



EMC Advisor



Newsletter for the Paramedic Program
Eastern Kentucky University
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From the Program Director

Nancye Davis MS, RN

Busy is a good, albeit over-used, term to describe the activities of the EMC Program since our last newsletter. I would like to “catch you up” on some of the major projects and student news.

Grants

The Program continues to benefit from grant funds. The “Rural Hospital Flexibility Grant” is a federally funded grant that assists rural areas to provide various levels and types of health care. Within that grant is a pre-hospital component. The “Flex” grant, as we call it, recognizes the need in rural areas for well-trained pre-hospital caregivers. Our goal here at EKU is to reach out into rural areas, specifically those not able to commute to the Richmond campus, and provide an opportunity for education and training.

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Request for Pictures

The Program is seeking pictures of “graduates in action” that would be used on our website and other promotional materials. Please submit your pictures to sandy.hunter@eku.edu.

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From Medical Control

Mechanical Hyperinflation: A potential cause of PEA
M. Neville Pohl M.D. FACEP

Some experienced paramedics may have noted the common occurrence of pulseless electrical activity (PEA) soon after intubation in patients with chronic obstructive pulmonary disease (COPD). Emergency physicians, paramedics and respiratory therapists are all familiar with the prolonged expiratory phase in patients with asthma or COPD.

How could these phenomena be related?

In the excitement of a rescue attempt, we are all prone to having a little extra adrenalin *on-board*. Consequently, as we ventilate our newly intubated patients, it is hard to slow down, watch the rise and fall of the chest wall and pay attention to reducing the respiratory rate enough to ensure that the expiratory phase is completed. If we fail to do this, either because we are distracted by failing vital signs or other variables, we may inadvertently contribute to the demise of our patients.

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Homeland Security

Prof. Danny Miller traveled to St. Petersburg, FL in November to participate in a live televised panel discussion on homeland security. The topic, Medical Monitoring of Response Personnel, addressed the well-being of emergency responders working in a terrorist incident’s “hot zone”.

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From the Program Director continued

In Somerset / Pulaski area, the Flex Grant has allowed the Program to fund a great opportunity to obtain quality emergency care education. Specifically in the Pulaski and surrounding county areas, the goal was to provide EMT training followed by paramedic education. With the guidance of Rudy Garrett, Somerset Pulaski Fire / EMS Training Coordinator, and the instruction of several others, Somerset Pulaski Fire /EMS (SPFE) was able to complete an EMT course with approximately 30 students. I would like to personally congratulate them on a 100% pass rate on the NREMT exam. To complete the goal of the Flex grant, SPFE has received funding and is now conducting a paramedic course that began October 2003. I have no doubt that this course will enjoy the same success as the EMT course.

Another example of the Program's use of the Flex grant can be seen in Powell County and the surrounding areas. The Powell County EMS service has been an extended campus for the Program for the last couple of years. EMTs in the area were able to complete their paramedic education while obtaining university credit through our outreach. Students completed their internship this past August and have been very successful with the NREMT-P exams. In fact, from the results that we have, they have now achieved 100% success rate on the NREMT-P exam. Congratulations on a job well done. Prof. Miller was the extended campus coordinator for that project. Congratulations to the students and Prof. Miller!

The EMC Program also obtains funds from a grant entitled the "Perkins Grant". It is a federally funded grant specifically targeted to Associate Degree (2 year) programs. This grant has enabled the Program to obtain state-of-the-art monitor / defibrillators. Because of this grant we have been able to obtain one new monitor / defibrillator for each of the last three years. This equipment has been invaluable to the Program. Students need to be familiar with the equipment presently utilized by EMS services around the state. These funds have allowed the Program to purchase monitor /

defibrillators from multiple manufacturers; thereby helping students to be better prepared to serve as team-members during their internship at various agencies throughout Kentucky (and South Carolina). The Program is very fortunate to be able to obtain this high quality equipment. ■

From the Medical Control continued

Overzealous mechanical ventilation in such patients can result in hyper-inflated poorly compliant lungs, which compress the mediastinum, reduce venous return and cause a physiologic tamponade. While tamponade is a well-known cause of PEA, this cause of tamponade is not commonly considered.

