Public Health Administration Large Conference Room 2240 E. Gonzales, 2nd Floor Oxnard, CA 93036	Pre-hospital Services Committee Agenda	March 12, 2009 9:30 a.m.

I.	**Approve Agenda**		
II.	**Minutes**		
III.	**Medical Issues**		
	A.	STEMI Update Policy 726: Policy 705:	 12-LEAD ECGs Cardiac Arrest - Adult
	B.	Cardiac Arrest Improvement 2009	
	C.	Other	
IV.	**New Business**		
	A.	Policy 705:	Crush Injury/Syndrome – S. Lara-Jenkins
	B.	Policy 310:	Paramedic Scope of Practice – S. Lara-Jenkins
	C.	Other	
V	**Old Business**		
	A.	Policy 1000:	Documentation Policy – Abbreviations only – S. Lara-Jenkins
	B.	CARES Project Update – A. Salvucci	
	C.	ART/BART Report – A. Salvucci	
	D.	Trauma System Update	
	E.	Impedance Threshold Device/King Airway Study – D. Chase	
	F.	Other	
VI	**TAG Report**		
VII	**Policies for Review**		
	A.	Other	
VIII.	**Agency Reports**		
	A.	ALS Providers	
	B.	BLS Providers	
	C.	Base Hospitals	
	D.	Receiving Hospitals	
	E.	ALS Education Programs	
	F.	EMS Agency	
	G.	Other	
IX.	**Informational Topics**		
	A.	Other	
X.	**Closing**		

Special thanks to Ventura County Medical Center for providing refreshments

TEMPORARY
PARKING PASS
Expires March 12, 2009

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

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2100 Solar Drive
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The Palms - shopping mall
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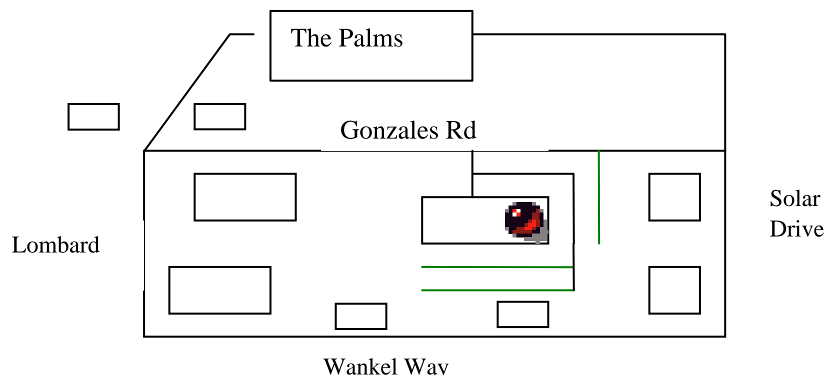

Public Health Administration Large Conference Room 2240 E. Gonzales, 2nd Floor Oxnard, CA 93036	Pre-hospital Services Committee Minutes	February 12, 2009 9:30 a.m.

Item	Discussion	Action	Assigned
I. Approve Agenda		It was M/S/C (L. Tadlock/J. Hansen) to approve the agenda as submitted.	
II. Minutes		There was a correction to the minutes on page 2 of 5, 5c facout changed to facility It was M/S/C (M. Mundell/T. Norton) to approve the minutes with the above change.	
III. Medical Issues			
A. STEMI Update	Door to balloon time and EKG to balloon time for the ambulance transport times are about the same. Virtually all of them are less than 90 minutes. Door to balloon times are between 55-58 minutes. EKG to balloon time is about 70 minutes. The walk-in to an SRC had their artery opened within 90 minutes. The system is working. Everyone is doing a fantastic job.		
B. Cardiac Arrest Improvement 2009	4 years ago we had 5 undetected esophageal intubations. We purchased equipment, did training, hospital, medical examiner and physician involvement, waveform capnography, blades, etc. We immediately reduced this down to -0- with a high competence level. This was a highly successful project. About 3 years ago we started the STEMI Project; we went from door to balloon time from 120 minutes to now 55 minutes. These are all the elements that have been identified as improving cardiac arrest survival rates that allow patients to walk out of the hospital. RED Project: Routing by empirical data. They identify cell phone towers that receive calls that should go to the local PSAP. Ventura and Santa Barbara County are first then will go to Northern California – Bay Area. EMD, bystander CPR: We are going to try and increase the level of by-stander		

Item	Discussion	Action	Assigned
	CPR. We are looking at better measuring our times for the closest ALS for critical calls. For treatment we are talking with Dan Davis regarding the EMS version of ART/BART. We will be looking at implementing all 3 programs. We will discuss upgrading our CPR competencies. Emphasize that good CPR should be done on scene. Ventura College paramedic program will be used as a collaborative project to increase CPR training in the public/schools. We are working on a data system to better measure our times for closest ALS equipment. ALS Equipment meeting will discuss possibly adding adult I.O King Airway. SRCs are willing to accept all patients who are successfully resuscitate with return of spontaneous respiration from the field. They will have the capability of taking the patient to the cath lab or possibly start therapy for hypothermia. These are all projects that Dr. Salvucci would like to start in the next few months.		
C. Other	There was a concern expressed over removal of oxygen from patients when fire is on scene first and have applied oxygen. The paramedics are removing the oxygen to get a pulse ox reading. This seems counter productive. EMS will send out a memo stating that if oxygen has been applied prior to paramedic arrival, no pulse ox reading will be taken. It takes 20 minutes after oxygen removal to get an accurate pulse ox reading.		EMS to send out a memo.
IV. New Business			
A. CPR Competencies Project – A Salvucci	Over the next year EMS will embark on a program to improve CPR competencies in all certified and accredited personnel.		CPR Competency meeting will be arranged by EMS to further discuss this issue.
B. EMT and paramedic Policies to add CPR Competencies – A. Salvucci	The following policies have suggested changes that will allow for the improvement of CPR competencies in all Ventura County certified/accredited personnel. This will affect all certification/accreditation approved by Dr. Salvucci. Responding provider personnel would be tested every 6 months and EMTs who are not working for a provider will be tested by EMS upon initial certification if the test had not been completed in the previous 90 days or upon recertification application.		
1. Policy 301: EMT-I Certification	Passing score for the testing will be 80% at this time.	III.A.8. changed to 90 days. Proctor of test needs to sign off on the	Policy approved with change. Policy will be effective immediately.

