

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

Pre-hospital Services Committee
Agenda

October 10, 2013
9:30 a.m.

I.	Introductions
II.	Approve Agenda
III.	Minutes
IV.	Medical Issues
	A. NTG for STEMI
	B. Other
V.	New Business
	A. 705.08 Cardiac Arrest - VF
	B. Other
VI.	Old Business
	A. 705.18 Overdose Poisoning
	B. 705.19 Pain Control
	C. 705.20 Seizure
VII.	Informational/Discussion Topics
	A. Business Associate Agreements
VIII.	Policies for Review
	A. 705.10 Childbirth
	B. 705.27 Sepsis Alert
	C. 716 Use of Pre-existing Vascular Device
	D. 727 Transcutaneous Cardiac Pacing
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

Public Health Administration
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Pre-hospital Services Committee
 Minutes

September 12, 2013
 9:30 a.m.

Topic	Discussion	Action	Assigned
I. Introductions	Meeting called to order at 0935.		Jeff Winter
II. Approve Agenda			Approved by Stephanie Huhn Seconded by Debbie Licht
III. Minutes			Approved by Robin Shedlosky Seconded by Kathy McShea
IV. Medical Issues			
A. CAM Update	Chad stated that everything is running smoothly. They are in the process of setting up training for VCFD and will then work with VCFPD to establish their training dates.		
B. Air Q Trial Study	Angelo stated that the study has been completed and a final report will be compiled.		
C. Other			
V. New Business			
A. Seizure 705.20	Chris and Chad presented the changes they made to this policy which states "treat according to VC Policy 705.03 – Altered Neurologic Function".	Bring back to October PSC.	
B. LVAD	Rhodora Jocson from Cedar Sinai presented LVAD information to the committee. There have been 14,000 placed in patients throughout California.	Cedars will provide a 20 minute training tape for field personnel. LVAD Packet will be sent to all members. Emergency phone number can be found on LVAD Battery.	Julie Frey will send packet to committee members. Work with Cedars to make training tape available to committee members.
C. Crisis Team	Dr. Robin Boscarelli from Ventura County Behavioral Health gave an overview of services and how the Crisis Team can assist field personnel		

		on Behavioral Health calls.		
D.	705.18	Dr. Tilles is concerned that charcoal is being given to patients with altered level of conc. causing possible aspiration. He would like to add language to the policy stating that patients with ALOC and/or a short ride to the hospital do not require charcoal.	Dr. Tilles will work on making these changes and present the draft to PSC next month.	Dr. Ira Tilles
E.	301 – EMT Cert.	Page 2, #3, change language to meet legal mandate.		Approved by Dr. Beatty Seconded by Tom O'Connor
F.	302 – EMT Recert.	Page 1, #3 change language to meet legal mandate. Change "Medication" to "Medical" in the title.		Approved by Dr. Beatty Seconded by Tom O'Connor
G.	Other			
VI	Old Business			
A.	705.19 – Pain Control	Chad and Dede presented the draft policy they developed. Dr. Chase had some concerns about the dose and delivery of MS.	Dr. Beatty will work on dose and delivery and present at next meeting. Katy will work to condense the policy onto one page.	
B.	1200 – Air Unit	Change "Department" to "Office" on page 3.		Approved by Don Hadland Seconded by Kathy McShea
C.	Other			
VII.	Informational/Discussion Topics			
A.	HIPAA Compliance	Chris reminded everyone that they need to check website to see if their department is in compliance. EMS is not the custodian for EPCR records.		
B.	Community Paramedicine	Steve discussed a future pilot program that would allow paramedics to assist patients in areas other than emergencies and transport to hospitals.		
VIII.	Policies for Review			
A.	304 – EMT -1 Completion by Challenge	"Date Revised" currently reads "200". Change to 200_.		Approved by Debbie Licht Seconded by Norm Plott
B.	450 – Stroke Center Standards	No Comment		Approved by Debbie Licht Seconded by Norm Plott

C.	Stroke System Triage	No Comment		Approved by Debbie Licht Seconded by Norm Plott
D.	703 – Medical Control at Scene, Private Physician	No Comment	Providers need additional “Physician on Scene” Cards.	Approved by Debbie Licht Seconded by Norm Plott Julie will contact EMSA to order additional cards.
E.	704 – Guidelines for Base Hospital Contact	No Comment		Approved by Debbie Licht Seconded by Norm Plott
G.	723 – Continuous Positive Airway Pressure	No Comment		Approved by Debbie Licht Seconded by Norm Plott
H.	920 – Reddi-Net Policy	Add VCMC under LRRMC on page 4.	Tony will work on development of a contact list with personnel names and phone numbers for each hospital. The committee does not want the list added to the Reddi-Net Policy. Tony will find another venue for the list to be distributed.	Approved by Debbie Licht Seconded by Norm Plott
I.	Other			
XI	TAG Report			No meeting
X.	Agency Reports			
A.	Fire departments	OFD – Stephanie reported that they have a large group in the academy and everything is going well. VCFD – Dede is getting geared up for CAM. SPFD – Had 125 at Sidewalk CPR program during “Ready Santa Paula”		
B.	Ambulance Providers	nothing		
C.	Base Hospitals	LRRMC – Debbie stated that LRRMC would like to volunteer to coordinate a countywide calendar of Sidewalk CPR events. They would also be willing to do all the press associated with the events. SVH – Jennie thanked everyone for their patience with the construction at their facility. There will be an 8 hr CE day in Nov. and at Sta. 43 in Oct. SJRM – Kathy reported construction in the lobby of their facility. They have also been involved with Sidewalk CPR events. VCMC – Dr. Chase introduced Tom Gallegos as the new PCC and Sarah Melgoza as the new ER Manager.		
D.	Receiving Hospitals	CMH – Cheryl stated that construction should be completed at their facility in March of 2015.		
E.	ALS Education	VC – 12 out of 14 students completed the Paramedic Program. All 12 passed		

Programs	the National Registry Exam on the first try. The college experienced web-site problems during registration.	
F. EMS Agency	<p>Chris – There will be an MCI exercise in 2014. We will be testing evacuation and communication. This is part of a Full Scale 3-day exercise being conducted countywide.</p> <p>Steve – Dr. Duncan will be the speaker at the Fall Symposium. There are currently positions open in EMS.</p> <p>Dr. Levin has started the PR campaign for the Nuclear Response program. He will be conducting community forums and will send informational packets to all hospitals.</p> <p>Randy – Distributed AED's to new locations. Distribution of all AED's is complete. He will be transitioning into education component, which includes updating the employee training.</p>	
G. Other		
XI. Closing	Meeting adjourned at 1155.	

