

**Medical Direction Committee
 October 7, 2010
 10:30 am
 Office of EMS
 1041 Technology Park Drive
 Glen Allen, VA 23059**

Members Present:	Members Absent:	Staff:	Others:
Theresa Guins, M.D. Allen Yee, M.D. Mark Franke, M.D. David Garth, M.D. George Lindbeck, M.D. Stewart Martin, M.D. Scott Weir, M.D. Asher Brand, M.D. Marilyn McLeod, M.D. James Dudley, M.D. Charles Lane, M.D.	Cheryl Lawson, M.D.- excused	Tom Nevetral Greg Neiman Michael Berg Gary Brown	Jennie Collins Dave Cullen Jeffrey Meyer Nathan Lewis, M.D.

Topic/Subject	Discussion	Recommendations, Action/Follow-up; Responsible Person
I. Welcome	The meeting was called to order at 10:40 AM by Chairperson Asher Brand, M.D.	
II. Introductions	Asher Brand, M.D. requested that everyone introduce themselves.	
III. Approval of Minutes		Motion by Stewart Martin, M.D. and seconded by Marilyn McLeod, M.D. to approve the July 8, 2010 MDC meeting minutes...Motion passed.

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	Request by the Chair to amend the agenda by adding the following items: <ul style="list-style-type: none"> • OEMS proposed move to public safety • GAB By-Laws discussion • Tourniquets discussion 	Request to add three items to the agenda approved by the committee.
IV. AHA/VDH Stroke Systems Plan Update –	No report.	
V. New Business		
a. Addition of Magnesium Sulfate to VASoP Formulary	George Lindbeck, M.D. advised that the Patient Care Guidelines Workgroup identified that magnesium sulfate was omitted from the VASoP Formulary and requested that it be added.	James Dudley, M.D. made a motion to add Magnesium Sulfate to the VASoP Formulary as an Intermediate & Paramedic skill under the electrolytes section. Motion seconded by Marilyn McLeod... Motion passed. (Audio 06:33)
VI. Old Business a. Trauma Triage Plan	<p>There was discussion on the language that was proposed in the <i>Trauma Triage Plan</i> dealing with the term “trauma center”. “Trauma center” suggests a trauma designation which most hospitals may not have. It was proposed that the term should be changed to “trauma capable hospital” or “appropriate hospital”. In addition, it was recommended that “closest appropriate medical center” be used. Regardless of the verbiage it was noted that we needed to “stay true to the CDC document”.</p> <p style="text-align: center;"><u>CDC Document Field Triage Scheme</u> <i>“Individual EMS systems may adapt the Decision Scheme to reflect the operational context in which the function. For example, the Decision Scheme may be modified to a specific environment (densely urban or extremely rural), to resources available (presence or absence of a specialized pediatric trauma center), or at the discretion of the local EMS medical director.”</i></p> <p>There was general discussion on items on page 6 under “respiratory section” bulleted item 3 “significant unilateral injuries in patients with pre-existing cardiac and/or respiratory disease”. In addition under “injuries section-pediatric patient” bulleted item 2 “combination of trauma with burns” was discussed. Also, on page 8 item #4 “Utilization of local ground</p>	<p>Dave Garth, M.D. made a motion “to have the paragraph out of the CDC document (Field Triage Decision Scheme) placed into the Executive Summary verbatim, with some minor wordsmithing required.” Motion was seconded by James Dudley, M.D. Motion... passed unanimously. (audio 35:45)</p> <p>Allen Yee, M.D. made a motion to change the wording in the oval under Step 3 from “transport of the patient to the closest appropriate trauma center” to “transport of the patient to the closest appropriate</p>