I became interested in this phenomenon while reviewing a patient's pre- and post- intubation chest x-rays showing progressive flattening of the diaphragm. In this patient, preintubation blood pressures were normal. I reviewed the findings with a pulmonologist who confirmed my suspicion that overzealous mechanical ventilation could have contributed to the cause of PEA in this patient. A subsequent review of medical literature revealed two similar case reports. Rogers et al. recognized the relationship between self-controlled positive end-expiratory pressure (auto-PEEP) during CPR to electromechanical dissociation (EMD), the old name for PEA, and suggested that it accounts for the increased risk for EMD in patients with COPD.(1) Kollef et al (2) independently reached a similar conclusion.

Although this may be common knowledge among critical care specialists as it relates to ventilator settings in COPD patients, it is largely absent from the literature of prehospital and ED publications. Next time you are ventilating a COPD patient, perhaps you will slow down and allow the chest wall to fall before giving that next squeeze on the BVM!

References

(1) Rogers PL, Schlichtag R, Miro A, et al: Auto-PEEP during CPR: An "occult" cause of electromechanical dissociation? *Chest* 1991; 99:492-493

(2) Kollef MH: Lung hyperinflation caused by inappropriate ventilation resulting in electromechanical dissociation: A case report. *Heart Lung* 1992;21:74-77

Dr. Neville Pohl is the medical director for the EMC Program and a practicing ER physician. ■

Homeland Security continued

The panel focused on responder preparation, guidelines for evaluating rescuers before, during and after work in hazardous environments, and recommendations for long term follow-up. The role of the Medical Control physician and OSHA guidelines on rescue situations were also addressed. The discussion was conducted by the National Terrorism Preparedness Institute, a Department of Homeland Security-funded information network headquartered at St. Petersburg College.

Participating on the panel discussion were (L to R) Prof. Miller, MS, NREMT-P, Dr. Ralph Shealy, Co-Director, SC AHEC Bioterrorism Training Network, and Dr. Don Wright, Director of Occupational Medicine, US Department of Labor, Occupational Safety and Health Administration, and Al Reuchel, Moderator of Live Response. Leslie Stein-Spencer, Chief of Illinois EMS and Highway Safety, joined the panel from Chicago via satellite link.



This and other archived discussions on terrorism are available online at <http://terrorism.spjc.edu>. ■

Student Update

The EMC Program enjoys quality students. The Bachelor of Science program is continually gaining interest as evidenced by increased student enrollment. The Associate degree and Certificate programs continue to be popular avenues for paramedic education.

In August of 2003, the Program sponsored an NREMT-P exam for 25 paramedic students and

other candidates. Of these, 17 were EKU students. All of the Program's students passed the registry exam and are now paramedics. The Program wishes to congratulate the following new paramedics:

Richmond Campus - B. Arnold, J. Botner, B. Breidert, J. Charfen, A. Gessford, J. Keats, M. King, J. MacLean, L. Schulte, S. Starkweather, A. Sturgill, A. Wingfield.
Powell County Campus - D. Campbell, D. Holder, D. Merion, and L. Patton.

This year's paramedic class is completing their internship and will sit for their NREMT-P exam in August. Earlier in the summer, students completed an AMLS provider class as a part of their internship coursework. ■

New National Standard

All of the Program's fulltime faculty members were among the first in the nation to complete the new "gold" standard for EMS educator courses in New Orleans during October, 2003. The course, known as the "EMS Educator's Course", was developed by the National Association of EMS Educators (NAEMSE). It is based upon the U. S. Department of Transportation's revised 2002 National Guidelines for Educating EMS Instructors. Essentially this course teaches how to instruct EMS students. These guidelines cover a wide range of topics related to EMS education; including teaching psychomotor skills, evaluation, classroom management, research and more. The guidelines were revised as a cooperative agreement between NAEMSE and the EMS division of U. S. DOT (the National Highway Traffic Safety Administration) and are the national standard for preparing persons to serve as EMS educators.

Prof. Sandy Hunter was a member of the taskforce that created the guidelines and served as an expert writer. He also co-authored the textbook intended as the major resource book for the course. ■

Name Change for AS Degree

Prior to fall semester 2004, students who earned the Associate Degree in Emergency Medical Care received a degree entitled *Emergency Medical Care Associate of Science Degree*. This degree has been in existence since the first graduating class of 1978. Program changes, such as the addition of a Certificate Degree and the recent addition of the Bachelor of Science Degree, caused the Program to reevaluate the benefits of a name change to best serve not only paramedics in the Commonwealth of Kentucky but the students who are from other states as well.

