

NCEMSF NEWS

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“...the value of taking a moment and looking up from my iPhone to be human and communicate...”

Message from the President

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

The next chapter begins ... welcome back!

The start of the new academic year presents an opportunity for change on college campuses across the country. The summer break provides a natural pause to regroup and redefine your personal and organizational aspirations. The influx of new faces enables you to implement new ideas and direction. Each year in the fall edition of *NCEMSF News* I challenge our members to take a moment to ponder the upcoming year and set achievable goals for the year ahead.

Last week, while running late I chose to use the service elevators at the hospital. While there are no signs indicating that the elevators are restricted for patient transport and equipment, it is an unspoken and implied rule. However, those that know me, realize that a sign probably wouldn't deter me from using them anyway. They are significantly faster, especially in the morning when the regular elevators are packed. As I stepped on to the elevator, I was met with glares from the environmental and transport staff as they carted their supplies to their destinations.

One's ability to diffuse a situation is not innate, it is a learned experience and skill. It takes work and practice to feel comfortable when interacting with people whom you have never met. Some may find it difficult to say "hello." But saying "hello" is the easy part, the difficult part is creating a connection. At the root level, we all have commonalities and share similar life experiences. One of my favorite idioms is, "we all put our pants on one leg at a time." It illustrates the fact that none of us are that different from one another and that no one is better than anyone else. The key to communicating is one's ability to bridge the commonalities between people.

As the elevator stopped and the doors opened, the mood in the elevator had changed. We all wished each other a good day. From the crowd, I heard someone say, "Wow, that was

the first doctor that ever talked to us." The interaction that occurred over a couple of minutes left all of us with a lasting impression. For those on the elevator, they understood that I valued them as individuals. For me, it reinforced the value of taking a moment and looking up from my iPhone to be human and communicate.

Hospitals and businesses are similar to college campuses. They are communities. Your ability to function within a community is based on how you interact with people. It is easier to achieve goals when other members of the community want to help you. While I had no agenda when I started a conversation in the elevator, don't you think that if I needed a room stat cleaned for a patient or a spill wiped up that they would be more responsive and inclined to help? It is difficult to build rapport outside of your peer group. It pushes your comfort zone. However, it is a skill that you can acquire and upon which you can continually improve.

If you choose to selectively engage people only when needed, you will likely find that people are not as willing to help you solve your problem. If you are meeting with the Dean of Student Life asking for space for your organization, don't you think that the Dean will be more likely to help if she thought you were a great, personable student? Since you never know who is "on the elevator," doesn't it make the most sense to approach everyone the same?

Common decency is to say "hello" to people. However, I encourage you to take it one step further and actually engage. I think that you will be amazed by the impact you can make and the rewards you can reap for you and your organization.

Have a great semester!



Evidence Based Prehospital Care

Michael T. Hilton, MD, MPH, NCEMSF Director-at-Large and Research Coordinator

Evidence is defined as “the available body of facts or information indicating whether a belief or proposition is true or valid.” Healthcare providers strive to use the best available medical studies to answer clinical questions of which are the safest and most effective treatments for their patients. The evidence for many medical interventions is poor but varies based upon disease and treatment. There are many treatments that we provide that have no strong evidence backing their use. This unfortunately is especially true in pre-hospital care.

NCEMSF has joined a consortium of other national organizations, including the National Association of EMS Physicians (NAEMSP), the National Association of EMTs (NAEMT), and the National Highway Transportation Administration (NHSTA), to support the creation of evidence-based guidelines for pre-hospital care. This process starts at the ground level, with those providing care in the field, especially collegiate EMS providers who have the knowledge, time and resources to contribute to the

process. Collegiate EMS providers have a unique opportunity to get involved in research projects that aim to study the current treatments provided in the field. Such studies will build the evidence base that will allow the creation of national evidence-based guidelines for pre-hospital care and advance the state of the care that we provide for our patients.

As an example, our friends at Case Western under the direction of Dr. Jeffrey Luk in the Emergency Medicine Research Division from the University Hospitals Case Medical Center in Cleveland, OH, are conducting a study evaluating transport destination decisions of intoxicated students by campus-based EMS agencies. Other members of the NCEMSF leadership team are interested in exploring various campus medical amnesty policies, correlating them with emergency response data and establishing best practices.

