As a resident, you have a support system not only for your educational learning, but also for your social and professional development.

Woody Allen is credited for stating that 90 percent of success is “just showing up.” There is a kernel of truth to this statement. Your future success depends on your presence. The more you “show up,” the more opportunities you have to experience all life has to give and truly find the meaning and purpose in your career.

I often get asked by students and residents what they should be doing to achieve career happiness and fulfillment. Sometimes, I feel they ask my advice due to some perceived success in my career, but most likely it is because I am getting older, and hopefully, wiser. As the song, Everyone’s Free to Wear Sunscreen, states “advice is a form of nostalgia; dispensing it is a way of fishing the past from the disposal, wiping it off, painting over the ugly parts, and recycling it for more than it’s worth.” Here is my career advice to you.

First of all, make the best use of the people and resources available to you during your training. As a resident, you have a support system not only for your educational learning, but also for your social and professional development. Your faculty and fellow residents coexist in an environment that fosters scholarship and collegiality. You may not realize how important this aspect of your residency program is until you are out in practice a few years. You may never have such a supportive academic environment again, so take full advantage of these assets.

Secondly, while in residency, you should explore the aspects of emergency medicine that will excite and motivate you. Whether it is research, teaching,
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Thank you very much for your interest in advertising with EM Resident. As the largest organization to represent the needs of the emergency medicine resident, we are able to reach a unique and important niche of our specialty. EMRA’s mission statement is to promote excellence in patient care through the education and development of emergency medicine residency-trained physicians. It is our belief that this provides the best patient care in an emergency department setting.

To support our mission and provide the greatest advantage to our residency-trained members searching for jobs, we welcome you to advertise in EM Resident, but require that all positions advertised in our publication be addressed only to board-certified/board-prepared, residency-trained emergency physicians.

For the sake of consistency, the use of the terms “ED,” “emergency department,” and “emergency physicians” are preferable to using “ER” or any such derivation.

Your support is very important to us, and we appreciate your compliance with these guidelines. Please respect this policy and reflect its sentiment in your advertisements. EM Resident has the right to refuse any advertisement that does not meet these guidelines.

Thank you again for advertising in EM Resident.

To place a classified or display ad in EM Resident, contact Leah Stefanini, 866.566.2492, ext. 3298, e-mail lstefanini@emra.org, or fax 972.580.2829. Information for advertisers can also be found at www.emra.org.

EM Resident is published six times per year. Ads received by July 1 will appear in the August/September issue.

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**President’s message**

**Striking a balance**

As the end of the academic year approaches, we find ourselves in a time of transition. The graduating residents are preparing to become attendings or looking forward to starting new fellowships, and a new batch of eager interns enters the fold. For those residents who are still in training, the new year brings an extra level of experience and responsibility.

In my program, as with many across the country, there is a final celebration for all the graduating residents. This opportunity to enjoy everyone’s company one last time also gives the seniors an opportunity to tell the program where they will be headed next year. A few residents pursue fellowships. Some choose to work as an attending in a community setting while some sign on with academic institutions. Many end up staying in the city where they train while some set out across the country. One thing is clear—wherever the path leads next, a greater number of graduates are considering lifestyle and work-life balance when choosing their next job.

This emphasis on lifestyle and striking a balance between time spent in the hospital and time at home appears to be a defining factor in our generation of physicians.

The notion of employee wellness and balance exists within the training environment as well. Many emergency medicine programs, in addition to other specialties, have resident-wellness committees and other support functions available for residents in training. These may include regular social functions for the class or program, or pairing senior residents with new interns to function as a big sibling. However, your program address the issue of wellness, it is clear that work-life balance is increasingly recognized as central to a healthy working environment.

Take the time to think about what lifestyle factors are most important to you. It may be that the ideal job for you means being near the mountains or the ocean. Perhaps it means being near a favorite sports team or access to live theatre or music. Maybe it means being near family or in the right school district for children. Start today to strike that balance between your life in the hospital and life outside, and take these issues into consideration when you determine where the path leads next.
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Mission Statement
EMRA promotes excellence in patient care through the education and development of emergency medicine residency-trained physicians.

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June/July 2011 5
EMRA’s 3rd Annual PHOTO CONTEST
A call for photos: Send us your best shots!

“A great photograph is one that fully expresses what one feels, in the deepest sense, about what is being photographed.” - Ansel Adams

If you’ve been inspired lately to capture images from an away rotation, the changing of the seasons, or the sights of your city, we want to see! Send entries to photocontest@emra.org by August 1, 2011. Indicate a title for your photo, your name, School/Program/Hospital, and the category in which your photo belongs.

One winner and one runner-up from each category will be selected and displayed in the October/November issue of EM Resident.

2011 CATEGORIES
Nature & Wildlife
Medical
Travel & Landscapes
Art Photography
Portraits
Sports & Events
Miscellaneous

Submissions will be judged by our editorial staff along with award winning photojournalists: Lisa Bundy, MD, and Giuliano De Portu, MD.

A few of the 2010 Winners

NATURE & WILDLIFE WINNER
Green Parrot, Eric Ernest, MD
University of Nebraska Medical Center, Omaha, NE

SPORTS & EVENTS WINNER
Floating High
Preston Fedor, MD
St. Luke’s Hospital
Fountain Hill, PA

PORTRAITS WINNER
Crossing the Blue Nile, Ethiopia
Russell Davidson, Wayne State Medical School
Detroit, MI

ART PHOTOGRAPHY RUNNER-UP
Reflections on the Streets of Bangalore
Adriano De La Rosa, MD
UT Southwestern/Parkland Hospital
Dallas, TX
Dr. Carol Rivers’ EM Board Review

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Don’t forget to wear sunscreen
...and other advice for career success
continued from cover

clinical excellence, administration, or something else, focus on developing those skills that will enhance your career and give you a competitive advantage. It may be that your interests will change over your career, but your residency program can serve as a platform for exploring and building your expertise.