Item	Discussion	Action	Assigned
	CPR is the most beneficial skill in prehospital care. Those that do not pass, need to be tested every shift until they are proficient.	strip/documentation. This would include the EMS Agency/EMS Provider or EMT Program.	
2. Policy 302: EMT-I Recertification	Dr. Salvucci would like to know if there are personnel who are having difficulty passing the skill. Report to EMS with medic and score. Discussion regarding time frame for testing, every 6 months based on license/certification may be difficult.	30 days changed to 90 days. Refresher Course Method changed to B.	Policy approved with change. Policy will be effective immediately.
3. Policy 318: EMT-P Training Standards			Tabled. Meeting will be scheduled to discuss how to implement and how often the skill will be required.
4. Policy 334: Mandatory Training Standards			Tabled. Meeting will be scheduled to discuss how to implement and how often the skill will be required.
C. Policy 350: PCC Job Duties		It was M/S/C (S. Frank/D. Chase) to approve the policy as submitted.	
D. Policy 410: ALS Base Hospital Standards		It was M/S/C (S. Huhn/N. Clay) to approve the policy as submitted.	
E. Policy 1000: Documentation Policy	In preparation for BLS moving toward an electronic PCR system, VNC will implement the use of a worksheet for documenting patient card. It is a 3 part form, one part will be handed off to the transport provider and the remaining copy will be used to complete the PCR back at the station. There was concern expressed over the document not having patient identifiers, i.e. name, DOB, etc. VNC will look at adding an identifier to subsequent printings. At this point an identifier will	It was M/S/C (N. Clay/E. Gregson) to approve the policy except for the abbreviations listing. Abbreviations will be placed on the agenda for next month.	Abbreviations will be placed on the Agenda. Item assigned to S. Lara-Jenkins.

Item	Discussion	Action	Assigned
	be added into the narrative.		
F. EMD Response Modification – "Obvious Death Unquestionable"	There is a certain category of patients that dispatchers can categorize as "obviously dead". They are part of the MPDS version 12 which is outlined in your packet. We would like to change the dispatch procedure for that category of patients where no lights and siren will be used. There are no objections from the committee. Procedure will start on March 7.	Approved	
G. Other	K. Wynands was in a car accident and K. Hadduck passed a card around for everyone to sign. GCA announced that they had a computer stolen off its pedestal of one of their ambulances this morning. The computer was the only item stolen.		
V Old Business			
A. CARES Project Update – A. Salvucci	Documentation was included in your packets and was discussed. This was presented at the NAEMSP in Florida. We are still the only place west of Texas in the program. We have a good number of bystander CPR but the Utstein with shockable rhythm we have room for improvement.		
B. ART/BART Report – A. Salvucci	Document in packet is for the committee's information. Dr. Salvucci would like to move forward with this program. He will receive an update next week. Minor modifications were made to the algorithm.	Agenda	
C. Trauma System Update – B. Fisher	EMS is still waiting for EMSA approval. Once the approval is received it will be sent out for an RFP. Conference call will be conducted to make the final edit for our RFP. Hope for summer/fall implementation.		
D. Pacing Training – Update – A. Salvucci	Training is currently be conducted.		
E. Impedance Threshold Device/King Airway Study – D. Chase	This would be a good procedure to improve cardiac arrest outcomes. Cost is prohibitive. Still looking for grant funding. VNC will more than likely self fund. Need to make a decision regarding the study July 1.		
F. Other			
VI TAG Report	ALS Committee: Looking at two critical policies, of those policies how do we educate. They are in the process of identifying those policies. BLS: Looking at retesting the success of the BLS Airway Initiative to see what improvements have been made. BH: Working on putting together the paramedic skills lab that will be held in March. Education Committee: Working on the revamp of skills lab.		

Item	Discussion	Action	Assigned
VII Policies for Review	No policies for review this month.		
A. Other			
VIII. Agency Reports			
A. ALS Providers	GCA congratulated S. Carroll on his promotion to EMS Agency Administrator. AMR also congratulate S. Carroll and introduced Ambrose Stevenson as their new representative to PSC. VNC: By June a decision needs to be made regarding the ITD study. Those interested need to speak with Dr. Chase.		
B. BLS Providers	OFD: With the budget constraints, the academy has been cancelled. They are also working on a physical status monitor. They are collecting HR data.		
C. Base Hospitals	SJRMC: MICN Course is almost completed. There are 14 candidates who will be starting the ride-along and then sitting for the authorization test. SVH: 4 hours FCA on March 23, 8:30 – 12:30 at AMR.		
D. Receiving Hospitals			
E. ALS Education Programs	Students are going to be out in the field beginning March 1. The hospital experience was great. Meredith thanked the hospitals and providers for the participation.		
F. EMS Agency	**Closest ALS Concept**: This happened yesterday. There were two incidents in Simi Valley. First incident got the FR ALS, BLS engine and the only ALS ambulance in Simi. One minute later a medical high breathing call came in. That call got the BLS engine company, ALS ambulance 12 minutes away. That is a failure in the system. The CAD does not have the ability to catch this type of incident, and the dispatchers did not catch it. What should have happened is the responders should have realized there were two calls in the same geo area and two ALS resources enroute. One should have been diverted. We need to find a way to have the crews realize this and can make suggestions to dispatch. **Zoll Training:** Training happened a couple weeks ago. We are inputing our data in the system. Encryption is being done on the laptops. Hope to have the laptops out by next week to start training and imputing data. Not sure about desktop installations for the program. Will work on this at a later time. Laptops will be out for training for 4-6 weeks. Calls should be entered from start to syncing. The laptops will be turned back in and data will be scrubbed before go-live. Hopefully May-June go live. **CRC** meeting a couple days ago. All providers did well. Contracts are being recommended for another two years. **EMT 2010**: Draft regulations are on the State's website. The biggest change is		

Item	Discussion	Action	Assigned
	the registration process with the State. The initially told us they would be doing the actual licensure and we would do accreditation. It does not appear this is going to be the way it is handled. Feel free to look at it and make comments to either the State or Steve Carroll.		
G. Other	GCA requested a meeting with EMS and providers to discuss equipment issues as well as other items.		
IX. Informational Topics			
A. Other			
X. Closing	The meeting was adjourned at 11:50 a.m.		