It appears also there has been some confusion at times because of the name "Emergency Medical Care". Students seeking information regarding paramedic education were, at times, told that EKU does not have such a degree. Therefore, to alleviate confusion, to adjust to Program changes, and in keeping with providing the best possible communications with other universities, colleges, and potential students, a name change was requested. Starting Fall Semester 2004, the Associate Degree will now be entitled *Associate of Science Paramedicine (A.S.P)*. This, along with enhancing communication with those seeking academic opportunities in the paramedic field, will also bring the program into compliance with the Council on Postsecondary Education, and provide a smoother transition for certificate paramedics to receive an associate degree. ■

Curriculum Updates

The current Bachelor's degree has two tracks of study. These are the "Clinical Track" and "Science Track". The Clinical Track focuses on practical EMS and Fire related issues. This track is intended for the practitioner who wants to function in a typical EMS and or Fire/EMS setting. The Science Track focuses on mastering the core Paramedic curriculum and additional science courses. This track is intended for the practitioner who wants to apply to medically related graduate

programs like medical school or physician's assistant school.

Our Associate's degree is still in place in its two forms. One is a traditional route of on-campus course work for two and one half years. The other route is our "degree completion". The degree completion route is for persons who are currently certified as a Paramedic and are seeking a degree. Either route that is chosen to obtain an Associate's degree can fit into the curriculum for obtaining a Bachelor's degree.

All of our tracks are currently under review and may change based upon data gathered during upcoming surveys and expert panel discussions. ■

Certifications

The Program provides certification in five courses: CPR, PALS, ACLS, PHTLS and AMLS. Most of the American Heart Association courses conducted and held on-campus while AMLS and PHTLS are held both on- and off-campus. Some AMLS and PHTLS are held in conjunction with other agencies. During the last year, the Program has certified:

Course	# Certified
CPR	266
PALS	28
ACLS	28
PHTLS*	35
AMLS*	96

* some provider classes were held at off-campus EMS sites in conjunction with the local providers

Recent Publications

- Davis, N. C. (2003). Media Review, Pharmacology for Prehospital Emergency Care, 2nd. Edition. *Prehospital Emergency Care*, 7 (1), 157.
- Hunter, S. L. (2004). The Little Student Who Could... The Influence of Self-Efficacy on Learning Success. *Domain3*, Summer, 2004; 10-11.
- Hunter, S. L. (2003). A Commentary on Memory: Its Power and Its Flaws. *Domain3*, Fall, 2003; 1, 6 - 7.
- Hunter, S. L. (2003). Defining and valuing diversity in EMS. *Emergency Medical Services: The Journal of Emergency Care and Transportation*, 32 (11), 88 - 89.

Community Education Projects

Each year since 1997, the Program has participated in an annual community education project with a local elementary school. Each year, either students from Model Laboratory School have come to our laboratory or Prof. Hunter has gone to their school for these special events. During these presentations, the 5 - 6 years olds were taught about using 911 and general safety information. The kids were given the chance to ventilate an intubated manikin, serve as patients for splinting and to use an AED. This year, one of the Program's BS students, Bonnie Breidert (see on right), assisted with the presentation. Bonnie volunteered to teach, demonstrate and participate with the kids. Overall, it was a great day!



The Program offers an EMT-Basic refresher course during EKU's annual *Rescue School*. Prof. Michael Blakeney coordinates the class and serves as an instructor. Students receive 24 hours of con-ed credit towards renewing their national registry and Kentucky certifications.

Prof. Jimmy Cornelison is teaching an EMT class this summer specifically intended to aid the local fire department to increase its number of certified EMTs. ■

Kentucky News

The state EMS conference will be held September 13 - 19, 2004 at the Executive Inn Rivermont in Owensboro. The conference is sponsored by:

- The Kentucky Ambulance Providers Association
- The Kentucky Board of Emergency Medical Services
- State Fire Rescue Training (KCTCS)
- EMS Educators of Kentucky

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- Louisville Medical Center STATCARE
- Green River Firefighters Association
- Kentucky Association of EMTs

This year's special guest will be Capt. Pete Collins, a retired Mississippi State Police officer, who has over 20 years of experiences to share.