In developing your skills during your residency program and beyond, it is important to find a mentor. One of the most valuable resources you can have in your career is a good mentor. I have been blessed to have many different mentors during the phases of my career. A mentor is an experienced individual who helps and guides another individual’s growth and maturity, without personal gain.

Decide what you need in a mentor – what skills you’d like to develop with your mentor’s assistance. Consider your goals when choosing a mentor. Your mentor can help assess your strengths and weaknesses, as well as help you develop skills for a successful career path. Look for a relationship in which the mentor is more coach than advisor – one in which the mentor facilitates your decision-making process by suggesting alternatives rather than telling you what to do. Ideally, your mentor will motivate you to do your best work.

Lastly, as Woody Allen stated, “Be available for the opportunities that present themselves.” It doesn’t mean that is all you have to do, but it is frequently the most important. The most difficult steps in life are often the first ones. My career has not followed a straight pathway; however, I remained committed to my focus and was present and available at the right time when opportunities presented themselves.

ACEP has played an important role in my career. It has given me opportunities to develop my leadership skills over the years – skills that have been useful in my career. ACEP also gave me the opportunity to improve my work environment for the wellness of emergency physicians and the betterment of patient care. Empower your ACEP and EMRA membership to expand your opportunities for personal and professional growth.

So rather than thinking that 90 percent of success is “just showing up,” perhaps it’s more reasonable to think that 33 percent of success is showing up (being at the right place, at the right time); 33 percent is preparation; and 33 percent is about working and committing to the task at hand. One percent is often just plain luck. I wish all of you success and fulfillment during your residency training and throughout your career in emergency medicine.

“Whether it is research, teaching, clinical excellence, administration, or something else, focus on developing those skills that will enhance your career and give you a competitive advantage.”
Advocacy at all levels

As a national organization, EMRA’s advocacy efforts often emphasize federal issues. To get involved on the federal level, we urge you to enroll in the 9-1-1 Legislative Network (ACEP’s national grassroots effort to keep members informed about critical legislative and regulatory priorities). You can also learn more about the newly formed EM Action Fund and consider a donation to NEMPAC (the Political Action Committee for emergency medicine) as an ACEP member. While all of these groups are critically important to the future of emergency medicine, you also need to remember the advocacy challenges taking place right at your front door. As they say, all politics is local!

When you are treating an injured person and face specialists who are reluctant to arrange outpatient follow-up for an uninsured patient, you advocate for that individual as their treating physician. When you are working within your hospital system to decrease emergency department boarding, you act as an advocate by encouraging administrators to change OR schedules and nursing staffing models to allow patients to be promptly admitted to your hospital. As you learn more about the critical legislative issues facing emergency medicine, you will likely become more interested in political advocacy.

There are many important federal legislative issues to follow—such as fixing the flawed Medicare reimbursement system (also known as the Sustainable Growth Rate) and ensuring stable GME funding. However, there are also a large number of legislative issues that are more active at a state level. Unlike Medicare, Medicaid is a joint state-federal program. Physician reimbursement for Medicaid patients is determined by each state, and with state budgets in crisis all over the country, major cuts are anticipated. In April, Washington State lawmakers announced that Medicaid patients would be limited to three emergency department visits per year for diagnoses that it deemed “non-emergent.” Some of these diagnoses included chest pain, abdominal pain, and asthma exacerbations. The Washington State Chapter of ACEP has quickly responded with advocacy efforts to protect Medicaid patients’ access to emergency care and oppose bureaucratic efforts to limit emergency department visits.

Medical liability reform is another issue with significant state-level activity. With Republican control of the House of Representatives, several national proposals have been introduced (although their passage through a Democratic-controlled Senate remains questionable). The Patient Protection and Affordable Care Act, a federal law, actually provides opportunities and funds for states to test alternative liability reform models. Many states are currently considering reforms such as health courts, administrative determination of compensation, and safe harbors for the practice of evidence-based medicine. In Texas, a law passed in 2003 placed caps on noneconomic damages and provided specific protection for physicians providing emergency care. This law has been measurably successful in decreasing malpractice premiums and improving the availability of providers without compromising patient safety. There is significant variation in the current liability climate on a state-by-state basis. While we await federal medical liability reform, you should consider asking your colleagues, state ACEP chapter, or state medical organization about the liability laws in your own state.

Each state faces these and many other challenges. To be an effective advocate for your patients and your specialty, take steps to learn more about the current legislative issues in your state!

“As you learn more about the critical legislative issues facing emergency medicine, you will likely become more interested in political advocacy.”
The birds are chirping and the weather is warming up (in most places), and we are quickly closing in on another education-filled meeting in Boston, June 1-4, 2011. As approximately 30 percent of our residency force is getting ready to graduate and tackle the next phase of their respective careers, the SAEM Annual Conference is surely a great place to start. Regardless of your level of training, there is something for everyone.

Just prior to SAEM, ACEP held their annual Leadership and Advocacy Conference (LAC) in Washington DC, May 22 – 25, 2011. This was an excellent meeting for those interested in advocacy and organized medicine, as well as for those thinking of getting more involved with medicine at the national and state levels.