Respectfully submitted,
Debora Haney

Prehospital Services Committee 2009

For Attendance, please initial your name for the current month

Agency	LastName	FirstName	1/8/2009	2/12/2009	3/12/2009	4/9/2009	5/14/2009	6/11/2009	7/9/2009	8/13/2009	9/10/2009	10/8/2009	11/12/2009	12/10/2009	%
AMR	Clay	Nick	NC	NC											
AMR	Stevens	Ambrose	RS	AS											
CMH - ER	Canby	Neil		NC											
CMH - ER	Howery	Jennifer													
FFD	Davis	Royce													
FFD	Hall	Jim		JH											
GCA	Norton	Tony	TN	TN											
GCA	Stillwagon	Mike	MS	MS											
Lifeline	Frank	Steve	SF	SF											
Lifeline	Winter	Jeff	JW	JW											
LRRMC - ER	David	Paul	PD	PD											
LRRMC - ER	Tadlock	Lynn	LT	LT											
OFD	Carroll	Scott	SC	SC											
OFD	Huhn	Stephanie	SH	SH											
OVCH	Boynton	Stephanie	SB	SB											
OVCH	Patterson	Betsy	PBP	BP											
SJPVH	Bumblis	Debbie	DB	DB											
SJRMC	Gregson	Erica													
SJRMC - SJPVH	Handin	Richard	RH	RH											
SPFD	Dowd	Andrew	DB	AD											
SVH - ER	Yu	Alfred		AY											
SVH - ER	Hoffman	Jennifer	JH												
V/College	Mundell	Meredith	MM	MM											
VCFD	Merman	Nancy	NM	NM											
VCFD	Hansen	Jack	JH	JH											
VNC	Hadduck	Katy	KH	KH											
VNC	Pina	Mark		MP											
VNC	Shedlosky	Robin	RS	RS											
VCMC - ER	Chase	David	DC	DC											
VCMC - ER	Utley	Dede	DU	DU											
VCMC-SPH	Daucett	Michelle	MD	MD											

Prehospital Services Committee 2009

For Attendance, please initial your name for the current month

Agency	LastName	FirstName	1/8/2009	2/12/2009	3/12/2009	4/9/2009	5/14/2009	6/11/2009	7/9/2009	8/13/2009	9/10/2009	10/8/2009	11/12/2009	12/10/2009	%
VCMC-SPH	Pelkola	Marie	MP	MP											
VCSO SAR	Hadland	Don	DH												
VCSO SAR	Patterson	Carl		CP											
VFF	Rhoden	Crystal													
VFF	Grap	Edward	EG	EG											
Eligible to Vote	**Date Change/cancelled - not counted against member for attendance**														
Non Voting Members															
EMS	Carroll	Steve	SC	SC											
AMR	Drehsen	Charles	CD	CD											
EMS	Fisher	Barry		BF											
EMS	Haney	Debora	DH	DH											
AMR	Kedrowski	Butch	BK	BK											
VNC	Komins	Mark	MK	MK											
EMS	Lara-Jenkins	Stephanie	SL	MN											
AMR	Norman	Mark	MN	MN											
EMS	Salvucci	Angelo	AS	AS											
LMT	Tibbs	Phillip	PT	PT											
VNC	Plott	Norm	NP	NP											

COUNTY OF VENTURA EMERGENCY MEDICAL SERVICES		HEALTH CARE AGENCY POLICIES AND PROCEDURES
Policy Title: 12-LEAD ECGs		Policy Number: 726
APPROVED: Administration:	Steven L. Carroll, Paramedic~~Barry R. Fisher, MPPA~~	Date: ~~06/01/2008~~
APPROVED: Medical Director	Angelo Salvucci, M.D.	Date: ~~06/01/2008~~
Origination Date: Date Revised: Review Date:	August 10, 2006 ~~April 10, 2009~~ June, 2010	Effective Date: ~~June 1, 2008~~

I. Purpose: To define the indications, procedure and documentation for obtaining 12-lead ECGs.

II. Authority: Health and Safety Code, Sections 1797.220 and 1798.

III. Policy: Paramedics will obtain 12-lead ECGs in patients suspected of having acute coronary syndrome and provide treatment in accordance with this policy. Only paramedics who have received training according to Appendix A are authorized to obtain a 12-lead ECG on patients.

IV. Procedure:

A. Indications for 12-lead ECG: Medical history and/or presenting complaints consistent with an acute coronary syndrome. Patients will have one or more of the following:

1. Chest or upper abdominal discomfort suggestive of acute coronary syndrome
2. New onset cardiac dysrhythmias (including ventricular fibrillation/tachycardia after return of spontaneous circulation)
3. Unexplained syncope or near syncope
4. Unexplained acute generalized weakness with or without diaphoresis
5. Acute onset of dyspnea suggestive of congestive heart failure
6. Other signs or symptoms suggestive of acute coronary syndrome

B. Contraindications: Do NOT perform ECG on these patients:

1. Trauma: There must be no delay in transport.
2. Cardiac Arrest (unless return of spontaneous circulation)

~~3.Respiratory Arrest~~

C. ~~Timing~~ECG Procedure:

1. Attempt to obtain ECG during initial patient evaluation. Oxygen should be administered first to all patients. If the ECG can be completed without delay (less than 3 minutes after patient contact), and the patient is not in

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severe distress, perform ECG prior to medication administration (other than oxygen).

2. The ECG should be done before moving the patient.

3. If the ECG is of poor quality (artifact or wandering baseline), may repeat to a total of 3.

~~3.~~4. May repeat ECG if interpretation is NOT ** ACUTE MI SUSPECTED**, and patient's condition worsens so paramedic believes that the ECG may have changed to show an acute MI.

~~4.~~5. If interpretation is ***ACUTE MI SUSPECTED**, ~~do not delay report or transport to obtain better quality ECG~~verify by history and physical exam that the patient does not have a pacemaker or ICD.

D. Base Hospital Communication/Transportation:

1. If ECG interpretation begins with ***ACUTE MI SUSPECTED***, report that to MICN at the beginning of the report. All other information is optional and can be given at the paramedic and MICN's discretion.

2. Paramedics are to ask the patient if they have a cardiologist and report the information to the base hospital.

3. If ECG Interpretation is "***ACUTE MI SUSPECTED***", patients should be transported to the closest and most appropriate STEMI Receiving Center (SRC) depending on patient preference and cardiac catheterization lab availability. MICN may direct ambulance to alternative SRC if cardiac catheterization lab not available.

