s13–18.
2. Wuerz RC, Meador SA. Effects of prehospital medications on mortality and length of stay in congestive heart failure. *Ann Emerg Med*. 1992;21:669–74.
3. Hoffman JR, Reynolds S. Comparison of nitroglycerin, morphine and furosemide in treatment of presumed prehospital pulmonary edema. *Chest*. 1987;92:586–593.
4. Hunt SA, Baker DW, Chin MH, et al. ACC/AHA guidelines for the evaluation and management of chronic heart failure in the adult: executive summary. A report of the American College of Cardiology/American Heart Association task force on practice guidelines (committee to revise the 1995 guidelines for the evaluation and management of heart failure) developed in collaboration with the International Society of Heart and Lung Transplantation endorsed by the Heart Failure Society of America. *J Am Coll Cardiol*. 2001;38:2101.
5. Mosby's Drug Consult, 15th Ed. 2005 online version, keyword: Furosemide. Published by Mosby's Elsevier, St. Louis, MO.
6. Brater DC, Day B, Burdette A, Anderson S. Bumetanide and furosemide in heart failure. *Kidney Int*. 1984;26:183.
7. Stampfer M, Epstein SE, Beiser GD, Braunwald E. Hemodynamic effects of diuresis at rest and during intense upright exercise in patients with impaired cardiac function. *Circulation*. 1968;37:900.
8. Eckstein M. Implementation of standing field treatment protocols (SFTP) in an urban EMS system. *Am J Emerg Med*. 2001;19:280–3.
9. Mosesso VN, Dunford J, Blackwell T, Griswell JK. Prehospital therapy for acute congestive heart failures. State of the art. *Prehosp Emerg Care*. 2003 Jan–Mar;7(1):13–23.

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 access <u>Cardiac Monitor when administering Ondansetron</u> Morphine – Pain 5 out of 10 or greater <u>Dilute 1mg of Morphine Sulfate in 9mL of Normal Saline in a 10mL syringe to create a 1mg:1mL ratio.</u> <ul style="list-style-type: none"> • <u>IVP – 0.1 mg/kg over 2 min</u> <ul style="list-style-type: none"> ○ <u>0.05 mg/kg – Special Considerations</u> ○ <u>Max 10 mg</u> • <u>IM – 0.1 mg/kg</u> <ul style="list-style-type: none"> ○ <u>0.05 mg/kg – Special Considerations</u> ○ <u>Max 10 mg</u> • <u>Repeat half of the original dose if pain persists after 5 minutes. Base contact is needed if initial dose and subsequent dose exceed 10mg when added together.</u> Ondansetron <ul style="list-style-type: none"> • <u>IV/IM/ODT – 4 mg</u> Recheck vital signs before and after each administration <ul style="list-style-type: none"> • Hold if SBP < 100 mmHg <i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i>	IV access <u>Cardiac Monitor when administering Ondansetron</u> Morphine – given for burns and isolated extremity injuries only. Contact base for other pediatric complaints of pain. <u>Dilute 1mg of Morphine Sulfate in 9mL of Normal Saline in a 10mL syringe to create a 1mg:1mL ratio.</u> <ul style="list-style-type: none"> • IVP – 0.1 mg/kg over 2 min <ul style="list-style-type: none"> ○ Max 10 mg • IM – 0.1 mg/kg <ul style="list-style-type: none"> ○ Max 10 mg • Repeat half of the original dose if pain persists after 5 minutes. Base contact is needed if initial dose and subsequent dose exceed 10mg when added together. Patient 4 years of age or older: <u>Ondansetron</u> <ul style="list-style-type: none"> • <u>IV/IM/ODT – 4mg</u> Recheck vital signs before and after each administration <i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i>
Communication Failure Protocol	
If significant pain continues: Morphine <u>Dilute 1mg of Morphine Sulfate in 9mL of Normal Saline in a 10mL syringe to create a 1mg:1mL ratio.</u> <ul style="list-style-type: none"> • IVP – 0.1 mg/kg over 2 min <ul style="list-style-type: none"> ○ <u>0.05 mg/kg – Special Considerations</u> ○ Max repeat dose of 10 mg • <u>IM – 0.1 mg/kg</u> <ul style="list-style-type: none"> ○ <u>0.05 mg/kg – Special Considerations</u> ○ <u>Max repeat dose of 10 mg</u> 	If significant pain continues: Morphine <u>Dilute 1mg of Morphine Sulfate in 9mL of Normal Saline in a 10mL syringe to create a 1mg:1mL ratio.</u> <ul style="list-style-type: none"> ○ <u>IV – 0.1 mg/kg over 2 min</u> <ul style="list-style-type: none"> • May repeat x 1 after <u>5 min</u> as needed for pain relief • Max repeat dose of 10 mg • Max total dosage of 0.4 mg/kg or 20 mg ○ IM – 0.1 mg/kg <ul style="list-style-type: none"> • May repeat x 1 after 20 minutes • Max repeat dose of 10 mg
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
Additional Information: 1. Special considerations include: <ul style="list-style-type: none"> • Chest pain not resolved by Nitroglycerine (NTG) • Consider lower dose for elderly patient greater than 65 years of age • Patient with history of adverse reaction to Morphine Sulfate 	