NCEMSF is also soliciting scholarly reviews of the current literature for specific interventions that we all provide

in the field. As an example, in this issue of *NCEMSF News*, John Jiao, a member of Johns Hopkins' HERO, reviews the current evidence for full spinal immobilization with a long back board. We would like to encourage others to conduct similar reviews and contribute both to *NCEMSF News* and, with our guidance, the greater body of EMS literature. Reviews can cover a range of topics from chest compressions, to mechanical compression devices to hemorrhage control to name a few. NCEMSF leadership can help mentor interested individuals in performing a literature search and writing an article.

NCEMSF has resources to support its members and provide advice guidance on how to initiate and conduct projects. If you are interested in getting involved in research related to pre-hospital care or in writing a review article, contact Dr. Michael Hilton, NCEMSF Director-at-Large and Research Coordinator.



The Case Against Unnecessary Backboarding

John Jiao, Hopkins Emergency Response Organization (HERO)

On calls, we feel a sense of accomplishment if we backboard a patient – as though we have made a difference in our patient's care. Spinal injuries are potentially catastrophic so we backboard opting for the “better safe than sorry” approach. However, scientific evidence supporting the use of backboards to improve patient outcomes is nonexistent. In fact, backboards may do more harm than good!

Historically, the practice of backboarding was based upon an article by Geisler *et al.*, written in 1966, showing that improper pre-hospital handling of patients with spinal injuries could lead to further neurological damage.¹ Soon after, in 1968, a trauma surgeon JD Farrington recommended the use of a rigid board for patients with spinal cord injuries.² By the time backboarding first entered the official US DOT EMT curriculum in 1984, the practice had already become virtually dogmatic in the culture of EMS,³ dogmatic, but not evidence-based.

There exists little scientific evidence that backboards improve patient outcomes. In 1998, Hauswald and colleagues

conducted a 5-year retrospective review of blunt spinal cord injuries between two hospitals: the University of New Mexico Hospital (UNMH) and the University of Malaya Hospital in Kuala Lumpur, Malaysia, where backboards are not used. Researchers found that neurological deterioration was less prevalent in Malaysia.⁴ Another study of spinal immobilization used during simulated vehicle motion concluded that they were generally ineffective.⁵

Neurological injuries from spinal trauma is rare, occurring in 10 of 32,000 (0.0003%) patients. It is unknown whether immobilization would have prevented these injuries.⁶ Another study found neurologic injury rates to be 0.41% in blunt trauma, 1.35% in gunshot wounds and 0.11% in stab wounds.⁷

There are downsides to backboarding. Backboards increase on scene delays and the overall cost of emergency transportation.⁸⁻⁹ Being backboarded is a profoundly unpleasant experience. This is reflected in a number of studies showing increases in back pain after being immobilized on a backboard for as little

as 30 minutes.¹⁰⁻¹¹ Pain from backboarding causes significant increases in false positive exams for midline vertebral tenderness, leading to more CAT scans, radiation exposure and unnecessary healthcare costs.¹² Airway management becomes difficult when patients are backboarded. Backboards restrict breathing by an average of 15%.¹³ Additionally, prolonged immobilization can lead to pressure sores.¹⁴

Our protocols are in place and we must follow them. However, to be the best college EMS providers that we can be, we have to understand what we do and why we do it. This means appreciating the controversies in pre-hospital care. Once we recognize where the gaps in evidence for pre-hospital care exist, we can help to address them by getting involved in research projects. The practice of backboarding continues, but expect to see changes over the next few years as we further investigate the benefits and side-effects of backboards.

(Cited references available at end of newsletter)



Alumni Connection

Joshua E. Glick, MD, NCEMSF Alumni Coordinator and HEARTSafe Campus Coordinator

Are you a recent college graduate or young alumnus of NCEMSF? Do you have an interesting or unique idea for a conference lecture? As part of our ongoing commitment to our alumni, NCEMSF is proud to formalize the "Young Alumni Lecture Series" held on Sunday morning. If you graduated within the past 5 years, we would like to encourage you to submit a presentation for consideration. Presenting a lecture at a conference is a great way to boost your confidence and refine your public speaking skills. You can submit a speaker submission form on the conference website, making sure to include "YOUNG ALUMNUS" on your submission."

Interested in Serving as an Alumni Mentor?