4. If the ECG interpretation is "***ACUTE MI SUSPECTED***", and the underlying rhythm reads, "Atrial Flutter" the Base Hospital shall be notified at the beginning of the report. The Cath Lab will not be activated.

5. If the ECG interpretation is ***ACUTE MI SUSPECTED*** and the patient has a pacemaker or the ECG is of poor quality (wandering baseline and/or artifact) report that to the MICN.

6. If a first responder paramedic obtains an ECG that is not ***ACUTE MI SUSPECTED*** and the patient is stable, patient care may be turned over to the transporting paramedic. The ECG will be turned over to the transporting paramedic.

~~5.~~7. Prehospital ECGs will be handed to the receiving medical practitioner for review. The receiving practitioner shall initial time/date and initial the ECG to indicate they have received and reviewed the ECG.

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E. Patient Treatment**:**

1. Patient Communication: If the ECG interpretation is “Acute MI Suspected”, the patient should be told that “according to the ECG you may be having a heart attack”. If the ECG interpretation is anything else, the patient should NOT be told the ECG is normal or “you are not having a heart attack”. If the patient asks what the ECG shows, tell him/her that it will be read by the emergency department MD.
2. For patients with an ECG interpretation of “***ACUTE MI SUSPECTED***”, consider NTG 0.4 mg every 5 minutes even if no ongoing chest pain (if SBP > 100) .

F. Other ECGs

1. If an ECG is obtained by a physician and the physician interpretation is Acute MI, the patient will be treated as an ***ACUTE MI SUSPECTED***. Do not perform an additional ECG.
2. If there is no interpretation of an other ECG then repeat the ECG.

~~F.~~G. Documentation

1. Approved Ventura County Documentation System (AVCDS) documentation will be completed per VCEMS policy. A copy of the 12 Lead ECG will be turned in to the base hospital and ALS Service Provider.

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COUNTY WIDE PROTOCOLS: POLICY NO: 705

CARDIAC ARREST, ADULT

Patient pulseless and apneic or with agonal respirations,
CPR, BLS airway management, Monitor, document rhythm strip, Determine Cardiac Rhythm [1, 2]

PRIOR TO BASE HOSPITAL CONTACT

VFIB/V-TACH[3] (Persistent)	**ASYSTOLE**	**BRADYCARDIC PEA*** **	**NON BRADYCARDIC PEA*** **
WHILE ON SCENE 1. DEFIBRILLATE**** Monophasic – 360 J* 2. 5 cycles (2 minutes) CPR[5] 3. IV access during CPR 4. Reassess cardiac rhythm. If VFib/Vtach[3] remain: DEFIBRILLATE - 360 J * & resume CPR. 5. EPINEPHRINE: May repeat q 3-5 min IVP: 1:10,000 1.0 mg If NO IV, give ET: 1:10,000 2.0 mg** IL: 1:1,000 1.0 mg 6. Reassess cardiac rhythm. If VFib/Vtach[3] remain: DEFIBRILLATE - 360 J * & resume CPR. 7. ***Lidocaine IVP: 1.5 mg/kg or ET: 3 mg/kg** 8. Defibrillate - 360 J * 9. ALS airway management.[4] 10. Repeat Epi q 3-5 minutes 11. Defibrillate - 360 J* 12. Repeat Lidocaine 1.5 mg/kg in 3-5 minutes (to total dose of 3 mg/kg) 13. Defibrillate - 360 J *	1. IV access 2. EPINEPHRINE May repeat q 3-5 min IVP: 1:10,000 1.0 mg If NO IV, give ET: 1:10,000 2.0 mg** IL: 1:1,000 1.0 mg 3. Reassess Cardiac Rhythm. If any question in rhythm, confirm in 2 leads. 4. If still ASYSTOLE, give ATROPINE: IVP: 1.0 mg IVP ET: 2.0 mg** IL: 1.0 mg (1 mg/ml) 5. ALS Airway management.[4] 6. Repeat Epi q 3-5 minutes 7. Repeat Atropine q 3-5 minutes to a total dose of 0.04 mg/kg (3 mg in a 75 kg patient)	1. ASSESS/TREAT CAUSE 2. IV access 3. EPINEPHRINE May repeat q 3-5 min IVP: 1:10,000 1.0 mg If no IV, give ET: 1:10,000 2.0 mg** IL: 1:1,000 1.0 mg 4. Reassess cardiac rhythm. If still BRADYCARDIC PEA, give ATROPINE: IVP: 1.0 mg ET: 2.0 mg** IL: 1.0 mg (1 mg/ml) 5. ALS airway management.[4] 6. Repeat Epi q 3-5 minutes 7. Repeat Atropine q 3-5 minutes to a total dose of 0.04 mg/kg (3 mg in a 75 kg patient)	1. ASSESS/TREAT CAUSE: Medical vs. Trauma. Treat Hypovolemia if present 2. IF TRAUMA OR HYPOVOLEMIA, STAT TRANSPORT AS SOON AS AIRWAY IS SECURED 3. IV access (Wide Open if hypovolemic) 4. EPINEPHRINE May repeat q 3-5 min IVP: 1:10,000 1.0 mg If No IV, ET: 1:10,000 2.0 mg** IL: 1:1000 1.0 mg 5. ALS Airway Management.[4] 6. Reassess Cardiac Rhythm. If Non-Bradycardic PEA remains, continue treatment of likely cause. 7. Repeat Epi q 3-5 minutes

* Or biphasic waveform defibrillation at energy level approved by service provider medical director.
** For ET administration, dilute in 5-10 ml NS.
*** If defibrillation → narrow complex rhythm > 50, not in 2nd or 3rd degree block, and Lidocaine not already given, give Lidocaine 1.5 mg/kg IVP or ET 3 mg/kg (if no IV).
****** If collapse before dispatch, 5 cycles CPR before defibrillation.**

LIKELY CAUSES OF PEA

Acidosis	Pulm Embolism	Drug OD
Hyperkalemia	Massive MI	Tricyclics
Tamponade	Digitalis	Beta Blockers
Hypovolemia	Tension Pneumo	Profound Hypothermia
Hypoxemia		Ca Channel Blockers

Base Hospital Contact (if unable, initiate transport and continue efforts to contact)