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	<p>ambulance leaves a local hospital without ground ambulance coverage” was discussed. It was recommended to consider rephrasing this statement in the future.</p> <p><i>Discussion on Level IV trauma center designation in Virginia needs to be discussed and decided sometime next year (future agenda item).</i> This document is still a work in progress.</p>	<p><u>hospital (preferably a Level I, II or III trauma center)</u>. Motion was seconded by James Dudley, M.D. Motion... passed unanimously. (audio 47:06)</p>
<p>b. Hemorrhage Control White Paper – Allen Yee, M.D. & George Lindbeck, M.D.</p>	<p>This document is still in progress.</p>	
<p>c. Post Return of Spontaneous Circulation Care – Allen Yee, M.D.</p>	<p>Allen Yee, M.D. discussed the <i>Post Return of Spontaneous Circulation Care</i> document that he presented. There were some minor edits requested as follows (see Appendix A):</p> <ul style="list-style-type: none"> • Delete on page one sentence “continuous EEG” • Change Medical “Control” to “Direction” • Delete second sentence from item one 	<p>Motion by Stewart Martin, M.D. and seconded by Marilyn McLeod, M.D. to adopt the Post Return of Spontaneous Circulation Care white paper with the recommended changes. Motion...passed unanimously. (Audio 1:20:08)</p>
<p>d. Tourniquets- Asher Brand, M.D.</p>	<p>Asher Brand, M.D. commented that he had reviewed the “<i>Florida Standard Tourniquet Protocol 2009</i>” and was quite impressed with it and thought it would be a valuable tool. He had requested that a separate white paper be developed from the proposed hemorrhage control white paper however the committee felt that the document should be included into a single white paper. The DRAFT <i>Florida Standard Tourniquet Protocol 2009</i> can be viewed at:</p> <p>http://www.faemsmd.org/pdfs/DRAFTStandardizedTourniquetProtocol.pdf</p>	
<p>VII. Research Requests</p>	<p>None</p>	
<p>IX. EMS Training Funds Program & Accreditation Update – Warren Short</p>	<p>Warren Short advised that Instructors/Coordinators were advised that the EMSTF contracts were available but could not be postmarked before October 1st. EMSTF contracts have been received and it appears that this process is working well. We are at full funding for the EMSTF</p>	

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	<p>program but that could change if the governor elects to reduce funding later on.</p> <p>The Office began receiving EMSTF contracts on October 4 for classes that had been previously announced as well as courses that had not yet been announced to the office. Coordinators can not hand deliver contracts for thirty days to allow all coordinators throughout the Commonwealth the same opportunity to submit EMSTF contracts to the office.</p> <p>Warren Short advised that those sites seeking paramedic accreditation need to complete the accreditation application for CoAEMSP so as to ensure that they have an opportunity to complete the process prior to the CoAEMSP deadline where all paramedic programs must be accredited to sit for the NREMT-P certification examination. This requirement is effective January 1, 2013.</p> <p>One of the requirements for accreditation of Paramedic educational programs is that the Program Director must possess a Bachelors degree. Because some programs may find it difficult to meet this requirement by the 2013 date, the CoAEMSP Board of Directors has approved a Bachelors Degree Plan for Program Directors.</p> <p>This plan provides an extended period of time for the Program Director of a program seeking Initial Accreditation to obtain his/her Bachelors degree. To be eligible for this plan, the program must submit its Initial Accreditation Self Study Report (ISSR) and fees to the CoAEMSP for evaluation prior to January 1, 2011. Doing so will allow the Program Director to demonstrate that qualification by current enrollment and continual satisfactory academic progress (defined as a minimum of 15 semester hours per year) toward a Bachelors degree until successfully completed.</p>	
<p>X. ALS Programs Issues – Tom Nevetral</p>	<p>Tom Nevetral reported that there would be an ALS-Coordinator Meeting on Thursday evening November 11th at the EMS Symposium beginning at 5:30 PM. Capt. Brad Bennett will be giving his presentation on the use of tourniquets in the battlefield setting.</p> <p>It also appears that there are numerous rumors circulating that the Office</p>	

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	<p>of EMS will no longer be supporting the Enhanced and Intermediate certification levels. These rumors are false and I encourage providers to contact me directly to discuss those rumors. I am very interested in determining where the rumors are originating so that the office can attempt to dispel the rumors.</p>	
<p>XI. BLS Programs Issues - Greg Neiman</p>	<p>Greg Neiman advised that the Professional Development Committee met on October 6th and approved the proposed Education & Certification Examination Content Timeline. This timeline is dependent on the EMS Regulations being promulgated no later than the first quarter of 2011 or it will be necessary to push the timeline forward to accommodate any significant delay.</p>	<p>Motion by Stewart Martin, M.D. and seconded by Dave Garth, M.D. to accept the timeline as approved by the Professional Development Committee. Motion... passed. (Audio-2 14:10)</p>
<p>XII. Regulation & Compliance - Michael Berg</p>	<p>Michael Berg advised that the EMS Regulations were at the Attorney General's office for review. Once they have been reviewed they will go before the Board of Health in February 2011.</p> <p>Michael Berg wanted to share the following for information purposes:</p> <ul style="list-style-type: none"> • The Office of EMS is not responsible to notify individual Operational Medical Directors or Physician Course Directors when their endorsements are about to expire. • Commercial services are the agencies that are experiencing difficulties when their OMD endorsement expires. • OMDs who allow signature stamps for their EMS agencies should have a process in place that outlines responsibilities for the utilization of the OMD stamp. <p>Two EMS providers are no longer certified as instructors/coordinators due to issues involving the use of their OMD stamp.</p>	
<p>XIII. Public Comment</p>	<p>None</p>	
<p>XIV. For the Good of the Order Governor's Advisory Board (GAB)</p>	<p>The Chair requested that there be an update on the committee</p>	