Prehospital Services Committee 2013

For Attendance, please initial your name for the current month

Agency	LastName	FirstName	1/10/2013	2/14/2013	3/14/2013	4/11/2013	5/9/2013	6/13/2013	7/11/2013	8/8/2013	9/12/2013	10/10/2013	11/14/2013	12/12/2013	%
AMR	Stefansen	Adriane		AS		AS			AS		AS				
AMR	Panke	Chad		CP		CP			CP		CP				
CMH - ER	Canby	Neil		NC					NC						
CMH - ER	Cobb	Cheryl		CC		CC			CC		CC				
CSUCI PD	Drehesen	Charles		CD					CD		CD				
CSUCI PD	Rice	Al		AR		AR					AR				
FFD	Herrera	Bill		BH											
FFD	Scott	Bob													
GCA	Norton	Tony		TN		TN			TN		TN				
GCA	Shultz	Jeff									JS				
Lifeline	Rosolek	James		BK		JR					JR				
Lifeline	Winter	Jeff		JW		JW			JW		JW				
LRRMC - ER	Beatty	Matt		MB		MB			MB		MB				
LRRMC - ER	Licht	Debbie		DL		DL			DL		DL				
OFD	Carroll	Scott		SC		SC			SC		SC				
OFD	Huhn	Stephanie		SPH		KS			SH		SH				
OVCH	Boynton	Stephanie													
OVCH	Patterson	Betsy		BP		BP			BP						
SJPVH	Hernandez	Sandi		SH		SH			SH		SH				
SJPVH	Davies	Jeff		JD		MR			JD						
SJRMC	Russell	Mark							MR						
SJRMC	McShea	Kathy		KM		KM			KM		KM				
SJRMC - SJPVH	Larsen	Todd		TL		XX									
SPFD	Dowd	Andrew				AD			AD		AD				
SVH - ER	Tilles	Ira		IT		IT			IT		IT				
SVH - ER	Hoffman	Jennie		JH		JH			JH		JH				
V/College	O'Connor	Tom		TO		TO					TO				
VCFD	Tapking	Aaron		AT		AT			AT		AT				
VCFD	Utley	Dede				DU			DU		DU				
VNC	Plott	Norm		NP		NP			NP		NP				
VNC	Black	Shannon		SB											
VNC	Shedlosky	Robin		RS					RS		RS				

Agency	LastName	FirstName	1/10/2013	2/14/2013	3/14/2013	4/11/2013	5/9/2013	6/13/2013	7/11/2013	8/8/2013	9/12/2013	10/10/2013	11/14/2013	12/12/2013	%
VCMC - ER	Chase	David		DC		DC			DC		DC				
VCMC - ER	Gallegos	Tom		LW		LW			LW		TG				
VCMC-SPH	Daucett	Michelle				MD			MD		MD				
VCSO SAR	Hadland	Don		DH		DH			DH		DH				
VCSO SAR	Golden	Jeff		DW		DW					JG				
VFF	Rhoden	Crystal				CR									
VFF	Jones	Brad													
Eligible to Vote	Date Change/cancelled - not counted against member for attendance														
Non Voting Members															
AMR	Whitmore	Geneva		GW											
AMR	Taigman	Mike		MT		MT									
CSUCI PD	Rice	Lynn				LR									
EMS	Carroll	Steve		SC		SC			SC		SC				
EMS	Buhain	Ruth		RB											
EMS	Frey	Julie							JF		JF				
EMS	Hadduck	Katy		KH		KH			KH		KH				
EMS	Perez	Randy				RP			RP		RP				
EMS	Rosa	Chris		CR		CR			CR		CR				
EMS	Salvucci	Angelo		AS		AS			AS		AS				
LMT	Frank	Steve													
VCMC	Duncan	Thomas		TD											
VNC	Gregson	Erica													
VNC	Komins	Mark							MK						



TEMPORARY PARKING PASS

Expires October 10, 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.

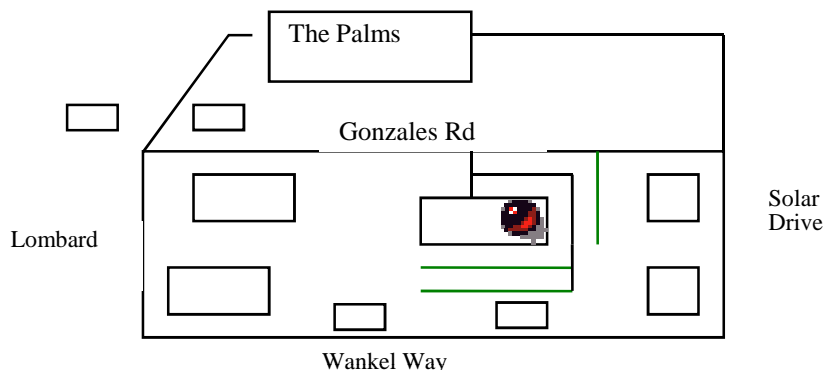
2100 Solar Drive

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.