BASE HOSPITAL ORDERS ONLY

VFIB/V-TACH	ASYSTOLE	BRADYCARDIC PEA	NON BRADYCARDIC PEA
12. Consider Na Bicarb 1 mEq/kg IVP 13. Defibrillate - 360 J 14. Consider $MgSO_4$ 1-2 GM IVP 15. Defibrillate - 360 J or biphasic waveform defibrillation at energy level approved by service provider medical director.	8. Consider Na Bicarb 1 mEq/kg IVP	8. Consider Na Bicarb 1 mEq/kg IVP ***PEA: Pulseless Electrical Activity	8. Consider Na Bicarb 1 mEq/kg IVP

NOTES:

1. Early BH contact is recommended in unusual situations, e.g., renal failure, Calcium channel blocker OD, tricyclic OD, Beta blocker OD and Torsade. BH to consider:
   - $CaCl_2$ and Bicarb in renal failure,
   - early Bicarb in Tricyclic OD,
   - early $CaCl_2$ in Ca channel blocker OD,
   - Glucagon in beta blocker OD and calcium channel blocker OD, and
   - $MgSO_4$ in Torsade.
   - Dosages
     - Calcium Chloride: 10 ml of 10% solution, may repeat X1 in 10 minutes
     - Glucagon: 1-5 mg IVP as available
     - Magnesium: 2 g slow IVP over 2 minutes
     - Sodium Bicarbonate: 1 mEq/kg followed by 0.5 mEq/kg q 10 minutes
2. In cases of normothermic adult patients with unmonitored cardiac arrest with adequate ventilation, vascular access, and persistent asystole or PEA despite 20 minutes of standard advanced cardiac life support; the base hospital should consider termination of resuscitation in the field. If transported, the patient may be transported Code II. If unable to contact base hospital, resuscitative efforts may be discontinued and patient determined to be dead.
3. V-Tach = Ventricular Tachycardia with rate > 150/min.
4. If unable to adequately ventilate with BLS measures, insert advanced airway earlier.
5. If organized narrow complex rhythm > 50, not in 2nd or 3rd degree block after 2 minutes post-shock CPR, IV access, lidocaine 1.5 mg/kg IVP.
6. If sustained ROSC after VF, perform 12-Lead ECG. ~~If STEMI, t~~Transport to SRC.

Effective Date: December 1, 2008 Date Revised: October 9, 2008
Next Review Date: December, 2010 Last Reviewed: October 9, 2008
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VCEMS Medical Director

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VCPH Ventura County Public Health

A Division of the Ventura County Health Care Agency

BARRY R. FISHER, MPPA
Director

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STEVEN L. CARROLL, EMT-P
EMS Administrator

ANGELO SALVUCCI, M.D., F.A.C.E.P
Medical Director

MEMORANDUM

TO: Pre-hospital Providers and Base Hospitals

FROM: Angelo Salvucci, MD
EMS Agency Medical Director

DATE: March 5, 2009

RE: Summary, Meeting on CPR Competency

Thank you for attending and contributing to the discussion on CPR Competency on March 5, 2009. The purpose for discussion was to determine the frequency and logistics for educating all EMS personnel on airway management and compressions.

The following constitutes the understanding reached at this meeting:

1. Training will be conducted by all agencies by August 1, 2009 using a reporting manikin. Proof of testing will be submitted to the VC EMS Agency.
2. Ambu SmartMan manikins may be borrowed from the VC EMS Agency on a first come-first served basis.
3. Manikins MUST be returned on the date designated for return.
4. BLS Airway Management training is mandatory. Frequency of training to be determined.
5. Reevaluation of CPR competency will be done by the EMS Agency once the initial training has been completed.
6. Discussion on this and other training “roll-outs” will be continued at the next Service Provider Strategic Planning meeting.
7. VC EMS Policies 318 ALS Response Unit Staffing and 334 Pre-hospital Personnel Mandatory Training Requirements will be put on hold pending the results of this phase.

I appreciate your efforts in arranging and completing this necessary training and am convinced that our efforts will benefit our patients and maintain our standing as one of the premier EMS Agencies in the state.

Once again, thank you.

Please feel free to call the EMS Agency with any questions at 805-981-5301.

Ventura County Cardiac Arrest Initiative – 2009
DRAFT – 6Feb09

Goal: To improve neurologically intact (CPC 1 or 2) survival after sudden cardiac arrest and to exceed national benchmarks.

A. 911/Dispatch
1. RED project – improving wireless 911 call response by routing calls directly to the local primary PSAP.
2. MPDS – shorter caller interrogation to reduce Call-to-CPR and Call-to-Dispatch intervals
3. Dispatch – quicker call processing and dispatch for "E" calls

B. Bystander
1. CPR Training. Increase the number of CPR-trained individuals, from grammar school students through seniors. Identify target groups.

C. PAD Programs
1. Locate, CAD integration.
2. Health Club compliance w/ statute (H&S Code §104113).
3. Organize, revise training standards.

D. EMS Response
1. Critical calls will receive closest ALS response.
2. Measuring and improving call-to-enroute times.
3. Reassign EMS units to "E" calls.

E. Treatment
1. ART/BART training programs to be implemented by end of year.
2. CPR – improved training w/ competency testing. Has begun, plan completion of first round within 3 months.
3. Minimizing chest compression interruptions. Improve training, possible mandatory rhythm strip review and debriefing.
4. Evaluate "Hands-On Defibrillation"
5. Emphasize immediate aggressive on-scene treatment –transport primarily after ROSC.
6. Consider IO – begin discussion w/ ambulance providers.
7. Evaluate King as primary airway in SCA.
8. Consider trial of LMA Supreme.
9. Evaluate patients on whom resuscitation begun re: determination of death policy.

F. Transport
1. Transport of patients who were successfully defibrillated and now with ROSC to "SCA Center" – whether or not STEMI.

G. Hospital
1. Evaluate therapeutic hypothermia as treatment option
2. Consider using Neumar et al (Circ. 2Dec08) as SCA-center standards.