Whether your interests lie with the scientific or political, these two conferences showcase some of the latest advances in our specialty. I want to highlight these offerings, as well as some of the other opportunities that should excite you this time of year.

LAC kicked off at noon on a Sunday and was filled with activities coordinated by the EMRA Board of Directors and alumni, as well as members of the ACEP Young Physicians Section. Attendees enjoyed lectures on some very important issues like tort reform, as well as breakout sessions in the form of roundtable discussions covering a multitude of topics.

The following three days were filled with lectures from prominent members of ACEP and the advocacy leaders in our field. One of the most exciting aspects of the conference was the face time members spent with their senators and congressmen, going door to door on Capitol Hill and talking about issues important to our profession and specialty. Discussing and developing understanding of the political climate was a key aspect of this experience, and there is no greater venue than Capitol Hill to do so!

If you missed out, consider attending the ACEP Leadership and Advocacy conference next year. The registration cost for resident members of EMRA/ACEP is only $25 dollars. Also, don’t forget to check with your program or your ACEP Chapter, as some may sponsor your attendance. What a great value for such a unique experience.

The excitement on Capital Hill has passed, and now we move onto Boston for the SAEM Annual Conference. For those of you who haven’t been to Bean Town, this is a great time of year to visit. This year, we have attempted to make some changes to the meeting. You will notice some more topics pertinent to residents. You will also start to see improvements in the educational offerings as well, both in quantity and quality.

The EMRA Representative Council will proceed as usual, and we have several resolutions and policies on which to vote. As a reminder, no elections are held for the EMRA Board of Director positions during SAEM; that leaves plenty of time for discussions of hot topics in emergency medicine during
the Representative Council Meeting and Town Hall. EMRA’s National Emergency Medicine Jeopardy Contest, EMRA Resident Simwars Competition, and SAEM’s fellowship/residency fairs are on the schedule and will be fun and informative, regardless of where you are in your career.

This year, EMRA is teaming up with SAEM to offer an improved medical student track for those of you preparing to start residency in July. This is a great way to get a jump start and have some of your questions answered prior to starting your intern year. I look forward to seeing many of you at this forum, as you are the future of our specialty and organization.

Lastly, as all of the above is hard work, there must be time to play. As always, EMRA sponsors a rollicking party during SAEM; this year it takes place on Saturday, June 4, at The Estate (The Alley) from 9:30 pm-2:00 am, no cover if you mention EMRA! This is definitely a terrific opportunity to mingle and get to know your colleagues from all over the country. For you baseball fans, although the Nationals were away during LAC, the Red Sox will be home playing the Oakland Athletics June 3-5. It is the perfect time to grab a dog and cold beverage of your choice and enjoy fellowship with other emergency medicine residents and students in Boston!

The Board of Directors wishes to thank the residents whose participation has helped to make both of these conferences so special. Feel free to contact Hamad Husainy at vicespeaker@emra.org or Angela Fusaro at speaker@emra.org with any questions.

EMRA Spring Award Winners

**Academic Excellence Award**
Stacey L House, MD
Washington University in St. Louis

**Alexandra Greene Medical Student Award**
Cameron A Decker
Baylor College of Medicine

**Assistant Residency Director of the Year**
Britney Anderson, MD
Denver Health Residency in EM

**Residency Director of the Year**
Amal Mattu, MD, FACEP
University of Maryland School of Medicine

**Residency Coordinator of the Year**
Peggy Herring
San Antonio Uniformed Services Health Consortium

**Dedication Award**
Priya Kuppasamy, MD
University of Maryland School of Medicine

**Robert J. Doherty Teaching Fellowship Scholarship**
Lt. Commander Joel M Schofer, MD, RDMS
Naval Medical Center Portsmouth

**Jean Hollister EMS Award**
Baruch Fertel, MD
University of Cincinnati

**EMRA Local Action Grant**
Elizabeth Goldberg, MD
Rhode Island Free Clinic

**Travel Scholarship to SAEM**
Anas Sawas
University of Utah School of Medicine;
C Nee-Kofi Mould-Millman, MD
Emory University School of Medicine

**Michael Enslow**
University of Utah School of Medicine

**EMRA Research Grants**
Joshua Jauregvi, MD and Daniel Nelson, MD
Brown University

**Rachel Shing**
Tufts University School of Medicine
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<th>Thursday, June 2, 2011</th>
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<tr>
<td>1:00pm-5:00pm EMRA Board of Directors Meeting</td>
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<th>Friday, June 3, 2011</th>
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<tr>
<td>8:30am-11:30am EMRA Board of Directors Meeting</td>
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<tr>
<td>11:30am-1:00pm EMRA Leaders Luncheon (invitation only)</td>
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<td>1:00pm-1:30pm EMRA Committee Chair Orientation</td>
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<td>1:00pm-2:00pm EMRA Regional Representative Meeting</td>
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<td>1:00pm-3:00pm EMRA Medical Student Governing Council Meeting</td>
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<td>1:00pm-5:00pm EMRA Resident Sim Wars Competition</td>
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<td>1:30pm-3:00pm EMRA Health Policy Committee Meeting</td>
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<td>1:30pm-3:00pm EMRA Research Committee Meeting</td>
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<td>1:30pm-3:00pm EMRA Critical Care Committee Meeting</td>
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<td>1:30pm-3:00pm EMRA International Committee</td>
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<td>2:00pm-3:00pm EMRA Conference Committee Orientation</td>
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<td>3:00pm-4:00pm EMRA Reference Committee Public Hearing</td>
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<td>4:00pm-5:00pm EMRA Reference Committee Work Meeting</td>
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<td>4:00pm-5:30pm EMRA Technology Committee</td>
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<td>5:30pm-7:00pm EMRA Spring Awards Reception</td>
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<th>Saturday, June 4, 2011</th>
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<tr>
<td>8:00am-8:30am EMRA Rep Council Welcome Breakfast</td>
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<tr>
<td>8:00am-8:30am EMRA Rep Council Registration</td>
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<td>8:30am-12:00pm EMRA Rep Council Meeting/Town Hall</td>
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<td>12:00pm-1:00pm EMRA Rep Council Luncheon</td>
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<tr>
<td>3:00pm-5:00pm EMRA Board of Directors Meeting &amp; Committee Updates</td>
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<td>5:30pm-7:00pm EMRA National EM Jeopardy Contest</td>
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<td>9:30pm-2:00am EMRA Party</td>
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All work and no play makes for a dull doc...
Meet us in the Alley for the
EMRA Party
Saturday
June 4, 2011
9:30 pm - 2:00 am