PRACTICE GUIDELINE

2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction

A Report of the American College of Cardiology Foundation/
American Heart Association Task Force on Practice Guidelines

*Developed in Collaboration With the American College of Emergency Physicians and
Society for Cardiovascular Angiography and Interventions*

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Table 12. Selected Routine Medical Therapies

Therapy	Indications	Dose/Administration	Avoid/Caution
Beta-Receptor Antagonists	<ul style="list-style-type: none"> • Oral: All patients without contraindication • IV: Patients with refractory hypertension or ongoing ischemia without contraindication 	Individualize: <ul style="list-style-type: none"> • Metoprolol tartrate 25 to 50 mg every 6 to 12 h orally, then transition over next 2 to 3 d to twice-daily dosing of metoprolol tartrate or to daily metoprolol succinate; titrate to daily dose of 200 mg as tolerated • Carvedilol 6.25 mg twice daily, titrate to 25 mg twice daily as tolerated • Metoprolol tartrate IV 5 mg every 5 min as tolerated up to 3 doses; titrate to heart rate and BP 	<ul style="list-style-type: none"> • Signs of HF • Low output state • Increased risk of cardiogenic shock • Prolonged first-degree or high-grade AV block • Reactive airways disease
ACE Inhibitors	<ul style="list-style-type: none"> • For patients with anterior infarction, post-MI LV systolic dysfunction (EF ≤ 0.40) or HF • May be given routinely to all patients without contraindication 	Individualize: <ul style="list-style-type: none"> • Lisinopril 2.5 to 5 mg/d to start; titrate to 10 mg/d or higher as tolerated • Captopril 6.25 to 12.5 mg 3 times/d to start; titrate to 25 to 50 mg 3 times/d as tolerated • Ramipril 2.5 mg twice daily to start; titrate to 5 mg twice daily as tolerated • Trandolapril test dose 0.5 mg; titrate up to 4 mg daily as tolerated 	<ul style="list-style-type: none"> • Hypotension • Renal failure • Hyperkalemia
ARB	<ul style="list-style-type: none"> • For patients intolerant of ACE inhibitors 	<ul style="list-style-type: none"> • Valsartan 20 mg twice daily to start; titrate to 160 mg twice daily as tolerated 	<ul style="list-style-type: none"> • Hypotension • Renal failure • Hyperkalemia
Statins	<ul style="list-style-type: none"> • All patients without contraindications 	<ul style="list-style-type: none"> • High-dose atorvastatin 80 mg daily 	<ul style="list-style-type: none"> • Caution with drugs metabolized via CYP3A4, fibrates • Monitor for myopathy, hepatic toxicity • Combine with diet and lifestyle therapies • Adjust dose as dictated by targets for LDL cholesterol and non-HDL cholesterol reduction
Nitroglycerin	<ul style="list-style-type: none"> • Ongoing chest pain • Hypertension and HF 	<ul style="list-style-type: none"> • 0.4 mg sublingual every 5 min up to 3 doses as BP allows • IV dosing to begin at 10 mcg/min; titrate to desired BP effect 	<ul style="list-style-type: none"> • Avoid in suspected RV infarction • Avoid with SBP <90 mm Hg or if SBP >30 mm Hg below baseline • Avoid if recent (24 to 48 h) use of 5'-phosphodiesterase inhibitors
Oxygen	<ul style="list-style-type: none"> • Clinically significant hypoxemia (oxygen saturation <90%) • HF • Dyspnea 	<ul style="list-style-type: none"> • 2 to 4 L/min via nasal cannula • Increase rate or change to face mask as needed 	<ul style="list-style-type: none"> • Caution with chronic obstructive pulmonary disease and CO₂ retention
Morphine	<ul style="list-style-type: none"> • Pain • Anxiety • Pulmonary edema 	<ul style="list-style-type: none"> • 4 to 8 mg IV initially, with lower doses in elderly • 2 to 8 mg IV every 5 to 15 min if needed 	<ul style="list-style-type: none"> • Lethargic or moribund patient • Hypotension • Bradycardia • Known hypersensitivity

ACE indicates angiotensin-converting enzyme; ARB, angiotensin receptor blocker; AV, atrioventricular; BP, blood pressure; CO₂, carbon dioxide; EF, ejection fraction; HDL, high-density lipoprotein; HF, heart failure; IV, intravenous; LDL, low-density lipoprotein; LV, left ventricular; MI, myocardial infarction; RV, right ventricular; and SBP, systolic blood pressure.

ACE inhibitor and beta blocker and who have an EF less than or equal to 0.40 and either symptomatic HF or diabetes mellitus (426). (Level of Evidence: B)

CLASS IIa

1. ACE inhibitors are reasonable for all patients with STEMI and no contraindications to their use (427–429). (Level of Evidence: A)

Oral ACE inhibitors reduce fatal and nonfatal major cardiovascular events in patients with STEMI (360,361,420,422,428–430). Their protective effects have been demonstrated independent of the use of other pharmacotherapies (i.e., fibrinolytics, aspirin, and beta blockers). The magnitude of clinical benefit is greatest in high-risk patient subgroups (i.e., anterior MI, EF ≤0.40, HF, prior MI, and tachycardia) (431). Demonstration of an early benefit (within the first 24 hours) supports the prompt use of

these agents in patients without existing contraindications (hypotension, shock, bilateral renal artery stenosis or history of worsening of renal function with ACE inhibitor/ARB exposure, renal failure, or drug allergy). The role of routine long-term ACE inhibitor therapy in low-risk patients after STEMI who have been revascularized and treated with aggressive lipid-lowering therapies is less certain (432). ARBs are indicated for ACE inhibitor-intolerant patients. Specifically, valsartan was found to be noninferior to captopril in the VALIANT (Valsartan in Acute Myocardial Infarction) trial (424).

The EPHEsus (Eplerenone Post-Acute Myocardial Infarction Heart Failure Efficacy and Survival) study established the benefit of an aldosterone antagonist, eplerenone, added to optimal medical therapy in eligible patients (creatinine ≤ 2.5 mg/dL in men and ≤ 2.0 mg/dL in women, potassium ≤ 5.0 mEq/L) 3 to 14 days after STEMI with EF ≤ 0.40 and either symptomatic HF or diabetes mellitus (426). A post hoc analysis of the EPHEsus trial suggested a time-dependent treatment effect of eplerenone. Earlier initiation of the drug (< 7 days) significantly reduced the rates of all-cause mortality, sudden cardiac death (SCD), and cardiovascular mortality/hospitalization, whereas initiation ≥ 7 days had no significant effect on outcomes (433).