Deleted: ¶

Deleted: ¶

Effective Date: December 1, 2012
Next Review Date: March 31, 2015

Date Revised: April 11, 2013
Last Reviewed: April 11, 2013





U.S. Food and Drug Administration
Protecting and Promoting Your Health

[Home](#) [Safety](#) [MedWatch](#) [The FDA Safety Information and Adverse Event Reporting Program](#) [Safety Information](#)

Safety

Ondansetron (Zofran) IV: Drug Safety Communication - QT prolongation

[Posted 06/29/2012]

AUDIENCE: Oncology, Surgery, Gastroenterology

ISSUE: The U.S. Food and Drug Administration (FDA) is informing healthcare professionals and the public that preliminary results from a recently completed clinical study suggest that a 32 mg single intravenous dose of ondansetron (Zofran, ondansetron hydrochloride, and generics) may affect the electrical activity of the heart (QT interval prolongation), which could pre-dispose patients to develop an abnormal and potentially fatal heart rhythm known as Torsades de Pointes.

GlaxoSmithKline (GSK) has announced changes to the Zofran drug label to remove the 32 mg single intravenous dose. The updated label will state that ondansetron can continue to be used in adults and children with chemotherapy-induced nausea and vomiting at the lower intravenous dose recommended in the drug label, a dose of 0.15 mg/kg administered every 4 hours for three doses; however, no single intravenous dose should exceed 16 mg. Information from the new clinical study will be included in the updated drug label.

BACKGROUND: Zofran (ondansetron) is in a class of medications called 5-HT₃ receptor antagonists. It is used to prevent nausea and vomiting caused by cancer chemotherapy, radiation therapy and surgery. FDA will evaluate the final study results when available, and will work with GSK to explore an alternative single dose regimen that is both safe and effective for the prevention of chemotherapy-induced nausea and vomiting in adults.

RECOMMENDATION: The new information on QT prolongation does not change any of the recommended oral dosing regimens for ondansetron. It also does not change the recommended lower dose intravenous dosing of ondansetron to prevent post-operative nausea and vomiting.

- The use of a single 32 mg intravenous dose of ondansetron should be avoided. New information indicates that QT prolongation occurs in a dose-dependent manner, and specifically at a single intravenous dose of 32 mg.
- Patients who may be at particular risk for QT prolongation with ondansetron are those with congenital long QT syndrome, congestive heart failure, bradyarrhythmias, or patients taking concomitant medications that prolong the QT interval
- Electrolyte abnormalities (e.g., hypokalemia or hypomagnesemia) should be corrected prior to the infusion of ondansetron.
- The lower dose intravenous regimen of 0.15 mg/kg every 4 hours for three doses may be used in adults with chemotherapy-induced nausea and vomiting. However, no single intravenous dose of ondansetron should exceed 16 mg due to the risk of QT prolongation.
- The new information does not change any of the recommended oral dosing regimens for ondansetron, including the single oral dose of 24 mg for chemotherapy induced nausea and vomiting.

Healthcare professionals and patients are encouraged to report adverse events or side effects related to the use of this product to the FDA's MedWatch Safety Information and Adverse Event Reporting Program:

- Complete and submit the report Online: www.fda.gov/MedWatch/report.htm¹
- [Download form](#)² or call 1-800-332-1088 to request a reporting form, then complete and return to the address on the pre-addressed form, or submit by fax to 1-800-FDA-0178

[06/29/2012 - [Drug Safety Communication](#)³ - FDA]

Previous MedWatch Alert

[09/15/2011⁴]

Page Last Updated: 07/25/2012

Note: If you need help accessing information in different file formats, see [Instructions for Downloading Viewers and Players](#).