NCEMSF is continuing to look for alumni who are willing to serve as mentors to our college student-members as they work through academic careers and transition into the professional realm. We would like to help facilitate these opportunities by providing graduating students the ability to contact NCEMSF alumni with questions regarding professional development and education. If you would be interested in serving as a possible mentor to graduating students, please send me (alumni@ncemf.org) and e-mail with the following information:

1. Full Name
2. E-mail Address
3. Current City, State
4. Current Professional Title(s)

Please note that this information will not be publically available on the internet. Only registered NCEMSF members and alumni will have access to this alumni information. Thank you in advance for your assistance with this program, and please do not hesitate to contact me with any additional questions.



Rolling Rock® with a Tylenol® Chaser

Scott C. Savett, PhD, NCEMSF Vice President and Chief Technology Officer

Any seasoned campus EMS provider has treated their share of intoxicated patients. Most of these calls are routine, but consider this scenario:

It's 19:15 on St. Patrick's Day. You are dispatched to a campus residence hall for an "unknown problem." You arrive to find an 18-year-old female and her roommate who report they were "downtown" at the St. Patty's Day parade drinking "some beers" along the parade route. Despite her admitted alcohol consumption, the patient doesn't appear intoxicated. She is answering questions appropriately and not slurring her speech. Her vital signs are normal. She seems a bit upset, but not in an "apologetic drunk" sort of way. You're trying to figure out how this qualifies as an emergency.

You continue your assessment. The patient tells you she has a history of depression and is currently on Paxil (paroxetine). Then she drops the bombshell on you. About an hour ago she took seven or eight (she can't remember how many) extended release Tylenol (acetaminophen) caplets. This was in response to a fight she had with her boyfriend after she got back from the parade. Things just got more interesting.

As a BLS provider, there isn't much you can do for this patient except expedite her transport to the hospital. Even an ALS provider would only be able to offer limited additional care: cardiac monitoring, IV access, and drawing laboratory bloods. En route to the hospital

the patient is stable. Upon arrival at the ED, care is transferred without incident. A few hours later you deliver another patient. and ask about your previous patient. The prognosis remains unknown. The patient's serum level of acetaminophen is still rising and her liver is in real danger.

The Science Behind the Overdose

Acetaminophen is a synthetic, non-opiate, centrally acting analgesic.¹ In medical parlance, it is frequently abbreviated as APAP, which is derived from its chemical name N-acetyl-p-aminophenol.

Also known as paracetamol, it was first synthesized in the 1890s in Europe, but its clinical use initially abandoned due to observed side-effects, likely caused by impurities from the chemical process.^{2,3} It became widely used in the US in 1947, and has been available over-the-counter (OTC) since 1961.^{4,5}

Acetaminophen is available in many forms, including 325mg tablets, 500mg caplets, 650mg extended release caplets, oral suspensions, and rectal suppositories. Additionally, it is marketed in combination with other active ingredients in products such as Percocet (oxycodone-acetaminophen), and NyQuil (acetaminophen, dextromethorphan, and doxylamine succinate).

The therapeutic range for acetaminophen is relatively narrow - 5-20 mcg/mL.⁶ The potentially toxic range starts at 140 mg/

kg.⁷ The timing of the peak plasma concentration depends on the dosing method. At its most common dose and form, 2x500mg caplets, maximal plasma concentration occurs within 10-90 minutes.⁸ The recommended adult dose depends on the form. The Tylenol manufacturer recently lowered the recommended maximum daily limit and increased the time between doses.⁹ (Table 1)

Metabolism of acetaminophen occurs in the liver primarily via conjugation with glucuronide. Secondary mechanisms include conjugation with sulfate and oxidation via cytochrome P450, the latter being especially activated when the conjugation mechanism becomes saturated in an acute overdose.^{4,8} Unfortunately, oxidation via P450 generates a toxic compound, N-acetyl-p-benzoquinone imine (NAPQI). Normally, NAPQI would be metabolized by the liver with the addition of a glutathione group, the resulting compound being excreted by the kidneys. In an overdose, the abundance of NAPQI saturates the detoxification pathway and leads to hepatic and nephritic toxicity.⁴

The minimum dose that poses significant risk of severe hepatotoxicity is 7.5-10g.⁴ In this scenario, the patient ingested an estimated 5,000 mg, so she was likely not in grave danger. She may have also inadvertently saved herself from liver damage by drinking at the parade. At least two studies have shown a protective

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Regional Roundup (March to September 2014)

News from Around the NCEMSF Regions

From the National Coordinator

The Regional Coordinator (RC) network facilitates communication between NCEMSF and its constituents. It is through the Regional Coordinators that NCEMSF best accomplishes its mission of advocating and supporting campus based EMS. The Regional Coordinators are equipped to assist each squad with the day-to-day issues it faces and to help publicize squad achievements. There are few issues that the NCEMSF leadership has not seen before and for which it is not equipped to offer advice and guidance.