8.3. Lipid Management: Recommendations

CLASS I

1. **High-intensity statin therapy should be initiated or continued in all patients with STEMI and no contraindications to its use (434–436). (Level of Evidence: B)**

CLASS IIa

1. **It is reasonable to obtain a fasting lipid profile in patients with STEMI, preferably within 24 hours of presentation. (Level of Evidence: C)**

Treatment with statins in patients stabilized after an ACS, including STEMI, lowers the risk of coronary heart disease death, recurrent MI, stroke, and the need for coronary revascularization (437,438). More intensive statin therapy, compared with less intensive therapy, appears to be associated with an additional lowering of nonfatal clinical endpoints (434,436,439). Among currently available statins, only high-dose atorvastatin (80 mg daily) has been shown to reduce death and ischemic events among patients with ACS (436,440). Approximately one third of patients in the PROVE-IT TIMI 22 (Pravastatin or Atorvastatin Evaluation and Infection Therapy—Thrombolysis in Myocardial Infarction 22) trial had STEMI (436). Cardiovascular event rates were not significantly reduced with a tiered strategy of simvastatin (40-mg daily for 1 month followed by 80 mg daily) in the A to Z Trial (Aggrastat to Zocor) (439), and concerns have been raised recently about the safety of high-dose simvastatin (i.e., 80 mg daily) (441). Although the benefit of high-intensity statins declines among statin-naïve patients with ACS as a function of decreasing low-density lipoprotein levels (442), the writing committee recommends the use of statins in all patients with STEMI (435). Statin therapy after ACS is beneficial even in patients with baseline

low-density lipoprotein cholesterol levels < 70 mg/dL (443). Trials of statin therapy in patients with ACS and stable ischemic heart disease have been designed to compare either more intensive versus less intensive statin treatment or active statin versus placebo (434–440). They have not been designed to compare clinical outcomes as a function of the specific low-density lipoprotein cholesterol level achieved with treatment. Improved compliance with therapy is a strong rationale for timing the initiation of lipid-lowering drug therapy before discharge after STEMI. Longer-term lipid management after STEMI, including indications for targeting triglycerides and non-high-density lipoprotein cholesterol, are addressed in the “AHA/ACC Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Vascular Disease: 2011 Update” (257).

8.4. Nitrates

Although nitroglycerin can ameliorate symptoms and signs of myocardial ischemia by reducing LV preload and increasing coronary blood flow, it generally does not attenuate the myocardial injury associated with epicardial coronary artery occlusion unless vasospasm plays a significant role. Intravenous nitroglycerin may be useful to treat patients with STEMI and hypertension or HF. Nitrates should not be given to patients with hypotension, marked bradycardia or tachycardia, RV infarction, or 5'phosphodiesterase inhibitor use within the previous 24 to 48 hours (444). There is no role for the routine use of oral nitrates in the convalescent phase of STEMI.

8.5. Calcium Channel Blockers

An overview of 28 RCTs involving 19,000 patients demonstrated no beneficial effect on infarct size or the rate of reinfarction when calcium channel blocker therapy was initiated during either the acute or convalescent phase of STEMI (445). Calcium channel blockers may be useful, however, to relieve ischemia, lower BP, or control the ventricular response rate to atrial fibrillation (AF) in patients who are intolerant of beta blockers. Caution is advised in patients with LV systolic dysfunction. The use of the immediate-release nifedipine is contraindicated in patients with STEMI because of hypotension and reflex sympathetic activation with tachycardia (446).

8.6. Oxygen

Few data exist to support or refute the value of the routine use of oxygen in the acute phase of STEMI, and more research is needed. A pooled Cochrane analysis of 3 trials showed a 3-fold higher risk of death for patients with confirmed acute MI treated with oxygen than for patients with acute MI managed on room air. Oxygen therapy is appropriate for patients who are hypoxemic (oxygen saturation $< 90\%$) and may have a salutary placebo effect in others. Supplementary oxygen may, however, increase coronary vascular resistance (447). Oxygen should be administered with caution to patients with chronic obstructive pulmonary disease and carbon dioxide retention.

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

Effective Date: December 15, 2012
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Date Revised: October 13, 2011
Last Reviewed: October 13, 2011



Hyperkalemia and VF

Should we add Calcium Chloride and Bicarb to the treatment for VF – as we do for PEA and Asystole?

According to the AHA Guidelines 2010 there is more evidence that Bicarb is harmful than helpful in cardiac arrests overall. But it is recommended as an option for PEA/AS.

The only evidence I could find for VF being caused by hyperkalemia is this 1953 case report. The authors gave volunteers 15 G of K⁺ - and this is the description of what happened to 1.

[Am Heart J](#). 1953 May;45(5):725-40.

The effect of induced hyperkalemia on the normal and abnormal electrocardiogram.

[DODGE HT](#), [GRANT RP](#), [SEAVEY PW](#).

“The fatality occurred in a 47 year old white man who complained of exertional dyspnea for nine years and intermittent claudication for three years. There was no history of angina pectoris, chest pain, or congestive heart failure. His cardiac examination was entirely normal with the exception of the electrocardiogram which showed a normal QRS loop but an abnormally directed T vector, producing inverted T waves in Leads I and Va to Vg. One hour following the oral administration of 15.0 Gms. of potassium chloride the patient developed short runs of ventricular tachycardia at a time when there were only slight potassium effects as evidenced by increase in T-vector magnitude. Eighty minutes following potassium administration the patient developed fatal ventricular fibrillation. Just prior to the onset of the ventricular fibrillation the T vector was still only slightly increased in magnitude with no change in direction. None of the other electrocardiogram signs of potassium intoxication appeared, such as P-R interval abnormalities, absence of P waves, or intraventricular block. Post-mortem examination revealed a marked degree of coronary artery sclerosis with many focal areas of myocardial fibrosis, but no area of frank myocardial infarction.”