[Accessibility Contact](#) [FDA Careers](#) [FDA Basics](#) [FOIA No Fear Act](#) [Site Map](#) [Transparency Website](#) [Policies](#)



U.S. Food and Drug Administration

10903 New Hampshire Avenue

Silver Spring, MD 20993

Ph. 1-888-INFO-FDA (1-888-463-6332)

[Email FDA](#)



[For Government](#) [For Press](#)

[Combination Products](#) [Advisory Committees](#) [Science & Research](#) [Regulatory Information](#) [Safety](#) [Emergency Preparedness](#) [International Programs](#) [News & Events](#) [Training and Continuing Education](#) [Inspections/Compliance](#) [State & Local Officials](#) [Consumers](#) [Industry](#) [Health Professionals](#) [FDA Archive](#)



U.S. Department of **Health & Human Services**

Links on this page:

1. <http://www.fda.gov/MedWatch/report.htm>
2. </Safety/MedWatch/HowToReport/DownloadForms/default.htm>
3. </Drugs/DrugSafety/ucm310190.htm>
4. </Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm272041.htm>



Sidewalk CPR

Ventura County Emergency Service Providers June 4, 2013

Facility Provider Name	Name of Designated Coordinator	Mailing Address	Email Addresses	Phone Number	Address/Location of Sidewalk CPR	Time of Event	Number of Attendees
American Medical Response	Mike Stillwagon	616 Fitch Ave. Moorpark, CA 93021	mike.stillwagon@amr.net	805-485-3040	Carefree Living Association 2600 Lido Blvd. Port Hueneme, CA 93041	9:00-1:00	29
American Medical Response	Mike Stillwagon	616 Fitch Ave. Moorpark, CA 93021	mike.stillwagon@amr.net	805-485-3040	The Esplanade 411 Esplanade Drive Oxnard, CA 93036	9:00-1:00	103
Santa Paula Fire Dept.	Andrew Dowd	233 Dorothy Ave. Ventura, CA 93003	adowd@west.net	805-729-1072	Vons Market 576 W. Main Street Santa Paula, CA 93060	9:00-1:00	125
Fillmore Fire Dept.	Bob Scott	250 Central Ave. Fillmore, CA 93015	rsqbob@sbcglobal.net	805-797-6829	Vons Market 636 W. Ventura Street Fillmore, CA 93060	9:00-1:00	62
Ventura Fire Dept	Dede Utlej	1425 Dowell Dr. Ventura, CA 93003	dutley@cityofventura.net	805-339-4461	Pacific View Mall 3301 East Main Street Ventura, CA 93003	9:00-1:00	105
Ventura County Fire Dept.	Erica Gregson	102 E. Durley Ave. Camarillo, CA 93010	erica.gregson@ventura.org	805-389-9775	Camarillo Outlets 740 E. Ventura Blvd. Camarillo, CA 93010	9:00-1:00	73
Ventura County Fire Dept.	Erica Gregson	102 E. Durley Ave. Camarillo, CA 93010	erica.gregson@ventura.org	805-389-9775	Ojai Valley Shopping Center 1125 Maricopa Highway Ojai, CA 93023	9:00-1:00	32
Ventura County Fire Dept.	Erica Gregson	102 E. Durley Ave. Camarillo, CA 93010	erica.gregson@ventura.org	805-389-9775	The Oaks Mall 350 W. Hillcrest Drive Thousand Oaks, CA 91360	9:00-1:00	98
Ventura County Fire Dept.	Erica Gregson	102 E. Durley Ave. Camarillo, CA 93010	erica.gregson@ventura.org	805-389-9775	Civic Center Plaza 2679 Tapo Canyon Rd. Simi Valley, CA 93063	9:00-1:00	58
Simi Valley Hospital	Jennie Hoffman	2975 Sycamore Dr. Simi Valley, CA 93065	jennifer.hoffman@ah.org	805-955-6103	Ralphs 101 W. Los Angeles Avenue Moorpark, CA 93021	9:00-1:00	43
Ventura County EMS Agency	Randy Perez	2220 E. Gonzales Rd Suite 130 Oxnard, CA 93036	randy.perez@ventura.org	805-981-5310	Ventura Government Center 800 S. Victoria Avenue Ventura, CA 93003	9:00-1:00	171
						TOTAL	899

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Unusual Occurrence Reportable Events/Sentinel Event		Policy Number 150	
APPROVED: Administration: Steven L. Carroll, EMT-P		Date: March 11, 2010	
APPROVED: Medical Director: Angelo Salvucci, M.D.		Date: March 11, 2010	
Origination Date: June, 1990		Effective Date: March 11, 2010	
Date Revised: March 11, 2010			
Date Last Reviewed: March 10, 2010			
Review Date: June, 2013			