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	<p>recertifying? Do you wish to electronically sign (approve) for each EMS provider in your EMS agency when they come up for recertification? What do you believe the process should be for electronically waiving a provider from testing?</p> <p>The agency portal will link to the OMD portal for these electronic approvals.</p>	
XV. Adjourn	Meeting adjourned at 1:35 PM	2011 Meeting Dates: <ul style="list-style-type: none"> • January 6, 2011 • April 7, 2011 • July 7, 2011 • October 6, 2011

APPENDIX A

POST RETURN OF SPONTANEOUS CIRCULATION CARE

Virginia EMS providers responded to an average of over 7,700 cardiac arrests annually in 2004 to 2008ⁱ. Nationally, 250,000 persons suffer out of hospital sudden cardiac arrest and the incidence is approximately 55 per 100,000 populationⁱⁱ. Over 90% of these persons will not be resuscitated. Some areas of the country have experienced better outcomes than others. The differences in outcomes may not be related to variations in patient care rather than patient demographicsⁱⁱⁱ. The past few decades has seen concentration of efforts on CPR, early defibrillation/public access defibrillation, and improvements in ACLS.

With the recent scientific advances in resuscitation, most of which are performed in the receiving hospital, efforts should be made to incorporate these advances into our EMS systems. There are multiple interventions which contribute to improved outcomes. These interventions should be available 24 hours per day, 7 days a week. This may represent a significant financial and clinical commitment of all stakeholders, especially hospitals.

Hospital initiated induced mild hypothermia (33° C to 34°C) has been shown to be have improved survival and improved neurological outcomes for comatose patients with return of spontaneous circulation (ROSC)^{iv}. Some studies have demonstrated the feasibility of prehospital agencies to begin induction of mild hypothermia^v. Animal models suggest that early induction correlates with improved outcomes^{vi}. The National Association of EMS

Physicians advocates the use of prehospital induced mild hypothermia post arrest but acknowledges limitations in its application^{vii}. Additional research is needed to determine the efficacy of prehospital initiated mild hypothermia in the differing presenting rhythms of cardiac arrest patients. In another animal study, intra-arrest induced hypothermia demonstrated added benefit^{viii}. Many methods to initiate induced mild hypothermia have been examined^{ix x xi xii}. Prehospital agencies should evaluate the method for initiating induced mild hypothermia that suits the logistical needs of the agency.

In patients with ROSC, 97% may have coronary artery disease and up to 50% have an acute coronary occlusion^{xiii}. The benefits of primary PCI in post ROSC patients have been demonstrated. An ECG should be obtained on patients with ROSC as soon as possible, preferably by EMS at the scene. Patients with evidence of ST elevation myocardial infarction (STEMI) should be transported to facilities which can offer percutaneous coronary intervention (PCI) as soon as possible. In some patients who survive an out of hospital cardiac arrest, an implantable cardioverter-defibrillator (ICD) may prevent another episode^{xiv}. There is wide variation in the rates of ICD placement. Patients who survive to hospital discharge should be evaluated for ICD placement before discharge.

Seven to eight percent of unresponsive patients with ROSC have clinical seizures^{xv}. If the patients are sedated and paralyzed to reduce shivering from hypothermia, there may be little clinical indications of the seizure. The metabolic effects of seizures may be detrimental to patient outcomes. Facilities which offer comprehensive post ROSC care should evaluate their prognostic criteria for predicting outcome. Recent literature has demonstrated that neurological assessment of patients 72 hours post ROSC is unreliable^{xvi}. The literature should be periodically reviewed to update criteria.