NCEMSF has a **grant program** to provide financial support for regional events and special projects that directly further the NCEMSF mission. Sponsored activities must be educational in nature and provide direct benefit to campus EMS. For further information, eligibility requirements, program rules or a grant application contact your RC.

Regional training events and single day conferences are great ways to harness the energy of campus EMS at the local level. Contact your RC to coordinate goals and dates with the NCEMSF national agenda.

Regional Coordinator **vacancies** exist in the Canada, Southeast and West regions. If interested in applying please contact nc@ncemsf.org.

Central

Three collegiate EMS alumni from *Rice University* and *Texas A&M University* recently authored an article in *JEMS*. The article described a procedure for treating pneumothorax during traumatic cardiac arrest being trialed at the Baylor College of Medicine (BCM) in Houston and Montgomery County Hospital District (MCHD). The article's lead author, Dr. Mark Escott, founded Rice University EMS and now is the lead medical director of Rice EMS, the lead medical director of MCHD, and an Assistant Professor at Baylor College of Medicine. Kasia Kimmel, MD, is an emergency medicine resident at BCM and an alumna of Rice EMS. Jared Cospser, BA, LP, is MCHD's Director of EMS and an alumnus of Texas A&M University

Over the summer, *Texas A&M* completed the merger of its three EMS entities. The Recreational Sports Medics (a paid first responder group) and Emergency Care

Team (a volunteer first responder group) have been consolidated under Texas A&M EMS. All certified personnel are now paid, have improved training and oversight, and use electronic PCR's. Emergency Care Team will continue to exist as a student organization, allowing non-certified individuals to shadow at events and learn about emergency medicine. Texas A&M will also be receiving an upgraded dispatching system as part of changes being made by Brazos County, Texas. The new system will be a VoIP NG911 system, which will provide increased stability and agency customization and will accept text messages. The system is expected to go live in October. Additionally, Texas A&M is half-way through a \$450 million renovation of its football stadium, Kyle Field. For the 2014 season, A&M will have about 30,000 more seats, requiring a change to EMS staffing at football games. Due to the increased stadium capacity and the reorganization of A&M's squads, there will be ten first aid stations, several ATVs, numerous floating medics, three bike teams, and four game-day ambulances (two from A&M EMS, one from College Station Fire Department, and one from Scott & White EMS, all operating under TAMU command). Thanks to the reorganization, paramedics will also be present inside the stadium, whereas previously they were only on the ambulances and bike teams.

Texas A&M's alumni organization for collegiate EMTs, *Former Medics of Aggieland* (previously Former Aggie Medics Association), held a donation drive with alumni to have challenge coins made for current members of Texas A&M EMS and Emergency Care Team. The challenge coins were presented to the groups at their annual banquet last April. In addition, a special presentation was made to Laura Kitzmiller, who served as Emergency Care Team's first faculty advisor and who helped bring EMS Education to Texas A&M University.



The Central Region welcomes *San Jacinto College North*. San Jacinto College is one of several EMS Education

providers in the Houston area, and recently added an on-campus first-response organization. It is the first community college in Texas to have a such a group. The group is also working with other academic departments at the school to establish an on-campus clinic.

Mid Atlantic

Georgetown University's GERMS hosted a summer EMS course this summer in addition to its fall and spring classes.

The George Washington University's EMeRG took on the ALS Ice Bucket Challenge as an organization while nominating fellow college EMS organization *GERMS* in addition to GW PD and DC Fire and EMS.

The Hopkins Emergency Response Organization (HERO) held a spring CPR day in April. HERO members taught hands-only CPR and gave away 100-free t-shirts for those who took a few minutes of their time to learn hands-only CPR.

