National Collegiate EMS Foundation

Volume 12, Issue 4

Spring 2008

NCEMSF NEWS

Inside this issue:

Message from the President

Dr. George J. Koenig, Jr., NCEMSF President

The college life cycle is unique compared to most other aspects of life. From the moment that you step onto campus, your eventual departure, for the most part, is planned and expected. The system is designed to enable you to achieve your goals and further your education or acquire the skills for a career in a pre-determined amount of time. There are few times in life that you will have the opportunity to encounter such a supportive environment that encourages you to get to the next step.

In many ways, finishing a surgical residency is similar to graduating from college. The transitions are remarkably comparable. You are surrounded by people that encourage you to develop your skills and the length of your training is pre-determined. It is even possible to prolong the inevitable of "entering the real world" by adding more training. However, in both cases, you have a pre-determined departure.

As the end of the academic year quickly approaches, the concept of a planned departure crosses my mind. There are few instances were you can define your "legacy" or how you will be remembered after you graduate. On the surface, the idea of a "legacy" may seem ego-driven. But if you delve deeper you will find it is more about codifying and transferring the experience to your organization that you have gained over the past four years.

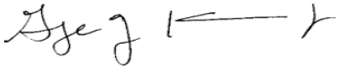
Many of you have spent considerable time dedicated towards improving your organization. Perhaps you revised your organization's training program or maybe you developed and implemented new operating procedures. How do you ensure that the time that you spent won't be wasted? Will the new leadership build upon your successes or will they disregard them? Too many organizations leave this process to chance. Every couple of years, we see organizations that were once strong, falter and cease to exist. Most of the time, the failure of an organization is directly related to the disregard of previous experiences.

The cyclical nature of campus organizations requires us to create mechanisms to prevent these failures. In the midst of the excitement of the annual change of leadership, we should not forget our past experiences. It is easy to succumb to the attitude that "when I am in charge, things will be different". However, you will quickly find the difficulties and challenges when it is your responsibility to motivate and influence the growth of your organization.

The best mechanism to ensure continued growth of your organization is developing a plan for the future. Where do you see your organization in five years? What resources will you need to accomplish your goals? Who are the key stakeholders that can help you? As you define a five year plan, there are several pitfalls to avoid. First and foremost, your five year plan needs be a consensus of your organization. If you expect for it to be followed after your graduation it can not just be your thoughts and ideas. You need support and buy in from the entire organization. Secondly, it needs to be realistic with defined implementable steps. The goals need to be obtainable and realistic.

As the end of the semester draws near, consider how you will be remembered after graduation. What will be your legacy? How will your organization benefit and your experience not be lost after graduation?

Best of luck with finals, and have a great summer,



George J. Koenig Jr., DO, MS
President, NCEMSF

"It is about codifying and transferring the experience to your organization that you have gained over the past four years…ensure that the time that you spent won't be wasted."

Professor Squirrel

Serious Campus EMS Advice from a Nut

Dear Professor Squirrel,

I have heard that some campus EMS squads have held CPR training as a fund raiser. How do you go about becoming a CPR training site?

Chest Thumper

Dear Thumper,

I once knew a campus rabbit by that name. Anyway, it is true that teaching CPR and First Aid can be a lucrative fund raiser for a campus EMS squad. There are several CPR and First Aid training programs with which you can affiliate. Some of the most well known are the American Heart Association, American Health and Safety Institute, and Red Cross. They all essentially subscribe to the same set of CPR standards and often share research on new innovations (such as the new compression-only CPR). However, there are a few differences that you might want to consider when affiliating with a program. For example, look at the number of years for which a certification is valid and what is right for your clientele. Some offer one year CPR certifications and some are two year. First Aid may be up to three years, and some are flexible. ASHI allows variation in the First Aid curriculum to meet the particular needs of students, i.e. industrial, business place, wilderness first aid, etc. There are also different costs for registering classes and issuing certification cards. Some programs may be better recognized in your local area by employers and volunteer organizations that require their staff to become certified. In order to learn more about each program, check these links and you can then follow their guidelines to affiliate as a training center or as an individual instructor associated with a regional training center: www.americanheart.org, www.ashinstitute.org, www.redcross.org.

Do some market research to find out who your prospective clientele could be and what their needs are. On campus, besides your own squad's needs, do you have lifeguards, residence hall staff, food service personnel, maintenance staff (such as electricians) and other who need certification? Where are they getting certification now? In your local community are there police, Scout groups, churches, businesses, and others that might come to you for certification programs?

If you can offer regular and reliable quality certification classes this can be an easy way for your squad to raise funds and also benefit your own squad by raising the bar for your members in terms of their clinical abilities and teaching experience.

The first week of June is "National Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) Awareness Week". Google it for more info and maybe you can plan a public relations event to highlight your campus EMS.