- I. PURPOSE: To define Unusual Occurrences and differentiate reportable events from Sentinel Events. To give direction for investigating and reporting occurrences. To define the role of VCEMS in relation to these events.
- II. AUTHORITY: Health and Safety Code, Division 2.5, Section 1797.204 and 1798. California Code of Regulations, Title 22, Section 100167, 100168, 100169, 100402, 100403 and 100404.
- III. DEFINITIONS:
 - A. Unusual Occurrence: Any event or occurrence deemed to have impact or potential impact on patient care, and/or any practices felt to be outside the norm of acceptable patient care, as defined by the Ventura County EMS (VCEMS) Policies & Procedures manual. Unusual occurrences also cover events outside the “normal” flow of operations surrounding dispatch, response, rescue and disposition of all ALS and BLS calls. Unusual occurrences may or may not have life threatening impacts.
 1. Sentinel Event: The Joint Commission defines Sentinel Events as “...an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof.” The phrase “or the risk thereof” includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. An Unusual Occurrence is considered a Sentinel Event if it could reasonably be considered to be the direct cause of a death or serious injury. Sentinel Events warrant immediate investigation, and reporting to VCEMS.
 2. Reportable Event: A reportable event is an unexpected occurrence during the dispatch, rescue, care and transportation of a victim requiring emergency medical care that *is not the direct cause of* serious physical, psychological injury, or the risk thereof,

but does require investigation for the purposes of quality improvement.

IV. POLICY: Unusual Occurrences will be reported, investigated, and followed up according to the following procedures. VCEMS will participate in the review, tracking and resolution of all Unusual Occurrences.

V. PROCEDURE:

A. Reporting

1. The discovering party will report the event to VCEMS by fax, phone or e-mail. Sentinel Events shall be reported immediately. Reportable Events shall be reported within 24 hours.
2. If the event occurs after business hours, or on the weekends, reporting will be to VCEMS Duty Officer through Ventura County Fire Communications Center (805-388-4279). [Information can also be via email to \[emsagencydutyofficer@ventura.org\]\(mailto:emsagencydutyofficer@ventura.org\)](#). If fax or email is used, and protected health information is being transmitted, place "CONFIDENTIAL" in the subject section.

Deleted:

B. Investigation:

1. Following notification of an Unusual Occurrence, VCEMS will assign the case to an appropriate entity for investigation. VCEMS will notify all parties when and to whom the case has been assigned.
2. When documents containing protected health information are being transmitted by written or electronic mail, they must be marked "CONFIDENTIAL".
3. VCEMS retains the authority to become the primary Investigator of any Sentinel or Reportable Event.
4. The investigating party will be responsible for completing the process by collecting all required elements described in this policy and formulating an initial Plan of Action.
5. The following are **required elements** in investigating sentinel events and must be submitted to VCEMS:
 - a. Policies
 - b. Written statement by involved personnel
 - c. Pre-Hospital Care Record

- d. Patient Care Record-ED if applicable
 - e. CAD sheets if applicable
 - f. VCEMS Unusual Occurrence Form
 - g. Patient Care Records (~~VCePCR~~ and ED)
 - h. Rhythm Strips when applicable
 - i. Diversion status print out (Reddinet) if applicable
6. Complete report of the investigation will be submitted to VCEMS within **5 working days**.
 7. If the investigating party is unable to comply with this time frame, VCEMS will be notified and every reasonable attempt will be made to adjust this requirement according to VCEMS, hospital and provider needs.
 8. Upon completion, the report will be submitted to VCEMS, where a final conclusion and or recommendation will be made on the case.

Deleted: AVCDS


C. Follow Up

1. PROVIDER AGENCY: Agencies will track all Sentinel events and Reportable Events for the purpose of quality assurance. If there has been no recurrence, tracking may end after a two year period. When follow-up reevaluation is part of the plan of action, an updated report will be forwarded to VCEMS.
2. VCEMS
 - a. The Quality Improvement Coordinator will be responsible for receiving Unusual Occurrence investigations and assuring they are complete.
 - b. All Unusual Occurrences will be reviewed by the EMS Deputy Administrator, EMS Medical Director and the CQI Coordinator
 - c. Unusual Occurrences will be tracked and analyzed for quality improvement purposes
 - d. The EMS Medical Director will issue a recommendation including, but not limited to, disciplinary action when indicated.
 - e. Once the event is reviewed by VCEMS, a letter of acknowledgement, conclusion, and/or recommendation will

be sent to all involved agencies and the case will be tracked for a period of two years. If no further incidence, the case will be considered closed.

f. Education

All prospective investigating personnel from provider agencies and base hospitals will attend and complete a mandatory education seminar provided by VCEMS on Unusual Occurrence Investigation and Reporting.