Overdose/Poisoning	
ADULT	PEDIATRIC
BLS Procedures	
Decontaminate if indicated and appropriate Administer oxygen as indicated	Decontaminate if indicated and appropriate Administer oxygen as indicated
ALS Prior to Base Hospital Contact	
<p><u>IV/IO access (IO per Policy 717)</u></p> <p>Oral ingestion within 1 hour, <u>AND GCS 15, AND expected transport interval >15 min and gag reflex present:</u></p> <ul style="list-style-type: none"> • Activated Charcoal <ul style="list-style-type: none"> o PO – 1 gm/kg • Max 50 gm <p>Suspected opiate overdose with respirations less than 12/mi and significant ALOC:</p> <ul style="list-style-type: none"> • Narcan <ul style="list-style-type: none"> o IM – 2 mg o IV – 0.4 mg q 1 min • Initial max 2 mg o <u>May repeat as needed to maintain respirations greater than 12/min</u> 	<p><u>IV/IO access (IO per Policy 717)</u></p> <p><u>• IO access only if pt in extremis</u></p> <p>Oral ingestion within 1 hour, <u>AND GCS 15, AND expected transport >15 min and gag reflex present:</u></p> <ul style="list-style-type: none"> • Activated Charcoal <ul style="list-style-type: none"> o PO – 1 gm/kg • Max <u>25-50</u> gm <p>Suspected opiate overdose with respirations less than 12/min:</p> <ul style="list-style-type: none"> • Narcan <ul style="list-style-type: none"> o IV/IM/IO – 0.1 mg/kg • Initial max 2 mg o <u>May repeat as needed to maintain respirations greater than 12/min</u>
Base Hospital Orders only	
<p>Tricyclic Antidepressant Overdose</p> <ul style="list-style-type: none"> • Sodium Bicarbonate <ul style="list-style-type: none"> o IV – 1 mEq/kg <p>Beta Blocker Overdose</p> <ul style="list-style-type: none"> • Glucagon <ul style="list-style-type: none"> o IV – 2 mg • May give up to 10mg if available <p>Calcium Channel Blocker Overdose</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> o IV – 1 gm over 1 min • Glucagon <ul style="list-style-type: none"> o IV – 2 mg • May give up to 10 mg if available <p>Stimulant/Hallucinogen Overdose</p> <ul style="list-style-type: none"> • Midazolam <ul style="list-style-type: none"> o IV – 2 mg • Repeat 1 mg q 2 min as needed • Max 5 mg o IM – 0.1 mg/kg • Max 5 mg <p>Organophosphate Poisoning</p> <ul style="list-style-type: none"> • Atropine <ul style="list-style-type: none"> o IV – 2 mg q 1 min • Repeat until symptoms are relieved 	<p>Tricyclic Antidepressant Overdose</p> <ul style="list-style-type: none"> • Sodium Bicarbonate <ul style="list-style-type: none"> o IV/IO – 1 mEq/kg <p>Beta Blocker Overdose</p> <ul style="list-style-type: none"> • Glucagon <ul style="list-style-type: none"> o IV/IO – 0.1 mg/kg • May give up to 10 mg if available <p>Calcium Channel Blocker Overdose</p> <ul style="list-style-type: none"> • Calcium Chloride <ul style="list-style-type: none"> o IV/IO – 20 mg/kg over 1 min • Glucagon <ul style="list-style-type: none"> o IV/IO – 0.1 mg/kg • May give up to 10 mg if available <p>Stimulant/Hallucinogen Overdose</p> <ul style="list-style-type: none"> • Midazolam <ul style="list-style-type: none"> o IM – 0.1 mg/kg • Max 5 mg <p>Organophosphate Poisoning</p> <ul style="list-style-type: none"> • Atropine <ul style="list-style-type: none"> o IV/IO – 0.02 mg/kg q 1 min • Minimum dose – 0.1mg • Repeat until symptoms are relieved
Consult with ED Physician for further treatment measures <u>ED Physician Order Only: Ondansetron</u>	Consult with ED Physician for further treatment measures <u>ED Physician Order Only: Ondansetron</u>
<p>Additional Information:</p> <ul style="list-style-type: none"> • For Caustic/Corrosive or petroleum distillate ingestions, DO NOT GIVE CHARCOAL OR INDUCE VOMITING • For Tricyclic Antidepressant Overdose, DO NOT GIVE CHARCOAL • If chest pain present, refer to chest pain policy. DO NOT GIVE ASPIRIN • Organophosphate poisoning – SLUDGE <ul style="list-style-type: none"> o S – Salivation o L – Lacrimation 	

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Effective Date: December 1, 2012

Date Revised: August 12, 2012

Next Review Date: August, 2014

Last Reviewed: August 12, 2012

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VCEMS Medical Director

Admin\Committees\IPSC\2013\10_Oct\0705_18_Overdose_Poisoning_DRAFT

10Oct13.Docx

- U – Urination
- D – Defecation
- G – Gastrointestinal Distress
- E – Elimination (vomiting)
- Narcan – it is not necessary that the patient be awake and alert. Administer until max dosage is reached or RR greater than 12/min. When given to chronic opioid patients, withdrawal symptoms may present. IM dosing is the preferred route of administration.