JOIN US AT

4 Full Bars
No Cover
Mention “EMRA” at the door

THE ESTATE
One Boylston Place
(The Alley)
During the recent Accreditation Council for Graduate Medical Education (ACGME) educational conference, a record crowd of 1,600 program directors, program coordinators, and institutional officials heard Dr. Thomas J. Nasca, MD (CEO of the ACGME) speak on a topic entitled, “Transitions in the Learning Environment: Milestones, the Next Accreditation System, and Other Factors Influencing Graduate Medical Education.”

As evidenced by the attention that this recent conference received, interest in the new ACGME accreditation system is quickly escalating. In fact, the very nature of our residency accreditation system is about to change. Many residents are unaware of this pending shift in the design of graduate medical education. In this RRC update, I will review when this shift began, the vision of the new system, and when these changes will be in full effect.

Since the inception of the ACGME in 1981, residency training has focused on the potential of a GME program to educate residents by focusing on structure and process components. The potential to educate has traditionally been measured by compliance with existing program requirements; however, many factions both inside and outside of the ACGME have questioned whether the potential of a program to educate residents can predict its ability to produce competent physicians. In fact, both the Institute of Medicine (IOM) and the Medicare Payment Advisory Committee to Congress (MedPAC) have recently called for increased legislative oversight of GME training.

In July of 2002, the ACGME introduced the Outcome Project, which was intended to assess competency outcomes for resident training. In the first step of this process, the ACGME identified six core competencies that should be mastered in the evolution of a physician from novice to master. Experts from each medical specialty defined specialty-specific competencies within these six broad domains of clinical competency (Patient Care, Medical Knowledge, Professionalism, System Based Practice, Practice Based Learning and Improvement, and Interpersonal/Communication Skills).

Program directors were asked to provide more than a schedule of rotations, written curriculum, and agreements with clinical training venues. They were now required to document objective evidence of resident competency in each of these dimensions of clinical practice. It was hoped that each specialty would develop tools to systemically evaluate learner progress in each competency and that each Residency Review Committee (RRC) would subsequently develop measurable standards.

Unfortunately, residency training has not changed much since the inception of this project. While a consensus of opinion exists on the six core competencies, no further agreement has been made on these educational milestones or the metrics needed to identify their successful achievement. Factors such as increased documentation requirements, institutional financial pressures, medical liability, resident duty hour standards, and a general resistance to change within medicine have combined to derail the process.

In an effort to move this process forward, the ACGME has asked the medical education community to articulate “milestones
of competency development in each discipline.” These “milestones” would describe a developmental progression of desired observable behaviors within each core competency, providing educators with a standardized framework for resident evaluation. They would also enable educators to provide more specific feedback and evaluation to residents, ensuring that they acquire the necessary knowledge, skills, and attitudes for advancement within their program and entrance into independent practice. Finally, the ACGME would use program performance on these milestones to determine a residency’s eligibility for accreditation.

Once these “milestones” have been developed and instituted, a new system of accreditation will begin. One potential change under this new system would be the extension of accreditation cycles from the current five-year maximum to between eight and ten years. Program requirements will be stabilized, although specific elements may be modified as the specialties change. Residents, fellows, and faculty will evaluate the effectiveness of their program through annual questionnaires.

Faculty will also continuously evaluate residents and fellows through periodic progress reports to the RRC. Program directors and institutions will be expected to report program and institutional data annually to the RRC and the ACGME. There are many potential advantages to these changes for residents. If difficulties are identified sooner, the RRC will be able to intervene earlier. This may prevent prolonged exposure to deficiencies within a particular educational environment. Theoretically, this new system will also provide the RRC with longitudinal data to track program performance while simultaneously assuring the public and residents that their expectations on educational outcomes are being met.

In 2007, the ACGME and the American Board of Internal Medicine (ABIM) established a 33-member task force charged with the development of the first “milestones” for that specialty. Originally 64 pages in length, this document has undergone multiple subsequent revisions and is now the model for other specialties. The ACGME and the American Board of Emergency Medicine (ABEM) are convening a similar task force this spring at the annual Society for Academic Emergency Medicine (SAEM) conference. Their timeline will require a first draft in time for the American College of Emergency Physicians (ACEP) Scientific Assembly in October 2011.

This document will then be made available for public comment, with anticipated submission to the ACGME by spring 2012. EMRA will remain closely involved in this process and will have a member of the board of directors participating on this task force. As an advocacy group for EM residents, your EMRA leaders will continue to work for the improvement of EM resident education. Significant changes to the residency accreditation process are coming soon, and they will impact all of us. If you have any questions, comments or suggestions on this or other matters, please feel free to email me at rrcemrep@emra.org.