VENTURA COUNTY EMS AGENCY UNUSUAL OCCURRENCE

Reporting Form

Person Reporting	Agency	Date of Report	Date to EMS

Date of Event:	Fire Incident #:	PCR:
Time of Event:	Dispatch #:	Person Reported To:

Personnel Involved	Agency

Description of Unusual Occurrence

Identified Issues

Please email report to [the VC EMS Agency Duty Officer, emsagencydutyofficer@](mailto:emsagencydutyofficer@ventura.org)
 Or Fax to VC EMS Agency (805)981-5300 Attn: EMS Agency Duty Officer

Deleted: Stephanie.lara-jenkins@ventura.org

Deleted: VC EMS CQI Coordinator

Deleted: CQI Coordinator

UNUSUAL OCCURRENCE

SENTINEL EVENT

Unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof

- To be reported to VCEMS immediately, by discovering party
- Investigation assigned by VCEMS Agency
- Complete report submitted to EMS in 5 working days

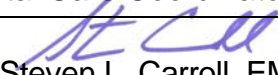

Event tracked by investigating provider agency or base hospital
-Review, Tracked by VCEMS
-EMS to issue findings and or recommendations

REPORTABLE EVENT

Unexpected occurrence or practice outside the "normal" flow of operations surrounding dispatch, response, rescue and disposition.

- To be reported to VCEMS within 24 hours by the discovering party or agency
- Investigation assigned by VCEMS Agency
- Complete report within 10 working days

-Event tracked by investigating provider agency or base hospital and VCEMS
-VCEMS to review and track
-VCEMS to issue findings and or recommendations

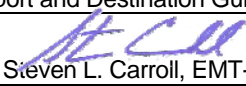

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Prehospital Care Coordinator Job Duties		Policy Number 350	
APPROVED: Administration:	 Steven L. Carroll, EMT-P	Date: December 1, 2010	
APPROVED: Medical Director:	 Angelo Salvucci, M.D.	Date: December 1, 2010	
Origination Date:	June 15, 1998	Effective Date: December 1, 2010	
Revised Date:	June 10, 2010		
Date Last Reviewed:	June 10, 2010		
Review Date:	June 30 2013		

- I. PURPOSE: To provide guidelines for the role of the Prehospital Care Coordinator (PCC) in Ventura County.
- II. POLICY: A PCC will perform his/her role according to the following.
- III. DEFINITION: A PCC is a Registered Nurse designated by each Base Hospital to coordinate all prehospital and Mobile Intensive Care Nurse (MICN) activities sponsored by that Base Hospital in compliance with Ventura County Emergency Medical Services (VC EMS) policies, procedure and protocols and in accordance with the Health and Safety Code, Sections 1797-1799 et al, and in accordance with Title 22 of the California Code of Regulations.
The PCC evaluates prehospital care, prehospital personnel and MICNs and collaborates with the Base Hospital Paramedic Liaison Physician (PLP) in medical direction.
- IV. PROFESSIONAL QUALIFICATIONS:
 - A. Licensed as a Registered Nurse in the State of California.
 - B. Current authorization as a Ventura County Mobile Intensive Care Nurse (MICN).
 - C. One year experience as an MICN in Ventura County. For those nurses with one year work experience as an MICN within the last 18 months, this may be reduced to 6 months.
 - D. Have at least three years emergency department experience.
- V. SPECIFIC RESPONSIBILITIES:
 - A. Serve as Liaison by maintaining effective lines of communication with base hospital personnel, VCEMS, prehospital care providers and local receiving facilities.
 - B. In compliance with VCEMS Policies and Procedures the PCC will:
 1. Ensure a high level of competence and training by developing and instituting prehospital care education programs for MICNs and prehospital

personnel. Programs shall include, but not be limited to, specific issues identified by the VCEMS Continuous Quality Improvement Plan.

- a. Provide continuing education per policy requirements
 - b. Coordinate clinical experience as requested
 - c. Provide special mandatory programs such as EMS Update classes, Paramedic Skills Labs and Paramedic Orientation.
 - d. Participate in process improvement teams as designated by VC EMS
2. Provide training for probationary MICNs and newly accrediting paramedics by coordinating necessary clinical experience and evaluating performance.
3. Evaluate the performance of MICNs and submit recommendations for authorization and reauthorization to VC EMS. Such evaluation shall include, but not be limited to:
- a. Direct observation of radio performance.
 - b. Audit of recorded communications
 - c. Observation of patient assessment and clinical judgment skills (in conjunction with the Emergency Department Nursing Supervisor).
 - d. Review of written documentation.
 - e. Provide written evaluation of the MICNs for hospital performance review.
4. Provide ongoing evaluation of assessment, reporting, communication and technical skills of assigned paramedics. Such evaluation shall include, but not be limited to:
- a. Audit of written and recorded communications
 - b. Review of EMS report forms
 - c. Direct field observation during the ride-along, including observation of the transfer of patient care upon arrival at the receiving facility.
 - d. Assess performance during scheduled clinical hours in the Emergency Department.
 - e. Evaluation of paramedic personnel for level advancement, through direct observation, recorded communication and paperwork audit, according to VC EMS Policy 318.