University of Richmond trained 432 students and faculty in hands only CPR last semester as part of its "Hard and Fast" campaign. UREMS plans to continue this training effort as an annual campaign to increase CPR awareness on campus. UREMS is also trying to collect and analyze regional data regarding alcohol-related calls on campus. They are hoping to find out where they stand in relation to other schools, see if there are any outliers from which they can learn, and discover what other collegiate EMS agencies are doing in terms of educational materials.

Virginia Tech Rescue Squad in conjunction with Blacksburg Fire Department and Carilion Med-Evac Helicopter staged a mock DUI car accident in order to raise awareness on the dangers of driving under the influence of alcohol and drugs.

Midwest

Case Western Reserve University EMS, a BLS transport service, recently welcomed the addition of a second ambulance, a 2006 Ford E350. The new vehicle has allowed CWRU EMS to expand on-site standby services to the university athletic department for all home football games and other events. In March of 2014, their agency hosted a

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very successful stair chair fundraising drive that raised nearly \$2000 for a Stryker Stair-PRO 6252, which has proved an invaluable tool in patient transport. In the coming months, CWRU EMS responders will be participating in joint training with *John Carroll EMS* and an annual mass casualty incident drill with municipal and university police, fire, and EMS agencies.

This summer, *John Carroll University EMS* developed a new protocol to improve quality of care for intoxicated patients and is hoping to implement the Standardized Concussion Assessment Tool (SCAT) to assist with the assessment of head injured patients as well. It also looks forward to working more closely with *CaseEMS* for training.

University of Dayton Rescue Squad continues to operate as an entirely volunteer, student-run state certified Basic Life Support ambulance. During the week of August 18, 2014, members completed their annual training week and participated in an active shooter mass casualty incident alongside the University of Dayton Police Department.

Efforts are underway to start a new EMS squad at *Ohio University*. Students are currently working with a medical director to become an official group. They are working on developing their constitution and bylaws and will be meeting with university leaders in September in order to be officially approved on campus.

Northeast

Brown EMS is in the midst of many exciting changes. The group recently transitioned to incorporate more students into its leadership structure, including two student Directors and three student Officers, who handle training, personnel, and other programs related to the Brown community, such as teaching CPR. In keeping with the theme of more student involvement, the team is continuing its program to train experienced students as "BLS Supervisors," who are able to respond to BLS calls with a student BLS crew. *Brown EMS'* new non-transport vehicle has enabled it to cover calls simultaneously with the ambulance and use its ALS resources more efficiently.

In the Fall of 2013, *Rowan EMS* moved into a new squad building that serves as a permanent home for the organization. The building includes a lounge area,

training/meeting space, a shower room, supply room, an office for the squad's executive committee, and a garage to house both of its ambulances. Last month Rowan EMS took delivery of a first responder vehicle to replace a previous one that was taken out of service in the spring semester of 2014. Rowan EMS was also featured in the July 2014 issue of *JEMS Magazine* (available on the NCEMSF website). The group is gearing up for RoGlow, a huge rave hosted by Rowan University where water guns and buckets filled with neon paint are used to cover the crowd while they dance to guest DJs. This event is always one of the largest operations producing large numbers of medical emergencies, many of which involve paint in the eyes.

Stockton College EMS returned for the fall semester stronger than ever with new officers and 25 active members. The organization started the semester by staffing 22 events prior to the 1st day of classes. Cooper University Hospital in Camden, NJ will continue to provide medical direction services, along with monthly training courses for the team's members. The organization hopes to finalize plans to form partnerships with other local squads to provide additional experience for its members.

Yale EMS currently has about 30 active members and is expanding! The organization is thankful to have expanded its campus presence to provide standby coverage for the University Presidential Inauguration, a Halloween Yale Symphony Orchestra Concert, and an address given by Former Secretary of State Hillary Clinton last fall, in addition to many club sports events last winter and spring. A few members teach regular ECSI CPR/AED and First Aid classes and are thankful to have recently acquired new AED trainers to improve classes, which include certifying the incoming class of medical school students each August. Yale EMS is continually looking for new ways to make Yale's campus safer and provide opportunities for new EMTs to gain experience.