### Examples of Internal Medicine “Milestones”

<table>
<thead>
<tr>
<th>ACGME Competency</th>
<th>Developmental Milestones</th>
<th>Approximate Time Frame Trainee Should Achieve Stage (months)</th>
<th>Assessment Methods/Tools</th>
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<tbody>
<tr>
<td>Cost effective care for patients and populations</td>
<td>Identifies forces that impact the cost of health care and advocates for cost effective care.</td>
<td></td>
<td>• Standardized examinations</td>
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<tr>
<td>• Incorporates considerations of cost awareness and risk-benefit analysis in patient and/or population based care as appropriate</td>
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<td>• Direct observation</td>
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<td></td>
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<td>• Chart-stimulated recall</td>
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<td>1. Reflect awareness of common socio-economic barriers that impact patient care.</td>
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<td>2. Understand how cost-benefit analysis is applied to patient care (i.e., via principles of screening tests and the development of clinical guidelines)</td>
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<td>3. Identify the role of various health care stakeholders including providers, suppliers, financiers, purchasers, and consumers, and their varied impact on the cost of and access to health care.</td>
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<tr>
<td>4. Understand coding and reimbursement principles.</td>
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### References

Looking for a way to get involved? Want to learn more about a specific area of emergency medicine? Ready to connect with experts in the specialty? Want to wear another fancy ribbon on your name badge at ACEP’s Scientific Assembly? Then you should join an ACEP section!

Choose a section for FREE
ACEP has 30 sections of membership. Sections cover a wide variety of interests (see accompanying chart) and provide a great opportunity to network with like-minded colleagues. It’s a great way to find your niche and at the same time explore all that the College has to offer. Residents, medical students, and fellows – as candidate members of ACEP – receive FREE membership to one ACEP section. If more than one section is of interest to you, additional sections cost only $20 each to join.

So, what do sections do?
By bringing individuals together who share a common interest, sections create an environment to:
• Exchange information between section members and the rest of ACEP
• Speak as a unified group to ACEP leadership
• Develop ACEP policy statements and information papers
• Advocate for emergency medicine-related legislative issues
• Coordinate with other organizations with the approval of the President and/or Board of Directors

Unlike ACEP committees, sections are not assigned objectives by the ACEP President. Instead, sections develop goals and objectives in their area of interest, and these are submitted to the ACEP Board of Directors for approval. As a result, the direction that a section takes is open to the creativity of its members.

Having sections is of obvious benefit to the College. It is a way to utilize the collective expertise of a group on specific issues. It is also a way to develop and foster professional leadership within the organization. Residents, students, and fellows can start laying the foundation for their future career paths, taking on as much responsibility as they want along the way.

Staying connected
As a member of an ACEP section, you will be included on the section e-list. This email list helps to facilitate communication among section members. Some sections may also have scheduled conference calls.

Each section also produces up to four online newsletters each year. As a member you have the opportunity to contribute to these newsletters by writing an article that can take the form of a clinical update, a journal club, or even a brief review of a few clinical pearls.

In addition, there are also section grants available to fund projects. The grants are designed to help the section meet member needs, educate the public, and/or advance emergency medicine. You can work with the chair of your section to apply for a grant by submitting a letter of intent.

―Section membership allows you to connect with others who share your interests, helping to build relationships that can last your entire career.‖

Jordan Celeste, MD
ACEP Representative
Brown University
Providence, RI
The annual meeting

If there weren’t already enough good reasons to make it to ACEP’s Scientific Assembly, each section holds its annual meeting there. This meeting is used to review the past year, and of course, to plan for the future. Usually, an educational component is also included, as well as an election for the chair-elect position. The annual meeting provides the opportunity for individuals to network and finally put faces to names and email addresses.

At the ACEP Council Meeting, each section seats a credentialed councilor (if they have 100 dues-paying members, or the minimum number established by the Board of Directors) who votes on proposed College resolutions and bylaw changes. Each section can also have alternate councilors, which could be a great way for residents, students, and fellows to get more involved with ACEP and the council process.

Take the next step!

As you can see, ACEP section membership offers a lot – and it’s FREE. You can learn about different areas of emergency medicine and take on as much of a leadership role as you want. You can publish in the online section newsletter, and even help to write or edit new policy. Section membership allows you to connect with others who share your interests, helping to build relationships that can last your entire career.

Head to www.acep.org/sections/ to learn more and to visit each section’s homepage. If you’re ready, JOIN! If you’re not quite there yet, that’s okay too. Keep an eye on your inbox for ACEP section updates in your What’s Up in EM? emails. ACEP’s Scientific Assembly this year will also feature a Section Fair, which will help to guide you in choosing your first section to join – or your second – or third...