H. Evaluation/Feedback
1. CARES
2. Establish VC SCA database – to include items not in CARES (e.g., call taking/dispatch times, drug administration, CPR quality/interruptions)
   a. Possible grant from AHA/ASA

COUNTY WIDE PROTOCOL

POLICY NO: 705
CRUSH INJURY/SYNDROME

HISTORY	PHYSICAL
Large muscle, extremity and/or pelvis crush, >1 hour of entrapment Compromised local circulation from debris or body weight Multi system injuries Inhalation of smoke, dust Immobility	Signs of Shock: Hypovolemia Hypotension ALOC Distal pulses could be absent or present Dysrhythmias ~~Look for:~~ ~~Hypovolemia~~ ~~Hypotension~~ ~~ALOC~~ O2 Sat Capnography (if available)

TREATMENT PRIOR TO BASE HOSPITAL CONTACT

ABCs
O2
IV access
Monitor, document rhythm strips
Advance airway, if indicated
C-spine precaution (per policy 614)
↓
Determine Potential vs. Actual Crush Syndrome

Potential
↓
IV 500cc NS bolus[4],
Peds 20 mL~~cc~~/kg
↓
Release compression
Cover patient to maintain body heat

Continuous re-assessment ECG
Monitor urine color and output
↓

Actual
↓
IV 1-2 liters NS bolus[4], Ped. 2~~3~~0 mL~~cc~~/kg[4]
Sodium Bicarb. 1mEq/kg, add to first liter of NS[2]
↓
Albuterol 5mg with Neb./Mask, repeat x1
(Ped. 2.5mg <4 y.o.), repeat x 1
~~↓ Sodium Bicarb. 1mEq/kg, add to first liter of NS[2]~~
~~(Ped. 20ml/kg)~~
Pain control per policy 705 Pain Control[1]
Release compression
Continuous re-assessment of ECG
Monitor urine color and output
↓

BASE HOSPITAL CONTACT.
If unable, follow COMMUNICATION FAILURE PROTOCOL

Potential:
Albuterol 5mg with Neb./Mask, repeat x 1
(Ped. 2.5mg <4 y.o.), repeat x 1
↓

Actual:
Dysrhythmias[3]
Calcium Chloride 1gm [2],
slow IVP over 60 sec.
Ped. 20mg/kg, Max 500mg
↓
If Shock persists, give 1 liter NS bolus x 1[4]
Ped. 30cc/kg

BASE HOSPITAL ORDERS ONLY
Consider only during ongoing extended entrapment

If signs of CHF or not responding to fluid challenge, initiate Dopamine 400 mg/250 ml D_5W.
Start at 5-10 mcg/kg/min and titrate to effect, max. 20 mcg/kg/min.
Lasix 40-80mg IVP

1. Not recommended in major systems injury.
2. Calcium Chloride and Sodium Bicarb. precipitate when mixed, thoroughly flush the IV line between administration of these drugs.
3. Suspicion of Hyperkalemia~~-~~ Sx: Peaked T wave, absent P waves, widened QRS complexes.
4. If elderly or cardiac consider 250-500cc bolus and reassess for CHF or improvement

Effective Date: June 1, 2008
Review Date: June, 2009
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VC EMS Medical Director

DRAFT

COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Paramedic Scope Of Practice		Policy Number: 310
APPROVED: Administration:	~~Barry Fisher, EMT-P~~Steven L. Carroll, Paramedic	Date:
APPROVED: Medical Director	Angelo Salvucci, MD	Date:
Origination Date: Date Revised: Review Date:	May, 1984 ~~January 10, 2008~~ January, 2010	Effective Date:

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

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

III. POLICY:

A. A paramedic may perform any activity identified in the Scope of Practice of an EMT-I or EMT-II as defined in regulations governing those certification levels.

B. A paramedic trainee or paramedic accredited in Ventura County, while caring for patients in a hospital as part of their training or continuing education, under the direct supervision of a physician, registered nurse, or physician assistant, or while at the scene of a medical emergency, during transport, or during inter-facility transfer when medical direction is maintained by a physician or an MICN according to the policies and procedures approved by the Ventura County Emergency Medical Services Medical Director, may:

1. Perform pulmonary ventilation by use of oral endotracheal intubation or a Ventura County EMS approved alternative ALS airway management device.
2. Institute intravenous (IV) catheters, saline locks, needles or other cannulae (IV) lines, in peripheral veins.
3. Monitor and access pre-existing peripheral and central vascular access lines.
4. Administer intravenous D_5W and Normal Saline solutions.
5. Obtain venous blood samples.
6. Administer the following drugs:
    a. Activated charcoal
    b. Adenosine
    c. Aspirin
    d. Atropine sulfate

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e. Bronchodilators, Nebulized beta-2 specific

f. Calcium chloride

g. Dextrose, 50% and 25% ~~(Dilute 50% with equal volume of NS to obtain 25%)~~

h. Diazepam

i. Diphenhydramine hydrochloride

j. Dopamine hydrochloride

k. Epinephrine

l. Furosemide

m. Heparin (Interfacility transfers)

n. Glucagon hydrochloride

o. Lidocaine hydrochloride

p. Magnesium sulfate

q. Midazolam

r. Morphine sulfate

s. Naloxone hydrochloride

t. Nitroglycerine preparations, ~~oral only~~sublingual only

u. Nitroglycerine preparations, IV (Interfaculty transfer only)

v~~u~~. Sodium bicarbonate

7. Perform defibrillation.

8. Perform synchronized cardioversion.

9. Perform transcutaneous pacing

10~~9~~. Perform suction through an approved airway device.

11~~0~~. Visualize the airway by use of the laryngoscope and remove foreign body(ies) with forceps.

12~~1~~. Perform valsalva maneuver.

13~~2~~. Monitor thoracostomy tubes.

14~~3~~. Monitor and adjust IV solutions containing potassium <= 20 mEq/L.

15~~4~~. Perform needle thoracostomy.

16~~5~~. Perform blood glucose level determination.

17~~6~~. Insertion of intraosseous needle and intraosseous infusion~~.~~

18. Perform continuous positive airway pressure ventilation

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COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Documentation of Prehospital Care		Policy Number 1000
APPROVED: Administration:	Steven L. Carroll, Paramedic	Date
APPROVED: Medical Director	Angelo Salvucci, M.D.	Date
Origination Date: Date Revised: Review Date:	June 15, 1998 October, 2006	Effective Date:

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I. PURPOSE: To define the use of standardized records to be used by Ventura County Emergency Medical Service (VC EMS) providers for documentation of pre-hospital care.

II. AUTHORITY: Title 22 Section 100147.

III. POLICY: Patient care provided by first responders and ambulance personnel will be documented using the appropriate method.