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	
<p>IV access</p> <p>Cardiac Monitor</p> <p>Ondansetron</p> <ul style="list-style-type: none"> IV/IM/ODT – 4 mg <p>Morphine – Pain 5 out of 10 or greater</p> <p>Initial IV Dose</p> <ul style="list-style-type: none"> Slow IVP - 0.1 mg/kg over 2 minutes¹ Maximum for ANY IV dose is 10 mg <ul style="list-style-type: none"> FOR IV USE: Dilute 10 mg (1 mL) morphine with 9 mL NS for a final volume of 10 mL = morphine 1 mg/mL <p>Initial IM Dose</p> <ul style="list-style-type: none"> IM - 0.1 mg/kg¹ Maximum for ANY IM dose is 10 mg <p>Second IV/IM Dose, if pain persists 5 minutes after IV morphine, or 15 minutes after IM morphine</p> <ul style="list-style-type: none"> Administer half of the initial morphine dose <p>Third IV/IM Dose, if pain persists 5 minutes after 2nd IV morphine, or 15 minutes after 2nd IM morphine</p> <ul style="list-style-type: none"> Ondansetron (only if third dose of morphine needed) <ul style="list-style-type: none"> IV/IM/ODT – 4 mg Administer half of the initial morphine dose <p>Check and document vital signs before and after each administration</p> <ul style="list-style-type: none"> Hold if SBP < 100 mmHg <p><i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i></p>	<p>IV access</p> <p>Cardiac Monitor</p> <p>Ondansetron: Patient 4 years of age or older</p> <ul style="list-style-type: none"> IV/IM/ODT – 4 mg <p>Morphine – Pain 5 out of 10 or greater</p> <p>Morphine – given for burns and isolated extremity injuries only. Consider early base contact for other pediatric complaints of pain (e.g. dog bite, cancer)</p> <p>Initial IV Dose</p> <ul style="list-style-type: none"> Slow IVP - 0.1 mg/kg over 2 minutes¹ Maximum for ANY IV dose is 10 mg <ul style="list-style-type: none"> FOR IV USE: Dilute 10 mg (1 mL) morphine with 9 mL NS for a final volume of 10 mL = morphine 1 mg/mL <p>Initial IM Dose</p> <ul style="list-style-type: none"> IM - 0.1 mg/kg¹ Maximum for ANY IM dose is 10 mg <p>Second IV/IM Dose, if pain persists 5 minutes after IV morphine, or 15 minutes after IM morphine</p> <ul style="list-style-type: none"> Administer half of the initial morphine dose <p>Third IV/IM Dose, if pain persists 5 minutes after 2nd IV morphine, or 15 minutes after 2nd IM morphine</p> <ul style="list-style-type: none"> Ondansetron (only if third dose of morphine needed) <ul style="list-style-type: none"> IV/IM/ODT – 4 mg Administer half of the initial morphine dose <p>Check and document vital signs before and after each administration</p> <ul style="list-style-type: none"> Hold if SBP < 100 mmHg <p><i>If patient has significant injury to head, chest, abdomen or is hypotensive, DO NOT administer pain control unless ordered by ED Physician</i></p>
Communication Failure Protocol	
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
<p>1. Special considerations, administer 0.05 mg/kg</p> <ul style="list-style-type: none"> 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 Adult patients with SBP <110mm/Hg 	


Effective Date: December 1, 2012
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Date Revised: April 11, 2013
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Last Reviewed: April 11, 2013



VCEMS Medical Director



MORPHINE DOSING – OPTIONS 2 & 3

Option 2: 20-25 lb intervals

LB	KG		IM	IVP
		Morphine	Morphine undiluted (10mg/mL)	1mL Morphine diluted in 9 mL NS = 1mg/mL
		mg	mL	mL
0-20	0-9	*	*	*Call Base Physician
21-44	10-20	1	0.1	1
45-66	21-30	2	0.2	2
67-88	31-40	3	0.3	3
89-110	41-50	4	0.4	4
111-132	51-60	5	0.5	5
133-154	61-70	6	0.6	6
155-176	71-80	7	0.7	7
177-198	81-90	8	0.8	8
199-220	91-100	9	0.9	9
221+	101+	10	1	10

Option 3: 10 kg intervals

LB	KG		IM	IVP
		Morphine	Morphine undiluted (10mg/mL)	1mL Morphine diluted in 9 mL NS = 1mg/mL
		mg	mL	mL
0-19	0-9	*	*	*Call Base Physician
20-44	9-20	1	0.1	1
45-64	21-29	2	0.2	2
65-84	30-38	3	0.3	3
85-109	39-50	4	0.4	4
110-129	51-59	5	0.5	5
130-154	60-70	6	0.6	6
155-174	71-79	7	0.7	7
175-199	80-90	8	0.8	8
200-219	91-99	9	0.9	9
220+	100+	10	1	10

LB	KG		IM	IVP
		Morphine	Morphine undiluted (10mg/mL)	1mL Morphine diluted in 9 mL NS = 1mg/mL
		mg	mL	mL
5	2	0.2	0.02	0.2
10	5	0.5	0.05	0.5
15	7	0.7	0.07	0.7
20	9	0.9	0.09	0.9
25	11	1.1	0.11	1.1
30	14	1.4	0.14	1.4
35	16	1.6	0.16	1.6
40	18	1.8	0.18	1.8
45	20	2.0	0.20	2.0
50	23	2.3	0.23	2.3
55	25	2.5	0.25	2.5
60	27	2.7	0.27	2.7
65	30	3.0	0.30	3.0
70	32	3.2	0.32	3.2
75	34	3.4	0.34	3.4
80	36	3.6	0.36	3.6
85	39	3.9	0.39	3.9
90	41	4.1	0.41	4.1
95	43	4.3	0.43	4.3
100	45	4.5	0.45	4.5
105	48	4.8	0.48	4.8
110	50	5.0	0.50	5.0

LB	KG		IM	IVP
		Morphine	Morphine undiluted (10mg/mL)	1mL Morphine diluted in 9 mL NS = 1mg/mL
		mg	mL	mL
115	52	5.2	0.52	5.2
120	55	5.5	0.55	5.5
125	57	5.7	0.57	5.7
130	59	5.9	0.59	5.9
135	61	6.1	0.61	6.1
140	64	6.4	0.64	6.4
145	66	6.6	0.66	6.6
150	68	6.8	0.68	6.8
155	70	7.0	0.70	7.0
160	73	7.3	0.73	7.3
165	75	7.5	0.75	7.5
170	77	7.7	0.77	7.7
175	80	8.0	0.80	8.0
180	82	8.2	0.82	8.2
185	84	8.4	0.84	8.4
190	86	8.6	0.86	8.6
195	89	8.9	0.89	8.9
200	91	9.1	0.91	9.1
205	93	9.3	0.93	9.3
210	95	9.5	0.95	9.5
215	98	9.8	0.98	9.8
220	100	10.0	1.00	10.0