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Regionalization of care is already in existence for trauma, stroke, and a variety of other disease entities. EMS systems should coordinate with area hospitals, preferably through regional council systems, to develop a seamless plan of care for unresponsive ROSC patients. Regional systems should include academic and/or community hospitals with multidisciplinary teams, including emergency medicine, cardiology, neurology, and critical care^{xvii}. The system should be developed to triage the low volume of unresponsive ROSC patients to a limited number of institutions in order to allow facilities to gain (and maintain) the proficiency needed in post ROSC care^{xviii}. Hospitals which do not offer comprehensive post ROSC care should develop transfer plans and agreements with centers which can provide the services^{xix}. Stakeholders should share their data to further improve post ROSC care and outcomes in their regions.

The Virginia Office of EMS Medical Direction Committee endorses the following:

1. Development of a regional system which can offer a comprehensive program to patients with ROSC from out of hospital cardiac arrest.
2. Ideally, the system will triage patients in a manner to allow facilities to gain and maintain proficiency in caring for these complex critical patients.
3. Stakeholders should collaborate with their data as a system to improve regional out of hospital cardiac arrest outcomes.

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- ⁱ Provided by S. Gibson, Office of EMS -Virginia Department of Health
- ⁱⁱ Rea et al. Incidence of out of hospital cardiac arrest. *Am J Cardiology*. 2004; 93:1455-1460
- ⁱⁱⁱ Carr et al. Interhospital variability in post cardiac arrest mortality. *Resuscitation*. 2009; 80:30-34
- ^{iv} Bernard et al. Treatment of comatose survivors of out of hospital cardiac arrest with induced hypothermia. *N Engl J Med*. 2002; 346:557-563
- ^v Bruel et al. Mild hypothermia during advanced life support: A preliminary study in out of hospital cardiac arrest. *Critical Care*; 2008; 12(1)
- ^{vi} Kuboyama et al. Delay in cooling negates the beneficial effect of mild resuscitative cerebral hypothermia after cardiac arrest in dogs: a prospective, randomized study. *Crit Care Med*. 1993; 21: 1348–58
- ^{vii} Cady et al. Prehospital resuscitated cardiac arrest patients: role for induced hypothermia. *Prehospital Emergency Care*. 2009; 13:402-405
- ^{viii} Zhao et al. Intra arrest cooling with delayed reperfusion yields higher survival than earlier normothermic resuscitation in a mouse model of cardiac arrest. *Resuscitation*; 2006; 77:242-249
- ^{ix} Virkkunen et al. Induction of therapeutic hypothermia after cardiac arrest in prehospital patients using ice-cold Ringer's solution: a pilot study. *Resuscitation* 2004; 62: 299–302
- ^x Hachimi-Idrissi et al. Mild hypothermia induced by a helmet device: a clinical feasibility study. *Resuscitation* 2001; 51: 275–81
- ^{xi} Al Senani et al. A prospective, multicenter pilot study to evaluate the feasibility and safety of using the CoolGard System and Icy catheter following cardiac arrest. *Resuscitation* 2004; 62: 143–50
- ^{xii} Callaway et al. Feasibility of external cranial cooling during out-of-hospital cardiac arrest. *Resuscitation* 2002; 52: 159–65
- ^{xiii} Spaulding et al. Immediate coronary angiography in survivors of out of hospital cardiac arrest. *N Engl J Med*. 1997; 336:1629-1633
- ^{xiv} Kuck et al. Randomized comparison of anti arrhythmic drug therapy with implantable defibrillator in patients resuscitating from cardiac arrest: the cardiac arrest study Hamburg. *Circulation*. 2000; 102:748-754
- ^{xv} Hypothermia after cardiac arrest study group. Mild therapeutic hypothermia to improve the neurological outcome after cardiac arrest. *N Engl J Med*. 2002; 346:549-556
- ^{xvi} Yannopoulos et al. Cardiac arrest, mild therapeutic hypothermia, and unanticipated cerebral recovery. *Neurology*. 2007; 13: 369-375
- ^{xvii} Nichols et al. Regional Systems of Care for out of hospital cardiac arrest. A policy statement from the American heart Association. *Circulation*. 2010
- ^{xviii} Callaway et al. Influence of receiving hospital characteristics on survival after cardiac arrest. *Circulation*. 2008; 118:1146
- ^{xix} Nichols et al. Regional Systems of Care for out of hospital cardiac arrest. A policy statement from the American heart Association. *Circulation*. 2010

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