IV. PROCEDURE:

A. Provision of Forms

VC EMS will provide a supply of First Responder Patient Care Records (FR PCR) to EMS system participants that are not currently on the approved Ventura County documentation system (AVCDS).

B. Documentation

1. The VCEMS FR PCR and AVCDS report will be used to document the care provided by first responders and ambulance personnel for every patient contact. A patient contact will be defined as any encounter involving Ventura County pre-hospital personnel with any person consenting, either implied or informed, to assessment and/or treatment. Documentation shall be completed on any person with obvious injury or significant mechanism regardless of consent. Documentation of care given by first responders will not interfere with transport agency assessment or patient care procedures. The following are exceptions:

a. If a First Responder Advanced Life Support (FR ALS) Paramedic initiates ALS care of the patient, the FR ALS Paramedic will document all care provided to the patient on AVCDS.

b. If care is turned over to another ALS agency, an AVCDS report will be completed by all pre-hospital provider agencies who delivered ALS patient care and/or transport.

c. First Responder Patient Care Record shall be completed by BLS Providers to document all patient contacts. Original shall be retained by FR agency. A copy shall be submitted to VC EMS for data processing. First Responder agency will provide a copy of the report to the Base and/or Receiving Hospital upon request.

d. In the event of multiple patients, documentation will be as follows:

1) Level 1 MCI: The care of each patient shall be documented using an AVCDS report according to above standard.

2) Level 2 and 3 MCI: Each patient transported to a hospital shall have their care documented on a Ventura County Multi-Casualty Patient Record.

a) The transporting agency is responsible for completion of the multi-casualty patient record. The record is designed to be completed by the transporting crew enroute to the receiving hospital.

b) The transporting agency retains the original of the multi-casualty patient record. A copy shall be left with the patient at the receiving hospital. The triage tag shall be attached to this copy and is included as official documentation in the patient's medical record.

c) The transporting agency shall distribute copies of the multi-casualty patient record to the base hospital and EMS Agency within twenty-four hours of demobilization of the incident.

C. In the event the cardiac monitor is attached as required by any of the VC EMS 705 policies, a rhythm strip shall be recorded and mounted on an ECG form. Additionally, anytime there are changes in the patient's ECG rhythm, defibrillation occurs, ALS procedures are performed, or after ALS medications are administered, a trace recording of the ECG is required. Distribution of these trace recordings are as follows:

1. The original copy shall be placed in the patient's chart.

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2. Two additional copies of that strip shall be made. The first submitted to the receiving or base hospital (depending or where the patient is transported), and the second to the provider.

D. Submission to VC EMS

A copy of the FR PCR shall be submitted to the Emergency Medical Services Agency by Provider Agency at least monthly.

E. Dry Run/Against Medical Advice

Every patient contact resulting in refusal of medical attention/transport must be documented with the following information, the reason dispatched and/or chief complaint, assessment and vital signs, base hospital contact (when appropriate), patient advised to seek medical attention and completion of AMA.

F. ALS Inter-facility Transfers (Acute Care Facility to Acute Care Facility)

Documentation shall be completed using AVCDS on all ALS Inter-facility transfers. Documentation will include, but not be limited to, baseline assessment, medications administered, reason for transfer, procedures done to the patient, vital signs and any changes from baseline assessment.

If the transferring facility sends staff to accompany the patient, the staff member(s) name(s) shall be documented on the AVCDS.

G. Patient Medical Record

The hospital copy of the FR PCR, AVCDS and Ventura County Multi-Casualty Patient Record shall be considered a legal document and part of the patient's medical record. The first responder agency, transport agency, and hospital are custodians of record

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Attachment A

These abbreviations have been accumulated from the California approved EMT-1 Curriculum and various other resource material. The abbreviations were collected by the Ventura County ALS CQI Team to assist EMS field, hospital and dispatch personnel in providing consistent medical documentation.

Term	Abbreviation
5% Dextrose in Water	D5W
Abdomen	Abd
Above knee amputation	AKA
Acquired Immunodeficiency Syndrome	AIDS
Ad Libitum (as desired)	Ad lib
Advanced Life Support	ALS
After	p
Against medical advise	AMA
Alcohol	ETOH
Alert and oriented	A & O
Also known as	AKA
~~Altered level of consciousness~~	~~ALOC~~
Altered Level Of Consciousness	ALOC
Amount	Amt
Ampere	Amp
Ampule	Amp
Antecubital	AC~~c~~
Anterior	Ant.
Anterior/Posterior	AP
Appointment	Appt.
Arterial Blood Gas	ABG
Arteriosclerotic Heart Disease	ASHD
As necessary	p~~P~~rn
As soon as possible	ASAP
Aspirin	ASA
At	@
Atrial Fibrillation	A fib, AF
Attention Deficit Hyperactivity Disorder	ADHD
Automated external Defibrillator	AED
Automatic Implantable Cardiac Defibrillator	AICD
Bag Valve Mask	BVM
Basic Life Support	BLS
Before	a
Birth Control Pill	bcp
Bowel Movement	BM
Bundle Branch Block	BBB
By Mouth	p.o.

Term	Abbreviation
By Order Of	p~~P~~er
Cancer	CA
Carbon Dioxide	CO_2
Carbon Monoxide	CO
Cardio Pulmonary Resuscitation	CPR
Central Nervous System	CNS
Cerebrospinal Fluid	CSF
Cerebrovascular Accident	CVA
Cervical Spine	C-Spine
Change	Δ
Chief Complaint	CC
Chronic Obstructive Pulmonary Disease	COPD
Circulation, Sensation, Motor	CSM
Clear	Cl
Continuous Positive Airway Pressure	CPAP
Coronary Artery Bypass Graft	CABG
Coronary Artery Disease	CAD
Date of Birth	DOB
Dead on Arrival	DOA
Decreased	↓
Defibrillated	Defib
Degrees, Hour	°
Delirium Tremens	DTs
Diabetes Mellitus	DM
Dilation and curettage	D & C
Discontinue*	D/C*
~~Distention Deformity Contusion Abrasion Penetration Paradoxical Respiration Burn Laceration Swelling Tenderness Instability Crepitus~~Deformity, Contusion, Abrasion, Penetration, Burn, Tnederness, Laceration, Swelling	~~dDCAPpBLSTICD~~ CAPBTLS
Do Not Resuscitate	DNR
Drops	gtts