Seizures	
ADULT	PEDIATRIC
BLS Procedures	
Protect from injury Maintain/manage airway as indicated Administer oxygen as indicated	Protect from injury Maintain/manage airway as indicated For suspected febrile seizures, begin passive cooling measures. If seizure activity persists, see below Administer oxygen as indicated
ALS Prior to Base Hospital Contact	
<p>IV access</p> <p>Determine Blood Glucose level, <u>treat according to VC EMS policy 705.03 – Altered Neurologic Function</u> If < 60 <ul style="list-style-type: none"> ● D₅₀ <ul style="list-style-type: none"> ○ IV – 25 mL ● Glucagon (if no IV access) <ul style="list-style-type: none"> ○ IM – 1 mg </p> <p>Persistent Seizure Activity</p> <ul style="list-style-type: none"> ● Midazolam <ul style="list-style-type: none"> ○ IV – 2 mg <ul style="list-style-type: none"> ● Repeat 1 mg q 2 min as needed ● Max 5 mg ○ IM – 0.1 mg/kg <ul style="list-style-type: none"> ● Max 5 mg <p>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</p> <p><u>3rd Trimester Pregnancy & No Known Seizure History</u></p> <ul style="list-style-type: none"> ● Magnesium Sulfate <ul style="list-style-type: none"> ○ IVPB – 2 gm in 50 mL D₅W infused over 5 min <ul style="list-style-type: none"> ● MUST Repeat x1 ● Slow or stop infusion if bradycardia, heart block, or decreased respiratory effort occur <p>Recheck Blood Glucose level, <u>treat according to VC EMS policy 705.03 – Altered Neurologic Function</u> 5 min after D₅₀ or 10 min after Glucagon administration If still < 60 <ul style="list-style-type: none"> ● Repeat D₅₀ <ul style="list-style-type: none"> ○ IV – 25 mL </p>	<p>Consider IV/IO access</p> <p>Determine Blood Glucose level, <u>treat according to VC EMS policy 705.03 – Altered Neurologic Function</u> If < 60 <ul style="list-style-type: none"> ● Less than 2 years old <ul style="list-style-type: none"> ○ D₂₅ <ul style="list-style-type: none"> ● IV – 2 mL/kg ○ Glucagon (if no IV access) <ul style="list-style-type: none"> ● IM – 0.1 mg/kg ○ Max 1 mg ● 2 years old and greater <ul style="list-style-type: none"> ○ D₅₀ <ul style="list-style-type: none"> ● IV – 1 mL/kg ○ Glucagon <ul style="list-style-type: none"> ● IM – 0.1 mg/kg ○ Max 1 mg </p> <p>Persistent Seizure Activity</p> <ul style="list-style-type: none"> ● Midazolam <ul style="list-style-type: none"> ○ IM – 0.1 mg/kg <ul style="list-style-type: none"> ● Max 5 mg <p>Recheck Blood Glucose level 5 min after <u>and treat according to VC EMS policy 705.03 – Altered Neurologic Function</u> D₅₀ or 10 min after Glucagon administration If still < 60 <ul style="list-style-type: none"> ● Less than 2 years old <ul style="list-style-type: none"> ○ D₂₅ <ul style="list-style-type: none"> ● IV – 2 mL/kg ● 2 years old and greater <ul style="list-style-type: none"> ○ D₅₀ <ul style="list-style-type: none"> ● IV – 1 mL/kg </p>
Base Hospital Orders only	
Consult with ED Physician for further treatment measures	Consult with ED Physician for further treatment measures
<p>Additional Information:</p> <ul style="list-style-type: none"> ● Treatment with Midazolam as indicated in the following: <ul style="list-style-type: none"> ○ Continuous seizures > 5 min (or > 2 min in pregnancy) ○ Repetitive seizures without regaining consciousness ● Patients with a known seizure disorder or uncomplicated, apparent pediatric febrile seizures, no longer 	

Effective Date: December 1, 2010
Next Review Date: August, 2014

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Last Reviewed: August, 2012



seizing and with a normal postictal state, may be treated as a BLS call

Effective Date: December 1, 2010
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Last Reviewed: August, 2012



Childbirth			
BLS Procedures			
Determine <ul style="list-style-type: none"> • number of pregnancies (gravida) • number of deliveries (para) • due date (weeks of gestation) • onset/duration/frequency/intensity of contractions • if a rupture of membranes has occurred (including color/date/time) • if any expected complications during pregnancy are present • presence of crowning or any abnormal presenting part at perineum 			
PROLAPSED CORD	OTHER PRESENTING PART		
Cover cord with wet saline dressing Place mother in left-lateral Trendelenberg position Provide constant manual pressure on presenting part to avoid cord compression Initiate Code-3 transport if there is partial delivery of the infant and no further progress after 1-2 minutes	DELIVERING	NOT DELIVERING	
	Elevate hips Assist delivery while initiating Code-3 transport Assist with breech delivery while supporting the infant's body (covering to maintain body warmth)	Place mother in left-lateral Trendelenberg position Initiate Code-3 transport	
If the HEAD is crowning, prepare to assist mother with delivery – Guide baby out ONLY IF SECRETIONS, INCLUDING MECOMIUM, CAUSE AIRWAY OBSTRUCTION: suction mouth, then nose Dry and stimulate (rub gently, but briskly with warm towel) Note time of birth Double clamp cord and cut with sterile scissors between clamps Begin transport <ul style="list-style-type: none"> • <i>Do not</i> wait for placenta to delivery If placenta delivery is present, assist and package, then gently massage fundus <ul style="list-style-type: none"> • <i>Do not</i> massage fundus until the placenta has delivered Newborn assessment – at 1 minute and 5 minutes post-delivery			
APGAR score	0	1	2
A - Appearance	Blue/Pale	Pink w/ blue extremities	Pink
P - Pulse	Absent	< 100 bpm	> 100 bpm
G - Grimace (reflex irritability)	Absent	Grimace	Cough/Cry/Sneeze
A - Activity (muscle tone)	Limp	Some flexion	Active
R - Respirations	Absent	Slow	Good cry
ALS Prior to Base Hospital Contact			
IV Access			
Base Hospital Orders only			
Consult with ED Physician for further treatment measures			
Additional Information <ul style="list-style-type: none"> • If a patient is in an area where the most accessible hospital does not have obstetric services, consult with the Base Hospital for destination determination. 			