Registration can be accomplished on-line at:
<http://www.hultgren.org/conference/register.html> ■

National News

New Leader at NHTSA - EMS

Drew Dawson was selected earlier this year to serve as the chief of the National Highway Traffic Safety Admin. - EMS Division. (source: NREMT)

Proposed Scope of Practice

Recent national publications (e.g., The EMS Agenda for the Future) have detailed the enormous number and variability of EMS certifications in the nation. This variability causes reduced mobility for providers and increased public confusion as to the skills and knowledge base for each level. A current effort, known as the "Scope of Practice" is underway to standardize EMS certifications on a national level. The first published draft of a national "Scope of Practice" is now available for review. It is important to remember that this document is only a draft document and is intended to begin a national dialogue.

Key elements included in the proposed "Scope" are:

1. a review of the history of EMS
2. the number of proposed provider levels (4)
 - a) Emergency Medical Responder
 - b) Emergency Medical Technician
 - c) Paramedic
 - d) Advanced Practice Paramedic
3. a description of the specific knowledge and skills appropriate for each level
4. guidelines for a new advanced level practitioner

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Editor: S. Hunter

Proof Reader: J. Glenn

While the “Scope” recognizes the reality that some communities may not (currently) have access to paramedic courses taught by colleges and universities, it does stress the importance of standardized education and training for all levels. It also states that the highest level of provider (the “Advanced Practice Paramedic”) would be one who has completed a bachelors degree or higher.

Despite the reality that some states (like Kentucky) allow for paramedics to function in a limited number of hospital settings, all levels of provider are described in the “Scope” as “out-of-hospital” caregivers.

All persons who are stakeholders in EMS should read and provide feedback on the “Scope”. This group includes (but is not limited to) EMTs, paramedics, medical control physicians, public and private EMS administrators, EMS associations and nurses who are involved EMS education. Persons wishing to view a copy of the “Scope” may view and or print it from the web-site of the National Association of EMS Educators.

<http://www.naemse.org>

Airbag Deployment

NHTSA - EMS is currently seeking information related to any unintentional deployments of airbags. If your service has any information about such events, regardless of whether or not someone was injured by the deployment, you are encouraged to contact

U.S. Dept. of Transportation - NHTSA
Special Crash Investigation Program (NPO-122)
Attn: Thomas Roston
400 Seventh St., SW ,Room 6213
Washington, DC 20590
By phone, (202) 366-2545 or (877) 201-3172
By e-mail, SCI@nhtsa.dot.gov
By facsimile, (202) 366-5374, Attention: SCI Program

CDC - Comments Requested

The Centers for Disease Control and Prevention (CDC) is proposing revisions to its HIV guidelines

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of 1992. The public comment period ends August 16, 2004. Persons wishing to submit comments may do so at the website:
http://www.cdc.gov/nchstp/od/content_guidelines/comments.htm

CDC - Summer Water Safety Info

1. In 2001:
 - a) males accounted for 78% of drownings in the nation.
 - b) 859 children ages 0 - 14 years drowned
2. In general:
 - a) Children under age one most often drown in bathtubs, buckets, or toilets
 - b) Most children who drowned at home were “out of sight” for no more than 5 minutes
 - c) Drowning remains the second-leading cause of injury-related death for children 1 - 14 years of age (most of these drownings occurred at residential swimming pools)
 - d) Alcohol is associated with as much as 50% of adolescent and adult drownings and other water related deaths

Source:

<http://www.cdc.gov/ncipc/factsheets/drown.htm>

National Registry of EMT

The NREMT has posted a “caution” on its website that it (the NREMT) is not affiliated with two websites:
NREMTXAM.COM or NREMPRACTICE.COM

These sites claim to offer preparatory assistance for the Registry exam. As of this date, the NREMT is not affiliated with either organization and cannot verify the quality of any material sold by those sites. ■

Editorial

The entire faculty and student body wish to express our sympathy and support to the Lexington Fire Department for the loss of one their members, Lt. Cowan and the wounding of Firefighter Sandford.

Editor: S. Hunter

Proof Reader: J. Glenn