Northern New England

Welcome to the start of another year! Although summer is coming to a close, there are still beach days left, and it's not just shark bites to worry about. Heat stroke is still an issue. Heat stroke occurs when the body's temperature raises to 40 degrees Celsius (104 degrees

Fahrenheit), and is usually due to strenuous exercise in heat, and lack of hydration. Some signs and symptoms include but are not limited to seizures, tachypnea, tachycardia, behavioral changes, nausea, vomiting, dizziness/lightheadedness, unconsciousness, muscle weakness, red, hot skin, and lack of sweat. It is imperative to cool the patient. See local protocols in regards to active cooling of a patient.

In April, *Dartmouth EMS* hosted the Fifth Annual Northern New England Regional Collegiate EMS Conference and *Colby College* hosted the Third Annual Maine Regional Collegiate EMS Conference. Both programs incorporated quality speakers and realistic scenarios that provided a high-level educational experience.

NCEMSF would like to thank the captains of *St. Mike's, McGregor EMS and University Volunteer Ambulance Corps* for helping a fellow collegiate EMS squad by providing campus specific data on alcohol-related calls.

Pennsylvania

A majority of the Commonwealth's newest EMS regulations under Act 37 of 2009 went into effect April 10, 2014. If your squad has any questions about the new EMS Act requirements please contact your PA regional coordinator

Muhlenberg College EMS placed in service a Ford Police Interceptor SUV as it's new quick response unit. This unit replaces a older model Chevrolet Blazer as QRS-1. Congrats to Rebecca Golden and the Executive Board, officers, and membership of MCEMS for their hard work and persistence in this project! *Carnegie Mellon University* recently placed a new SUV in service as well.



Do you have news about your squad you'd like to share? Contact your RC and look for it in the next issue of NCEMSF News.



ePCR - How to Select the Right Software for Your Squad

Ian Feldman, NCEMSF Central Regional Coordinator

At the 2014 Conference, I had the pleasure of co-moderating the Technology Roundtable. This was my second year doing this, and a topic that dominated the conversation was electronic medical records. More and more squads (collegiate or otherwise) are switching away from paper run records. The process of finding an ePCR solution can be a daunting one, though. Cost is always a primary concern for collegiate EMS agencies. But low-cost isn't always best. The following are some other considerations that a collegiate EMS group looking to switch to ePCR should consider before making a purchase.

First, and probably most important: does the ePCR software work in a way that makes sense for how your agency operates. The best way to determine this is to actually use the software. Contact potential vendors and ask that they allow you to demo the software. This demo can be done in simulated patient encounters (e.g., as part of a training scenario), or, if they are providing a fully functional copy with the appropriate security measures in place, on actual calls with real patients. When testing the software, see if data entry can be accomplished efficiently without delaying patient care. While no ePCR solution will totally mimic pencil-and-paper, some companies do offer features such as notepads, handwriting recognition, and data-entry screens with large buttons and select boxes that are easy to use with gloved fingers or a stylus.

Another issue, and one that is often overlooked, is what will the ePCR provider do with your data? If they host your patient records on their servers, you need to determine how long they keep those records and what they do to secure them. If you were to ever change ePCR software, can you get your data back from them? Will they let you access it (for free or a fee) after you leave? And is it in a form that can be transferred into a new ePCR solution? This conversation is best done with the aid of a lawyer familiar with the EMS data retention laws in your state, as there may be additional considerations or requirements specific to your area.

A related point is the ability for you to interface with other EMS agencies, transport services, and hospitals. The simplest way to accomplish this would be

to print the ePCR records and hand off a paper copy, but usually this is next-to-impossible in the field. For QRS groups, if you choose to utilize the same ePCR provider as your transporting agency, this could be (but isn't always) simpler. Since hospitals usually use different ePCR systems than EMS, the ability to electronically send your patient records to a receiving facility is often missing. However, in this situation, printing a record at the end of a call, or having the system automatically fax the hospital a copy is usually more practical. Some states also require submission of call statistics or even complete run records to the state EMS agency. In this situation, compatibility with the state requirements is vital. Be sure to check if your state has a standard system as well, as that could make the entire selection process moot.

A common complaint about ePCR programs is the increased amount of data entry required compared to a squad's custom-designed paper PCRs. Fortunately, a good ePCR solution has a fix for this. Check with vendors to see if certain fields (e.g., NEMSIS fields for states that don't require them, or billing information for squads that don't charge) can be disabled entirely. Also see what record completion rules can be changed. Some systems allow you to designate what information is mandatory and what isn't, even if the boxes can't be removed. Other systems add in an intermediate level, where it notifies the EMT if a field is blank on submission, but doesn't require it to be filled (such as for a middle name or email address). These rules can also be used to your advantage, such as to help remind EMTs to collect data that they otherwise wouldn't.