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Term	Abbreviation
Dyspnea On Exertion	DOE
Electrocardiogram	ECG
Electroencephalogram	EEG
Emergency Department	ED
Emergency Medical Services	EMS
Emergency Medical Technician	EMT
Endotracheal	ET
Equal	=
Estimated	Est
Estimated Time of Arrival	ETA
Etiology	Etiol.
Every	q
Every day*	qd*
Evening	pm
Extended Care Facility	ECF
Eye, ear, nose, throat	EENT
Fahrenheit	F
Female	Fe,
Fetal Heart Rate	FHR
Fluid	Fl
Foot	Ft
Foreign body	FB
Four times a day	QID
Fracture	Fx
Gallbladder	GB
Gastrointestinal	GI
Genitourinary	GU
Glasgow Coma Score	GCS
Grain	Gr
Gram	gm
Gravida 1,2,3, etc	G-1, G2, G3
Greater Than	>
Gun Shot Wound	GSW
Gynecological	Gyn
Heart Rate	HR
Hematocrit	Hct
Hemoglobin	Hgb
Hepatitis A Virus	HAV
Hepatitis B Virus	HBV
Hepatitis C Virus	HCV
History	Hx
History and Physical	H & P
Hour of Sleep (bedtime)*	hs*
Human Immunodeficiency Virus	HIV
Hydrochlorothiazide	HCTZ
Hypertension	HTN
Immediately	STAT
Increase	↑
Insulin Dependent Diabetes Mellitus	IDDM
Intake and Output	I & O
Intensive Care Unit	ICU
Intercostal Space	ICS
Intracranial Pressure	ICP

Term	Abbreviation
Intralingual	IL
Intramuscular	IM
Intraosseous	IO
Intrauterine Device	IUD
Intravenous	IV
Intravenous Push	IVP
Irregular	Irreg
Jugular venous distention	JVD
Kilogram	kg
Kilometer	Km
Labor and Delivery	L & D
Laceration	Lac
Last Menstrual Period	LMP
Lateral	Lat
Left	L
Left Ear*	AS*
Left Eye*	OD*
Left Lower Extremity	LLE
Left Lower Lobe	LLL
Left Lower Quadrant	LLQ
Left Upper Extremity	LUE
Left Upper Lobe	LUL
Left Upper Quadrant	LUQ
Less Than	<
Lower Extremity	LE
Lumbar Puncture	LP
Male	♂
Medical Doctor	MD
Meter	M
Metered Dose Inhaler	MDI
Microgram	mcg
Milliequivalent	mEq
Milligram	mg
Milliliter	ml
Millimeter	mm
Minute	Min
Morning	am
Morphine Sulphate*	MS*
Motor Vehicle Collision	MVC
Moving all Extremities	MAE
Multiple Casualty Incident	MCI
Multiple sclerosis	MS
Myocardial Infarction	MI
Nasal cannula	NC
Nausea/Vomiting	NV
Negative	neg
Night	Noc
Nitroglycerine	NTG
No Acute Distress	NAD
No Known Allergies	NKA
No Known Drug Allergies	NKDA
Non Insulin Dependent Diabetes Mellitus	NIDDM
Non Rebreather Mask	NRBM
Non Steroidal Anti-inflammatory Drugs	NSAID
None/No	ø

Term	Abbreviation
Normal Saline	NS
Normal Sinus Rhythm	NSR
Not applicable	NA
Nothing by Mouth	NPO
Obstetrics	OB
Occupational Therapy	OT
Operating Room	OR
Organic Brain Syndrome	OBS
Ounce	oz
Over the Counter	OTC
Overdose	OD
Oxygen	O_2
Palpable	Palp
Para, number of pregnancies	Para 1,2,3, etc
Paramedic	PM
Paroxysmal Supraventricular Tachycardia	PSVT
Paroxysmal Nocturnal Dyspnea	PND
Past Medical History	PMH
Pediatric Advanced Life Support	PALS
Pelvic Inflammatory Disease	PID
Per Rectum	pr
Percutaneously Inserted Central Catheter	PICC
Phencyclidine	PCP
Physical Exam	PE
Positive	+
Pound	l~~L~~b
Pregnant	Preg
Premature Ventricular Contraction	PVC
Primary Care Physician	PCP
Private/Primary Medical Doctor	PMD
Privately Owned Vehicle	POV
Pro Re Nata – As Needed	PRN
Pulmonary Embolism	PE
Pulse, Motor, Sensation	PMS
Pulseless Electrical Activity	PEA
Pupils Equal and Reactive to Light	PEARL
Range of Motion	ROM
Registered Nurse	RN
Respiration	R
Respiratory Rate	RR
Respiratory Therapist	RT
Right	Rt
Right Ear*	AD*
Right Eye*	OD*

Term	Abbreviation
Right Lower Extremity	RLE
Right Lower Lobe	RLL
Right Lower Quadrant	RLQ
Right Middle Lobe	RML
Ringer's Lactate	RL
Rule Out	R/O
Sexually Transmitted Disease	STD
Shortness of Breath	SOB
Sinus Bradycardia	SB
Sinus Tachycardia	ST
Sodium Bicarbonate	NaHCO3
Sodium Chloride	NaCl
Streptococcus	Strep
Subcutaneous*	SQ*
Sublingual	SL
Sudden Acute Respiratory Syndrome	SARS
Sudden Infant Death Syndrome	SIDS
Supraventricular Tachycardia	SVT
Temperature	T
Temperature, Pulse, Respiration	TPR
Three Times a Day	TID
Times	X
To Keep Open	TKO
Tracheostomy	Trach
Traffic Accident	TA
Transient Ischemic Attack	TIA
Transcutaneous Pacing	TCP
Treatment	Tx
Tuberculosis	TB
Twice a day	BID
Upper Respiratory Infection	URI
Urinary Tract Infection	UTI
Ventricular Fibrillation	VF
Ventricular Tachycardia	VT
Vital Signs	VS
Volume	Vol
Water	H20
Weight	Wt
With	c
Within Normal Limits	WNL
Without	s
Wolf-Parkinson-White	WPW
Year	Yr
Years Old	y/o

*JCAHO and ISMP have indicated these abbreviations have a high likelihood of misinterpretation; thereby leading to medical errors, therefore, they are ***not*** to be used in ***handwritten*** documentation.

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