AECF sections of membership

- Air Medical Transport
- Cruise Ship and Maritime Medicine
- Emergency Medicine Research
- Geriatric Emergency Medicine
- Quality Improvement and Patient Safety
- Trauma and Injury Prevention
- American Association of Women Emergency Physician’s
- Democratic Group Practice
- EM/IM Dual Training
- International Emergency Medicine
- Rural Emergency Medicine
- Undersea and Hyperbaric Medicine
- Careers in Emergency Medicine
- Disaster Medicine
- Emergency Ultrasound
- Medical Humanities
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- Certification and Emergency Medicine Workforce
- EM Informatics
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- Observation Medicine
- Tactical EM
- Wilderness Medicine
- Critical Care Medicine
- EM Practice Management and Health Policy
- Forensic Medicine
- Pediatric Emergency Medicine
- Toxicology
- Young Physicians

Annals of Emergency Medicine

Resident Editorial Board Fellowship Appointment

The Resident Fellow appointment to the Editorial Board of Annals of Emergency Medicine is designed to introduce the Fellow to the peer review, editing, and publishing of medical research manuscripts. Its purpose is not only to give the Fellow experience that will enhance his/her career in academic emergency medicine and in scientific publication, but to develop skills that could lead to later participation as a peer reviewer or editor at a scientific journal. It also provides a strong resident voice at Annals to reflect the concerns of the next generation of emergency physicians.

Please visit Annals’ Website at www.annemergmed.com for a copy of the complete application. Due date is July 11, 2011.

Questions should be directed to Stephanie Wauson, Editorial Director, Annals of Emergency Medicine, at 800-803-1403 x3222 ext. 3221, or by e-mail to swauson@acep.org.

Save the Date

For more information or to register www.acep.org
or call 800-798-1822 x6
Registration opens June 1.

Don’t miss EMRA’s events

October 14-17
Visit the EMRA website at www.emra.org
Most pediatric emergency physicians are happy to leave winter, along with its viral illnesses, behind. Yet another case of bronchiolitis could push an otherwise sane doctor over the edge. But as the snow thaws and the weather warms, summer brings new health challenges for pediatric patients.

### Epidemiology
Heat illnesses cause significant morbidity and mortality. One study estimated that there were 54,983 emergency department visits nationally for exertional heat illnesses from 1997-2006, with 47.6 percent of these involving children. From 1999-2003, there were 3,442 heat-related deaths. Every year, heat stroke is responsible for deaths among teen athletes and in young children left in vehicles.

### Pathophysiology
Heat illnesses occur when the body cannot dissipate enough heat to offset endogenous heat production and absorbed ambient heat. Metabolic demands, oxygen consumption, and CO2 production increase and a systemic inflammatory response occurs. At core temperatures >42°C, proteins and enzymes denature, oxidative phosphorylation uncouples, and severe organ damage occurs.

### Children > little adults
If one sits in the hot sun long enough they will perspire until they become dehydrated, they will then be unable to dissipate heat. Hyperthermia then develops, which will ultimately cause end organ damage and death. Children are at higher risk for heat illnesses for a variety of reasons, as shown in Table 1.

### Heat exhaustion and heat stroke
Heat exhaustion (HE) and heat stroke (HS) are severe heat illnesses with common presenting features: tachycardia, tachypnea, diaphoresis or anhidrosis, vomiting, headaches, and fatigue. In HE, core temperature is usually <40°C, CNS and other organs are minimally involved, and injuries resolve with therapy. In contrast, HS findings include core temperature is >40°C, CNS findings range from disorientation to seizures and coma, and, possibly organ damage. Subtypes of HS are classic, caused by heat exposure, and exertional, from exercising in warm environments. Complications of HS include rhabdomyolysis, cerebral edema, seizures, acute renal failure and tubular necrosis, shock, liver failure, DIC, hyponatremia, and other electrolyte disturbances. Despite these differences, the initial workup and management of HE and HS is the same.

### Prehospital care
Quickly decreasing a hyperthermic child’s core temperature is essential. The child should stop physical activities, be moved to somewhere cool, and extra clothing removed. If water is available, the skin should be wet and a fan used to promote evaporative cooling. If the child can drink, encourage electrolyte-containing beverages. In mild HE, these measures may resolve the illness.

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**Table 1: Factors that make children at increased risk for heat-related illness**

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<thead>
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<th>Factor</th>
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<tr>
<td>Higher basal metabolism produces more endogenous heat</td>
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<tr>
<td>Larger body surface area-to-mass ratio absorbs more ambient heat</td>
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<tr>
<td>Higher temperature threshold to induce sweating and smaller sweat glands limits heat dissipation from perspiration</td>
<td></td>
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<tr>
<td>Smaller absolute blood volume provides little reserve capacity against dehydration</td>
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<td>Slower acclimatization increases their susceptibility to climate changes</td>
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During transport, EMS providers may place ice packs on the neck, axilla, and groin to dissipate heat. Intravenous or intraosseous rehydration should be started, provided line placement does not delay transport. It is helpful for EMS to measure core temperature on scene via rectal thermometer (oral, axillary and tympanic thermometers underestimate core temperature); however, many squads lack that capability. Lower measurements in the emergency department can confound the diagnosis or underestimate disease severity.

**Emergency department evaluation and management**

Heat stroke is a systemic illness. Presentation depends on the organ systems involved. It should be on the differential for children with elevated temperature and any of the following: CNS, gastrointestinal, respiratory or renal disturbances, hemodynamic instability, myalgias or signs of coagulopathy. Other differential diagnosis includes sepsis, malignant hyperthermia, thyroid storm, differential diagnosis includes sepsis, myalgias or signs of coagulopathy. Other systems involved. It should be on the presentation depends on the organ disease severity.

Evaluation starts with the ABC’s. Airway protection and respiratory support may be required for CNS disturbances or inadequate oxygenation/ventilation. Dehydration and systemic inflammatory response may compromise circulation. Establish two IV lines to maximize resuscitation. If access cannot be established quickly, place an intraosseous or central line to avoid delays in therapy. Standard 20mL/kg boluses are often insufficient to correct dehydration. Consider a larger first bolus for severely dehydrated children and reassess adequacy of resuscitation frequently. Institute pressors/ inotropes if inadequate perfusion persists after intravascular volume is repleted.