Finally, there's the issue of signatures. Some ePCR systems (especially when installed on touchscreen devices) make the process of accepting signatures for acknowledgement of privacy practices or refusal of transport easy. However, if you use an ePCR system without a touchscreen device, you may have to revert to a paper form that is scanned in after the fact. Regardless of whether or not your squad chooses to go with a touchscreen hardware system, all squads should consider how easy the pen-and-paper signature method is in case the electronic signature system fails. While electronic signatures can have their

advantages, make sure that you can edit the information the patient agrees to when they sign to match the needs and requirements of your local EMS authority and your university's legal department.

Picking an electronic medical record system is a decision that shouldn't be taken lightly. While sales representatives may promise great things, it's up to you, the collegiate EMS squad, to dig deeper than just an attractive price or flashy interface. Be sure that the ePCR system doesn't increase your workload, that you can still get the data yourself and to other agencies that need it, and that the process of using the ePCR works for your organization. Next quarter, I will address the various hardware options available for electronic charting, and their advantages and disadvantages.



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effect of acute alcohol ingestion in deliberate acetaminophen overdoses.^{10,11} There are four stages in the clinical course of an acetaminophen overdose, as shown in Table 2.⁴ The most important thing for a pre-hospital provider to know about the progression of an acetaminophen overdose is that in the first 24 hours following ingestion, the patient may be asymptomatic or may have non-specific symptoms such as nausea, vomiting, or malaise. Despite the lack of symptoms, this is a potentially life-threatening condition and the patient needs to be evaluated in an ED.

The antidote for an acetaminophen overdose is N-acetylcysteine (NAC) given orally or IV. NAC is nearly 100% hepatoprotective when it is given within 8 hours of an acute ingestion.¹²

Summary

Acetaminophen is a widely used OTC analgesic. Overdoses of this drug, whether accidental or purposeful, are common. The extent of liver failure cases reported in the medical literature indicates that liver injury from acetaminophen overdose remains a serious public health problem.¹³ Due to the slow onset of liver failure due to an acetaminophen overdose, EMS personnel may encounter an asymptomatic patient that requires transport to the ED.

(Cited references available at end of newsletter)

NCEMSF wants your squad photos for our website...

Please send us actions shots, whole corps' photos and EMS Week/Conference pictures to:

localnews@ncemsf.org

About This Publication

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Sudden Cardiac Arrest Rescue Recognition

Mark E. Milliron, MS, MPA, NCEMSF Director Emeritus

If your campus EMS squad is involved in a successful CPR rescue this year, make sure those EMS providers are in attendance at the annual NCEMSF conference in Baltimore to be recognized for their good work. Once again the Sudden Cardiac Arrest Association (SCAA) has partnered with NCEMSF to bring their Sudden Cardiac Arrest Heroes recognition program to our conference in Baltimore.

SCAA will be awarding responder commendation bars and certificates to campus EMS providers in attendance at the conference to recognize their role in the chain of survival. NCEMSF will be collecting the names and stories behind campus CPR rescues prior to the conference. More information on submitting names for recognition will be available later this semester. Meanwhile, the NCEMSF Cardiac Arrest Registry is available online year-round under the "Resources > Research" section on the NCEMSF website. Please fill out the details of the cardiac arrest and help us improve care across college and university campuses nationwide.

While not every cardiac arrest rescue attempt will result in a save, those that do offer an important opportunity to educate the public on the importance of learning CPR and promoting public access AEDs. In addition to responder commendation bars, SCAA has recognition pins for bystander CPR and for the survivors

themselves. Consider having a recognition program back at your campus for the bystanders who start CPR, law enforcement who respond, EMS, the emergency department team, and of course the survivor. Assembling the people in the chain of survival in a public forum can make a difference by showing how early CPR and AEDs can save lives, and these programs are often well received and appreciated by the survivor.

If you are interested in starting a local SCAA chapter on your campus visit the SCAA website at www.suddencardiacarrest.org and contact SCAA. Some of the benefits of becoming an SCAA chapter include AED grant and fundraising information; AED promotions and discounts from Defibtech, Zoll, and Phillips; discount CPR Anytime Kits from Laerdal; and educational and support materials and toolkits.