Professor Squirrel

Professor Squirrel has been hanging out on campus begging for food from students and keeping an eye on campus EMS for many years. Send your questions to the Professor at professor@ncemsf.org. The Professor will answer the best ones in the NCEMSF newsletter. Your name and school will be kept confidential. Visit his nutty e-Shop at www.cafepress.com/ncemsf and get your own Professor Squirrel and NCEMSF apparel and souvenirs. You can also purchase textbooks and other EMS reference materials at highly discounted prices through the official NCEMSF Store. NCEMSF apparel is available at the NCEMSF Store as well. Visit the NCEMSF Store and help support the Foundation by clicking the "Store" link on the NCEMSF Web site.

Membership Minute

Karolina Schabses, NCEMSF Membership Coordinator

I hope that you had the chance to join us in Philadelphia, PA this winter for our 15th annual NCEMSF conference. Everyone certainly enjoyed themselves while attending the conference sessions and interacting with their collegiate EMS peers.

While the NCEMSF conference is the major visible focal point of our organization's efforts, the volunteers at NCEMSF work hard for you year-round. Whether it is coordinating Collegiate EMS week in the fall, updating our website, publishing our quarterly newsletters, responding to your emails and queries, or assisting new collegiate groups through the maze of start-up, our board members are in constant action meeting the needs of our members.

To those of you who have purchased personal and institutional memberships over the past year, thank you for providing financial support to our organization. It is your ongoing commitment to collegiate EMS that sustains us. In coordination with our institutions, annual NCEMSF memberships follow the academic calendar. We encourage you to extend your commitment into the next academic year by renewing your personal and institutional annual memberships which expire at the end of May. Another personal membership option is the life membership which simultaneously displays your life-long commitment to collegiate EMS and avoids the bother of annual renewals.

See http://www.ncemsf.org/membership/ for further details on all membership options.

We would like to extend hearty congratulations to all those receiving degrees this May. We look forward to your continued involvement in collegiate EMS through our alumni programs, so keep your contact information updated with us. Those of you not graduating but simply moving after classes end, please take the time to revisit your NCEMSF profile at: http://www.ncemsf.org/membership/update_profile.ems and let us know how to best contact you next year.

Best wishes!

Leadership Update:

Join the Board in welcoming former PA-RC, Andrew Mener, as our new Startup Coordinator.

Also welcome the following new RCs: Amy Berenbaum, Kathryn Kinzel, Stephen Stokes, Dan Stepan.

See the leadership page on the Web site for a complete listing of our volunteer leadership.

Interested in an NCEMSF leadership position? Email president@ncemsf.org

About This Publication

NCEMSF NEWS *is an official publication of the National Collegiate Emergency Medical Services Foundation (NCEMSF). This newsletter is published as a service to the Foundation's members and the national EMS community.*

Opinions expressed in articles in NCEMSF NEWS *are those of the authors, and not necessarily those of NCEMSF. Information contained in* NCEMSF NEWS *is not intended as medical advise. Contact your medical director before changing medical protocol. NCEMSF hereby grants permission to reprint materials herein for the non-commercial purpose of dissemination of information to the EMS community. Any reprinted material must contain the following credit line: "*Reprinted by permission of the National Collegiate Emergency Medical Services Foundation and NCEMSF NEWS (www.ncemsf.org)*," and should include the volume and issue of the article's original publication. Any other use without the expressed consent of the NCEMSF is prohibited.*

E-mail articles to be considered for publication to info@ncemsf.org

Can there be CPR without the 'P'?

Michael T. HIlton, NCEMSF National Coordinator

What is happening to the artificial respirations pioneered by Peter Safar, the father of CPR? He was researching resuscitation when this consisted of placing a victim on his stomach and pulling his arms up into the air. The problem, he realized, was that this wasn't working. Facing an unreceptive scientific community, he had to work very hard to change the culture of resuscitation. He even went to the extent of chemically paralyzing medical residents to show that he could maintain life with artificial respirations of the kind we know today – by breathing into his test subjects. Combining this with compressions, CPR came into being.

The American Heart Association (AHA) recommendation published in its journal *Circulation* on March 31, 2008 describes that compression-only CPR should be performed by lay-persons who are unwilling or unable to provide rescue breaths. The reasons for this are numerous including the idea that performing chest only compression is "far better than not attempting resuscitation at all." It is hypothesized that compression-only CPR should reduce barriers to bystander CPR including: training, confidence, and fears of infection. It is also easier to explain over the phone by a 911 dispatcher. With low prevalence of bystander CPR, reducing all possible barriers will hopefully increase the amount of bystander CPR performed and improve survival of hospital cardiac arrest victims.