In the emergency department, hyperthermia is treated with external and/or internal cooling. The gold standard for external cooling, ice-water immersion, is rarely used because monitoring submerged patients is difficult, requires supervision to prevent drowning, and causes considerable discomfort. Safer, better-tolerated approaches include evaporative cooling, combined mini-immersion/evaporation, and convection devices. The most effective evaporative cooling method is to undress the child and spray with cool water as a fan blows. In mini-immersion/evaporation the child sits in a shallow tub of cold, but not icy, water and is again sprayed and fanned. It is useful for toddlers, who splash and play as they cool. Convection devices used for therapeutic hypothermia are another option, particularly for intubated/sedated kids who need close monitoring.7

Internal cooling compliments external methods for faster cooling. The most effective method is cardiopulmonary bypass, but availability is limited and is reserved for the sickest patients. IV hydration with chilled fluids and iced gastric, rectal, bladder and peritoneal lavage are also used, but their effectiveness is not well established.8,9

Core temperature should be closely monitored with a rectal thermometer or esophageal, bladder, or central venous temperature probes. When core temperature reaches 38-39°C, the risk of end organ damage decreases and cooling measures should be discontinued to avoid overcorrection.

The diagnostic workup for heat illnesses centers on identifying end organ damage and complications (see Table 2).

**Medications**

Benzodiazepines are useful because they reduce shivering and help patients tolerate therapies. Benzodiazepines are the first line therapy for seizures in children with heat illnesses.

Avoid antipyretics in hyperthermia as they do not decrease temperature in heat illnesses and may exacerbate liver (acetaminophen) and kidney (NSAIDs) injuries.

**Disposition**

Most children with HE can be discharged home when their symptoms resolve. Before discharge, confirm that the child is at baseline mental status, is drinking and voiding sufficiently, has normal vital signs, has reliable follow up, and parents understand return precautions.

Admission should be considered in children not meeting these criteria or those with significant mental status or electrolyte abnormalities at presentation. Children with HS often warrant ICU admission for close hemodynamic monitoring.

**References**

I’m writing my last medical student article from the most magical place on Earth. No, not Disney World: it’s the magical time between finishing medical school and starting residency—the time of limited/no responsibility, a small amount of remaining student loan money, and an abundance of free time. If I weren’t pumped about starting residency, then I would want to stay here forever or at least be able to come back for a visit. There is opportunity for more than shenanigans; this is a great time to do some reflection on the last four years of life. I’ve been thinking a lot about what I’ve learned—not just the medical knowledge, jargon, or skills, but also the life lessons that have changed, molded, and influenced me.

As second years get ready to start their first clinical rotations and third years look forward to their first month in the emergency department, there is much discussion about the most important thing they need to know. Everyone is looking for that key piece of advice that will make him or her a superstar standout. I’ve enjoyed walking down memory lane, reminiscing with my friends about the journey we are ending. We’ve recalled the highs and lows, the sleepless nights, the best days that always ended before noon, our miracle cases, and our first patient death.

How did we survive? How did I accomplish a nearly impossible feat of reaching graduation with my sanity and integrity intact? What is the most important thing I learned in medical school?

I think of the quote, “The first kindness is competence.” I did my best to be competent, but I’m not sure that’s the most important lesson. I think of the band-nerd motto, “To be early is to be on time—to be late is to be dead.” Punctuality, while important, is not the most critical lesson (and not something I’ve mastered either!) It’s definitely not, “An apple a day keeps the doctor away,” since my hospital diet consisted of chicken fingers and peanut butter pie. I’ve concluded that the most important thing I learned in medical school is to…Just Roll With It.
The last summer of your life

Spring has arrived! Outside, birds are singing and the dogwoods are in full bloom. Perfectly-color-coordinated tulips frame the flowerbeds and plush grassy knolls where MSI students have begun to congregate, abandoning their dark study rooms for a more vitamin D-friendly environment.

This, of course, is the view from my window, in an otherwise dark study room. For me, this spring scene is little more than a distraction from the seemingly endless stack of Step One review material on my desk. Peering through the window while Goljan audio lectures blare in my headphones, I’m reminded of just how quickly time passes in medical school.

I watch the MSI students as they lounge on picnic blankets, leisurely reading notes and soaking in the sun. They quiz each other over lecture material, share food from their lunchboxes, even laugh. But reality will soon set in: summer is just around the corner.

For medical students, the summer between MSI and MSII is commonly referred to as the “last summer of your life.” A few precious weeks of free time in June and July, it’s our last chance to enjoy the single-finest benefit of being a backpack-wearing, pencil-box-carrying, PB&J-eating, 26-year-old student. It is our last chance to indulge in a real summer vacation.

With so much at stake, decisions on how to spend “the last summer of your life” can be difficult. For some, the decision is easy. Gunners and hardcore academics will continue their research projects throughout the summer. Free spirits will travel halfway across the world on medical mission trips. And, of course, our stable, relatively-sane friends will choose to spent quality time at home with their families.

But what if you want it all? If you’re one of those relatively-stable, free-spirited gunners with a love for travel, consider a clinical practicum in the emergency department. Relaxed, upbeat, and filled with endless learning opportunities, a clinical practicum is the perfect way to satisfy your gunner side without neglecting your love for travel, family, and a nice fruity drink by the pool.