Besides taking part in the NCEMSF CPR rescue recognition program, remember to take part in National Collegiate CPR Day this year on Monday, November 10, which is the first day of Collegiate EMS Week. Also check the NCEMSF website on how your campus can become designated a HEARTSafe Campus.



SAVE THE DATE: NCEMSF 22nd Annual Conference

**February 27 - March 1, 2015
Hyatt Regency Hotel - Baltimore, Maryland**

Why Attend?

- 3 days of exceptional conference programming
- Over 50 expert lectures in at least 9 concurrent tracks
- Multiple moderated roundtable and panel discussions
- Several hands-on skills labs
- Vomacka student speaker competition
- Young alumni speaker series
- Three general sessions - including a closing keynote by *AJ Heightman*
- Collegiate EMS skills competition
- NCEMSF awards ceremony - view list and eligibility requirements online
- *Lowest cost conference of its kind in the country!*
- Opportunity for discounted *JEMS EMS Today* access (Feb 25-28 @ The Baltimore Convention Center - NCEMSF is presenting!)
- **Network with 1,000+ of your peers from over 100 schools**

Interested speakers and presenters may apply online starting October 1st
Online early conference registration opens December 1st

More information available online @ www.NCEMSF.org/conf2015

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Please visit the Membership section of the NCEMSF Web site to keep your contact information up-to-date. Renew your membership for the current academic year and update your contact information. Thank you for your ongoing support of campus based EMS and NCEMSF!

The NCEMSF Database of Collegiate EMS Providers is an excellent resource in the event of natural disaster or other public health emergency. Please keep your information up-to-date so that should the situation arise, we can contact you and collectively as campus based EMS answer the call to act!

NATIONAL COLLEGIATE EMS WEEK - November 10-16

Take advantage of this opportunity to celebrate campus based EMS together with all other collegiate corps nationwide. The annual NCEMSF packet, and the National EMS Week packet featuring campus based EMS, are both filled with ideas for activities and publicity available online.

Kick Off Collegiate EMS Week With...

NATIONAL COLLEGIATE CPR DAY **Monday, November 10**

Join together on this single day in the pursuit of educating as many college students across North America as possible in the basic principles of CPR and how to save a life!

Support Materials and Program Particulars Available Online at www.NCEMSF.org

For More Information: emsweek@ncemsf.org

Modeled after National EMS Week, endorsed by the American College of Emergency Physicians (ACEP), and supported by the American Heart Association (AHA)

LEARN 2 STEPS SAVE ONE LIFE

CALL



CALL 911

PUSH HARD AND FAST



POSITION HANDS IN THE CENTER OF THE CHEST



FIRMLY PUSH DOWN TWO INCHES ON THE CHEST

CONTINUE UNTIL HELP ARRIVES

The Case Against Unnecessary Backboarding

John Jiao, Hopkins Emergency Response Organization (HERO)

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Rolling Rock® with a Tylenol® Chaser

Scott C. Savett, PhD, NCEMSF Vice President and Chief Technology Officer

Tables:

Table 1: Recommended Doses

Form	Units per Dose	Total mg per Dose	Interval	Maximum / 24 hours
Regular Strength (325 mg)	2 tablets	650 mg	Every 4-6 hours	10 tablets (3250 mg)
Extra Strength (500 mg)	2 caplets	1000 mg	Every 6 hours	6 caplets (3000 mg)
Extended Release (650 mg)	2 caplets	1300 mg	Every 8 hours	6 caplets (3900 mg)

Table 2: Four stages in the clinical course of an acetaminophen overdose

Phase	Timeframe (after ingestion)	Signs and Symptoms
1	0.5-24 hours	Asymptomatic or report anorexia, nausea or vomiting, and malaise.
2	18-72 hours	Right upper quadrant abdominal pain, anorexia, nausea, and vomiting.
3	72-96 hours	Continued nausea and vomiting, abdominal pain. Hepatic necrosis and dysfunction are associated with jaundice, coagulopathy, hypoglycemia, and hepatic encephalopathy. Acute renal failure develops in some critically ill patients. Death from multi-organ failure may occur.
4	4 days to 3 weeks	Patients who survive phase 3 have complete resolution of symptoms and resolution of organ failure.

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