Compression-only CPR is supported by evidence of improved outcomes. Studies cited by the authors of this recommendation describe "two animal studies mimicking single-rescuer bystander CPR have demonstrated better outcomes with continuous compressions compared with conventional CPR." Essentially, more compressions and less pauses between compressions is better than conventional CPR. This benefit must be balanced with the blood becoming deoxygenated: "One porcine cardiac arrest study suggests that after 4 minutes of continuous chest compressions without rescue breathing, the delivery of 2 rescue breaths every 100 compressions provides a survival advantage over chest compressions alone."[1]

Perhaps, at least for healthcare providers, it is not compression-only CPR but rather minimal interruption CPR with a push hard-push fast mentality which can improve survival. In "Cardiocerbral Resuscitation Improves Survival of Patients with Out-of-Hospital Cardiac Arrest," Kellum et al. describe that their protocol, which minimized interruptions of chest compressions by limiting initial airway maintenance to oropharyngeal airway and supplemental O2 without intubation. Also, post shock rhythm analysis and pulse checks were eliminated. Finally, before any defibrillation, 200 uninterupted compressions were delivered. They found that with their model vs. conventional CPR, 60% vs. 20 % survived and 48% vs. 15% of patients survived to be neurologically intact after out of hospital cardiac arrest. Increased survival is found with more compressions in a period of time with minimal interruptions. The study also indicates that intubation may provide delay to providing compressions and that pulse checks and providing more frequent artificial respirations may also delay compressions.[2] It is important to realize that with more compressions provided, the practitioner may become fatigued and while a provider change may be appropriate, this may also increase time without compressions.

Many factors can lead to the final common pathway of cardiac arrest: e.g. myocardial infarction, structural myocardial lesion, cardiac electrical malformation, hypovolemia, electrolyte abnormality, respiratory disease, central nervous system lesion. Because of this, not all cardiac arrests are the same, despite outward appearances. Some causes may be more amenable to resuscitation than others and so survivability of cardiac arrest may be determined by underlying reason for the cardiac arrest. Ozcan et al. followed emergency department cardiac arrest victims after standard CPR for initial and one year survival. Characteristics of patients were compared. They found that survival (initial and one year) was significantly higher in patients with initial rhythm of ventricular fibrillation and pulseless ventricular tachycardia and worse with asystole and pulseless electrical activity. Also, initial and one year survival were better with cause of cardiac arrest being cardiac in origin vs. non-cardiac. The best prognosis based upon cause of cardiac arrest was found with acute myocardial infarction.[3]

Finally, there is something on the horizon which may one day find its way to the field and is currently used in experimental protocols in some emergency departements (EDs). This is the practice of inducing mild hypothermia with cold saline flush during cardiac arrest management. In the last years of his life, Safar continued to publish and research work to improve cardiac arrest survival. He published numerous studies using animal models showing improved survival with mild

(Continued on page 4)

Contact Information:
PO Box 93
West Sand Lake, NY 12196
Phone / Fax: 208-728-7342
Email: info@ncemsf.org
Web: http://www.ncemsf.org

Save the Dates

Membership Renewal: June 1, 2008

EMS Week 2008: November 10-16

16th Annual National Conference: February 27 - March 1, 2009; Location to be announced shortly

National Collegiate EMS Foundation
PO Box 93
West Sand Lake, NY 12196-0093

Are you moving or graduating? Please visit the Membership section of the NCEMSF Web site to update your contact information.

(Continued from page 3)

hypothermia in numerous journals including *Stroke*, *J of Critical Care Medicine* and *Circulation*. In "Critical Time Window for Intra-Arrest Cooling with Cold Saline Flush," Nozari, Safar et al. describe their success with mild hypothermia and the critical window during which cooling must be performed.[4] This technique is currently being studied in EDs and, as an adjunct, may soon help to improve CPR survival rates.

It is important to note that other ACLS interventions also may help improve CPR survival rates, but not all ACLS recommendations have been studied and sometimes, what appears to be helping or theoretically may help do not, in practice, improve survival (e.g. MAST Pants; lidocaine for PVCs post MI revascularization). Research into ALS interventions is ongoing. Ultimately, ALS interventions should not interrupt compressions. ALS should provide their interventions while allowing on scene BLS personnel to continue compressions with minimal interruptions. Defibrillation also improves CPR survival. Current research is being performed into the best ways to incorporate this into CPR. Some newer research indicates that compressions for a period of time before application of defibrillation increases survival. The idea behind why this occurs is that compressions allows some blood flow through the heart muscle, providing it with oxygen and an electrolyte milieu which is more amenable to rhythm conversion than the electrolyte milieu and deoxygenated blood it was exposed to before compressions were performed.

Disclaimer: Always manage cardiac arrest patients according to your local protocol and as you were trained according to the standards of your ACLS/BLS/CPR certifying organization. This article is meant to provide you with some background on current research into CPR and the science behind CPR recommendations and to stimulate your interest in the field of resuscitation science.

—-

1 Sayre M, Berg R et al. "Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest." Circulation. 2008 Mar; 107.
2 Kellum M, Kennedy K et al. "Cardiocerebral Resuscitation Improves Survival of Patients with Out-of-Hospital Cardiac Arrest." American Journal of Medicine. 2006; 119: 335-340.
3 Ozcan V, Demircan C et al. "Analysis of Cardiopulmonary Resuscitation in an Emergency Department." Acta Cardiol. 2005 Dec; 60(6): 581-7.
4 Nozari A, Safar P, et al. "Critical Time Window for Intra-Arrest Cooling with Cold Saline Flush in a Dog Model of Cardiopulmonary Resuscitaion." Circulation. 2006; 113: 2690-6.