- f. Provide written evaluation of the paramedics, and MICNs
- g. Facilitate support services for prehospital and hospital EMS Staff, (i.e. Critical Incident Staff Management)
- h. Participate in Root Cause Analysis as indicated.
5. Report and investigate, and participate in prehospital care unusual occurrences as directed by VC EMS Policy 150.
6. Ensure the operation of the base hospital communication equipment.
 - a. In conjunction with the Base Hospital PLP, ensure that all personnel assigned to communicate with paramedics in the field have attended an MICN developmental course approved by VC EMS.
 - b. Ensure that the radio equipment is operational.
 - c. Ensure that ReddiNet System is operational and up to date.
7. Comply with data collection requirements as directed by VC EMS.
8. Ensure compliance with requirements for retention of recordings, MICN and prehospital care forms, logs and information sheets and maintaining retrieval systems in collaboration with hospital's Medical Records Department.
9. Develop and maintain education records as required by EMS.
 - a. Records must be kept for a period of four years
10. In conjunction with the Base Hospital PLP, report to the EMS agency any action of certified/licensed paramedics which results in an apparent deficiency in medical care or constitutes a violation under Section 1798.200 of the Health and Safety Code.
11. Represent the Base Hospital at the Prehospital Care Committee, PCC meeting and other associated task forces and special interest committees as directed by the EMS Agency.
12. Actively participate in the development, review and revision of Ventura County Policies and Procedures.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Transport and Destination Guidelines		Policy Number 604	
APPROVED: Administration:  Steven L. Carroll, EMT-P		Date: December 1, 2010	
APPROVED: Medical Director:  Angelo Salvucci, M.D.		Date: December 1, 2010	
Origination Date: June 3, 1986		Effective Date: December 1, 2010	
Date Revised: June 10, 2010			
Date Last Reviewed: June 10, 2010			
Review Date: June 30, 2013			

- I. PURPOSE: To establish guidelines for determining appropriate patient destination, so that to the fullest extent possible, individual patients receive appropriate medical care while protecting the interests of the community at large by optimizing use and availability of emergency medical care resources.
- II. AUTHORITY: Health and Safety Code, Section 1317, 1797.106(b), 1797.220, and 1798 California Code of Regulations, Title 13, Section 1105(c) and Title 22, Section 100147.
- III. POLICY: In the absence of decisive factors to the contrary, patients shall be transported to the most accessible medical facility equipped, staffed, and prepared to receive emergency cases and administer emergency medical care appropriate to the needs of the patients.
- IV. PROCEDURE:
 - A. Hospitals unable to accept patients due to an internal disaster shall be considered NOT "prepared to receive emergency cases".
 - B. In determining the most accessible facility, transport personnel shall take into consideration traffic obstruction, weather conditions or other factors which might affect transport time.
 - C. Most Accessible Facility
The most accessible facility shall ordinarily be the nearest hospital emergency department, except for:
 1. Base Hospital Direction for ALS patients
 - a. Upon establishment of voice communication, the Base Hospital is responsible for patient management until the patient reaches a hospital and medical care is assumed by the receiving hospital.

- b. The Base Hospital may direct that the patient be transported to a more distant hospital which in the judgment of the BH physician or MICN is more appropriate to the medical needs of the patient.
 - c. Patients may be diverted in accordance with Policy 402.
2. Patients transported in BLS ambulances demonstrating conditions requiring urgent ALS care (e.g., unstable vital signs, chest pain, shortness of breath, airway obstruction, acute unconsciousness, OB patient with contractions), shall be transported to the nearest hospital emergency department prepared to receive emergency cases.
- D. "Decisive Factors to the Contrary"
- Decisive factors to the contrary include, but are not limited to, the following:
- 1. Prepaid Health Plans
 - a. EMS personnel shall not request information on insurance or delay transport or treatment while determining insurance status.
 - b. A member of a group practice prepayment health care service who volunteers such information and requests a specific facility may be transported according to that plan when the ambulance personnel or the ALS Base Hospital determines that the condition of the member permits such transport.. Therefore when ALS Base Hospital contact is made the ALS Base Hospital must always be notified of the patient's request.
 - c. However, when it is determined that such transport would unreasonably remove the ambulance unit from the service area, the member may be transported to the nearest hospital capable of treating the member.
 - 2. Patient Requests
 - a. When a person or his/her legally authorized representative requests emergency transportation to a hospital other than the most accessible emergency department, the request should be honored when ambulance personnel, BH ~~physician~~ or MICN determines that the condition of the patient permits such transport. Therefore when ALS Base Hospital contact is made the ALS Base Hospital must always be notified of the patient's request.