Sepsis Alert

ADULT

BLS Procedures

Administer oxygen as indicated

EMS Sepsis Screening Tool

Are any 2 of the following present and new to the patient?

- Fever (Temperature >100.4) or Hot to the touch?
- Heart Rate >90/minute
- Respiratory Rate >20/min
- ALOC



If yes to above, evaluate for infection



Is the patient's history/physical exam suggestive of infection?

- Pneumonia
- Cellulitis
- Current Antibiotics
- UTI
- Wound Infection



If yes to both boxes, notify the receiving facility of a Sepsis Alert

ALS Prior to Base Hospital Contact

If Sepsis Suspected

IV Access

- Normal Saline
1 Liter Bolus

Effective Date: December 1, 2012
Next Review Date: December, 1, 2013

Date Revised:
Last Reviewed:

Policy Title:
Use of Pre-existing Vascular Device (PVAD)

Policy Number:
716

APPROVED:
Administration:  Steven L. Carroll, EMT-P

Date: 12/01/07

APPROVED:
Medical Director  Angelo Salvucci, MD

Date: 12/01/07

Origination Date: March 2, 1992

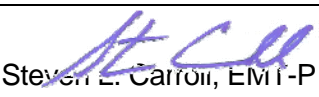

Date Revised: June 11, 2007

Last Reviewed: August 11, 2011

Review Date: August 31, 2013

Effective Date: December 1, 2007

- I. Purpose: To define the use of pre-existing vascular access devices (PVAD) by Ventura County Emergency Medical Technician- Paramedics (EMT-P) in the prehospital setting.
- II. Policy: PVADs may be used in the prehospital setting as set forth by this document.
- III. Definition: A PVAD is a heparin/saline lock or an indwelling catheter/device placed into a vein, to provide vascular access for those patients requiring long term intravenous therapy or hemodialysis. Internal subcutaneous indwelling devices are not to be accessed by prehospital field personnel.
- IV. Procedure: After successful completion of an approved Ventura County training module, an EMT-P may access a PVAD and administer normal saline and medications, for a patient with the following conditions:
 - A. Peripheral Vein Heparin/Saline Lock
 1. Any conditions requiring intravenous fluids and/or medications
 - B. Central Vein Indwelling Catheter/Device
Urgent need to administer fluids and/or medications which can only be given by the IV route and a peripheral IV site is not readily/immediately available.
 - C. Hemodialysis Fistula (to be used only in the absence of peripheral or central IV access):
Urgent need to administer fluids and/or medications which can only be given by the IV route and an alternate IV site is not readily/immediately available.

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES	
Policy Title: Transcutaneous Cardiac Pacing		Policy Number: 727	
APPROVED: Administration:	 Steven E. Carroll, EMT-P	Date: December 11, 2008	
APPROVED: Medical Director	 Angelo Salvucci, MD	Date: December 11, 2008	
Origination Date:	December 1, 2008	Effective Date: December 11, 2008	
Date Revised:	December 11, 2008		
Date Last Reviewed:	December 11, 2010		
Next Review Date:	December, 2013		

- I. PURPOSE: To define the indications, procedure and documentation for the use of transcutaneous cardiac pacing by paramedics
 - II. AUTHORITY: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100145 and 100169.
 - III. POLICY: Paramedics may utilize transcutaneous cardiac pacing (TCP) on adult patients (age > 12) in accordance with Ventura County Policy 705 – Symptomatic Bradycardia, Adult.
 - IV. PROCEDURE:
 - A. Training: Prior to using TCP the paramedic must successfully complete a training program approved by the VC EMS Medical Director, which includes operation of the device to be used.
 - B. Indications: Symptomatic bradycardia (heart rate <45 with one or more of the following signs or symptoms):
 1. Signs of poor perfusion, evidenced by: Decreased levels of consciousness, prolonged capillary refill, cool extremities or cyanosis;
 2. Chest pain;
 3. CHF.
 - C. Contraindications:
 1. Absolute
 - a. Asystole
 2. Relative:
 - a. Hypothermia – patient warming measures have precedence. (Base Hospital contact required).
 - D. Patient Treatment
 1. Patient assessment and treatment per 705: Bradycardia treatment protocol. If IV/IO access not promptly available, proceed to pacing.
 2. Explain procedure to the patient.
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3. Place pacing electrodes and attach pacing cable to pacing device per manufacturer's recommendations.
 4. Set pacing mode to demand mode, pacing rate to 70 BPM, and current at 40 milliamps (mA).
 5. If required, provide patient pain relief. Patients with profound shock and markedly altered level of consciousness may not require pain relief
 6. Activate pacing device and increase the current in 10 mA increments until capture is achieved (i.e., pacemaker produces pulse with each paced QRS complex).
 7. Assess patient for mechanical capture and clinical improvement (BP, pulses, skin signs, LOC).
 8. Continue monitoring. Contact base for further orders if patient symptoms are not resolving (consideration for dopamine, further alteration of pacer settings) or if further pain control needed, orders are required.

NOTE: Patients with high grade AV block (second degree type II or third degree block) who do not have symptoms do not require pacing. However, equipment should be immediately available if symptoms arise. Patients with symptoms who respond initially to atropine should have pacing equipment immediately available.

E. Documentation

1. The use of TCP must be documented.
2. Vital signs must be documented every 5 minutes.