Deleted: MD

- b. When it is determined that such transport would unreasonably remove the ambulance unit from the service area, the patient may be transported to the nearest hospital capable of treating him/her.

3. Private Physician's Requests

When a treating physician requests emergency transportation to a hospital other than the most accessible acute care hospital, the request should be honored unless it is determined that such transport would unreasonably remove the ambulance from the service area. In such cases:

- a. If the treating physician is immediately available, ambulance personnel shall confer with the physician regarding a mutually agreed upon destination.
- b. If the treating physician is not immediately available, the patient should be transported to the nearest hospital capable of treating him/her.
- c. If Base Hospital contact has been made due to the condition of the patient and the immediate unavailability of the treating physician, and the BH physician or MICN determines that the condition of the patient permits or does not permit such transport, BH directions shall be followed. If communication with the treating physician is possible, the BH should consult with the physician.

Deleted: MD

Formatted: Font: Not Bold, No underline

- 4. Physician on Scene per VC EMS Policy 703, When a bystander identifies him/herself as a physician and offers assistance on scene, VC EMS Policy 702 shall be followed.

Deleted: 2

Formatted: Indent: Left: 0 pt

5. Direct Admits

When a patient's physician has arranged direct admission to a hospital, the patient should be transported to that hospital regardless of Emergency Department diversion status unless the Base Hospital determines that the patient's condition requires that s/he be transported to a more appropriate facility.

- E. "Medical facilities equipped, staffed and prepared to administer care appropriate to needs of the patients."

- 1. Paramedics treating patients that meet trauma criteria Steps 1-3 in VCEMS Policy 1405 will make Base Hospital contact with a designated

Deleted: P

Deleted: be transported to

Trauma Center. The Trauma Center MICN or ED physician will direct the patient to either the Trauma Center or a non-trauma hospital.

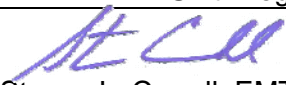
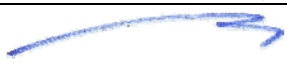
2. Patients who meet STEMI criteria in VC EMS Policy 440 will be transported to a STEMI Receiving Center.

Formatted: Bullets and Numbering

3. Patients who are treated for cardiac arrest and achieve sustained return of spontaneous circulation (ROSC) will be transported to a STEMI Receiving Center.

4. Patients who meet Stroke criteria in VC EMS Policy 451 will be transported to an Acute Stroke Center.

Formatted: Indent: Left: 72 pt,
Tabs: Not at 90 pt

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Air Unit Program		Policy Number 1200	
APPROVED:		Date: 06/01/2008	
Administration:	Steven L. Carroll, EMT-P		
APPROVED:		Date: 06/01/2008	
Medical Director:	Angelo Salvucci, M.D.		
Origination Date:	May, 1999		
Date Revised:	April 10, 2008	Effective Date:	June 1, 2008
Date Last Reviewed:	December 11, 2010		
Review Date:	June, 2013		

- I. **PURPOSE:** The Ventura County Emergency Medical Services agency recognizes the need for air transport of patients in certain circumstances. This policy will establish minimum standards for the integration of Emergency Medical Services (EMS) aircraft and personnel into the local EMS prehospital patient transport system as a specialized resource for the transport and care of emergency medical patients.
- II. **AUTHORITY:** Health and Safety Code Section 1797.200 and California Code of Regulations Division 9, Chapter 8, Section 100300.
- III. **POLICY:**
EMS aircraft must be authorized by Ventura County (VC) EMS in order to provide prehospital patient transport within Ventura County. Authorized air unit service providers will comply with this and other VC EMS Policies and Procedures relating to provision of air transport for emergency patients.
- IV. **DEFINITIONS:**
The following definitions will be used when referring to air units in the VC EMS system.
 - A. Advanced Life Support (ALS) means those procedures and skills contained in the Paramedic Scope of Practice as listed in VC EMS Policy 310.
 - B. Basic Life Support (BLS) means those procedures and skills contained in the EMT-I scope of practice as listed in VC EMS Policy 300.
 - C. Medical Flight Crew means the individual(s), excluding the pilot, specifically assigned to care for the patient during aircraft transport.
 - D. Emergency Medical Services Aircraft means any aircraft utilized for the purpose of prehospital emergency patient response and transport. EMS aircraft includes air ambulances and all categories of rescue aircraft.
 - E. Air Ambulance means any aircraft specially constructed, modified or equipped, and used for the primary purposes of responding to emergency calls and transporting critically ill or injured patients whose medical flight crew has at a minimum two (2) attendants certified or licensed in advanced life support.

- F. Rescue Aircraft means an aircraft whose usual function is not prehospital emergency patient transport but which may be utilized, in compliance with VC EMS policy, for prehospital emergency patient transport when use of an air or ground ambulance is inappropriate or unavailable. Rescue aircraft includes ALS rescue aircraft, BLS rescue aircraft and Auxiliary rescue aircraft.
 - 1. Advanced Life Support Rescue Aircraft means a rescue aircraft whose medical flight crew has at a minimum one attendant certified or licensed in advanced life support.
 - 2. Basic Life Support Rescue Aircraft means a rescue aircraft whose medical flight crew has at a minimum one attendant certified as an EMT-I .
 - 3. Auxiliary Rescue Aircraft means a rescue aircraft which does not have a medical flight crew, or whose medical flight crew does not meet the minimum requirements established in CCR Title 22 Section 100283.
- H. Air Ambulance Service means an air transportation service which utilizes air ambulances.
- I. Air Rescue Service means an air service used for emergencies, including search and rescue.
- J. Air Ambulance or Air Rescue Service Provider means the individual or group that owns and/or operates an air ambulance or air rescue service.
- K. Classifying EMS Agency means the agency which categorizes the EMS aircraft into the groups identified in CCR Section 100300(c)(3). This shall be VC EMS in Ventura County and, for aircraft operated by the California Highway Patrol, the California Department of Forestry or the California National Guard , the EMS Authority.
- L. Designated Dispatch Center means an agency which has been designated by VC EMS for the purpose of coordinating air ambulance or rescue aircraft response to the scene of a medical emergency within Ventura County.
- M. Rescue Incident: An incident where the use of the helicopter is the most appropriate method of locating, reaching, and/or extricating the victim.
- V. PROCEDURE:
 - A. VC EMS Policies and Procedures for medical control shall apply to air unit service providers and medical flight crews. This includes approval by the VC EMS Medical Director of provider Medical Director medical control policies and procedures.
 - B. The VC EMS Policies and Procedures for record keeping, quality assurance, and continuous quality improvement shall apply to EMS aircraft operations in Ventura County.
 - C. VC EMS shall:
 - 1. Classify EMS aircraft.

- a. EMS aircraft classifications shall be limited to the following categories:
 - 1) Air Ambulance.
 - 2) Rescue Aircraft.
 - a) Advanced Life Support Rescue Aircraft.
 - b) Basic Life Support Rescue Aircraft.
 - 3) Auxiliary Rescue Aircraft
 - b. EMS Aircraft classification shall be reviewed at 2 year intervals.
Reclassification shall occur if there is a transfer of ownership or a change in the aircraft's category.
- 2. Maintain an inventory of the number and type of authorized EMS aircraft, the patient capacity of authorized EMS aircraft, the level of patient care provided by EMS aircraft personnel, and receiving facilities with landing sites approved by the State Department of Transportation, Aeronautics Division.
 - 3. Establish policies and procedures to assure compliance with Federal, State and local statutes.
 - 4. Develop written agreements with air unit service providers specifying conditions to routinely serve the County.
- D. Representation of provision of air unit transport services
No person or organization shall provide or hold themselves out as providing prehospital Air Ambulance or Air Rescue services unless that person or organization has aircraft which have been classified by VC EMS or in the case of the California Highway Patrol, California Department of Forestry, and California National Guard, the EMS Authority.
- E. Operation of State or Federal aircraft in Ventura County
A request from a designated dispatch center shall be deemed as authorization of aircraft operated by the California Highway Patrol, Department of Forestry, National Guard or the Federal Government.
- F. Responsibilities of Ventura County Sheriff's Department (VCSD) Air Unit
- 1. Respond to all requests for dispatch per VC EMS policies.
 - 2. Respond to all scenes when ground personnel determine the need for air transport meets VC EMS policies.
 - 3. Consider requests for interfacility transfers from hospitals within Ventura County when use of an air or ground ambulance is inappropriate or unavailable.

- G. Medical Flight Crew Less Qualified than Ground Personnel.
In situations where the medical flight crew is less medically qualified than the ground crew personnel from whom they receive patients, they may assume patient care responsibility when the care required is within scope of practice of flight crew or a higher medically qualified person joins crew.
- H. Mutual Aid
If air transport services are needed and VCSD SAR is not available, VCSD/VCFD mutual aid procedures will be activated.
- I. Addressing and Resolving Formal Complaints
Formal complaints will be directed to the Medical Director and Administrator of the Ventura County Emergency Medical Services Agency.
- J. Integration of aircraft into prehospital patient transport system
In order to be integrated into the prehospital patient transport system, an air transport service will have a written agreement with VC EMS.