On the first day of my clinical practicum, I arrived in my hometown emergency department to find a cheerful staff that was eager to teach. After a few hours of shadowing, my preceptor assigned me a few patients of my own, and I was encouraged to “make as many mistakes as possible.” For someone who had just finished her first year of medical school, that was music to my ears.

Since I took my practicum in June, I did not have to compete with new emergency medicine interns for my attending physician’s attention. I had endless opportunities to see patients, ask questions, present to senior staff, and perform various procedures. Shifts flew by so quickly that I found myself staying later and later, eagerly anticipating the next learning opportunity to come through the triage doors. Of course, I still had plenty of time between shifts to savor the other joys of summer. At the end of my practicum, I felt totally rejuvenated. It was the best vacation I could have ever asked for.

Last year, I was one of those MSI’s hanging out in the grassy knoll, trying to revive myself after the most intense academic year of my life. I was exhausted, slightly homesick, and in need of affirmation that medical school had been the right choice for me. It was there that I decided to spend the summer doing the things that I loved. At the time, I thought that meant fantastic trips, concerts, fruity drinks by the pool, and good times with friends. As it turned out, the two weeks I spent in my hometown emergency department provided some of my fondest memories from the “last summer of my life.”

“Relaxed, upbeat, and filled with endless learning opportunities, a clinical practicum is the perfect way to satisfy your gunner side without neglecting your love for travel, family, and a nice fruity drink by the pool.”
What students doctors need to know about organ donation

Remember when you received your medical school acceptance letter? Suddenly, all of your closest friends, family, and neighbors began asking your professional medical opinion on just about everything. This was your introduction to the educational role that all of us share. As future doctors, we represent a valuable source of medical information for the public and will often be called upon to help alleviate the fears, myths, and misconceptions conveyed in the popular media. One of the most misunderstood areas in medicine today is organ donation, which is also an increasingly important therapeutic intervention. Consequently, I’d like to take a few moments to dispel some of the more common misconceptions about organ donation that you may be called upon to address.

Myth #1: I am too old to donate organs.
Fact: Age is never an absolute contraindication to organ donation. Each potential organ donor is referred to a local organ recovery agency to determine whether they are medically eligible for donation. Multiple factors are evaluated, including age and comorbidities. Currently, patients with a history of malignancy, HIV, or Hepatitis B surface antigen are not eligible for organ donation.

Myth #2: Only abdominal organs can be donated.
Fact: Transplantable organs include the lung and heart, as well as the liver, kidneys, pancreas, and small bowel. Transplantable tissues include bones, tendons (both referred to as musculoskeletal grafts), corneas, skin, heart valves, and veins. Although most donated organs come from deceased patients, some organs, including lung, kidney, and partial livers, can be donated by living individuals.

Myth #3: If I am an organ-donor, the doctors won’t work as hard to save me.
Fact: If you are sick or injured, the number one priority of health care providers is to save your life. Although organ or tissue donation can only be considered if you are deceased, no investigative or oversight agency has ever found any evidence of substandard medical care among organ donors. In fact, it is not standard procedure for paramedics or emergency care providers to check patients for a donor card or ask their donor status on initial evaluation.

In order for organs to be viable for donation, the patient’s blood pressure and oxygenation must be optimized. Consequently, allowing a patient to decompensate in order to obtain their organs for donation would probably ruin the organs for transplant purposes.

Myth #4: They’ll take my organs out before I am dead.
Fact: Organ donation is not discussed with a patient’s family until the patient is declared dead. “Brain death” is the most common medical, legal, and moral definition of death used today and is defined as the complete and irreversible loss of all brain function. This diagnosis requires evidence of absent brain activity, blood flow, or oxygen uptake by the brain. Two independent licensed physicians must agree on the fact of the patient’s brain death before the organ donation process can begin. Some organs may also be salvaged after cardiac death, although low blood pressure can prevent donation by causing excessive organ damage. Consequently, donation after cardiac death is only offered to families after they have made the independent decision to withdraw artificial support of their loved one. In these cases, the patient has been determined to have no prospect of survival without artificial support. The patient is brought into the operating room prior to the withdrawal of artificial support, and the organs are recovered shortly after asystole occurs.

Myth #5: Rich and famous people get moved to the top of the waiting list.
Fact: Patients are ranked for organ transplantation based on the severity of their illness, time spent on the waiting list, blood type, and other relevant medical information. The system of allocation does not consider race, gender, age, wealth, fame, or social status when determining who will receive an organ transplant.

Myth #6: Criminals steal organs to sell on the black market.
Fact: It is illegal to sell human organs under any circumstances in the United States, although it is possible for individuals to voluntarily donate their own organs. Doctors who are found guilty
The language gap: Once again, the golden rule applies

No matter what advancements we have made in technology or services and despite greater pressure to swiftly treat, we all know that a solid history and physical are invaluable to providing quality patient care. Without it, we don’t know where to look, what to test, or how to treat. So how can we function without it?

There are plenty of barriers in the emergency department to obtaining a thorough history from a patient—altered level of consciousness, time constraints, and interruptions. Increasingly, this list also includes the possibility of a language barrier between provider and patient. I know this because I’ve been there—as a patient.

I experienced this conundrum firsthand in rural Thailand. I was with a team that had just finished guiding a group of American students across the country. I had planned to take home countless memories; I hadn’t planned on a parasite.

After a day of unrelenting GI distress, my energy dropped and my temperature soared. Somewhere between dehydration and syncope, I was carried into the closest emergency department.

I’d been in the country long enough to become conversational in the language, but that all went out the door when I was too sick to move. I really didn’t know what was going on or why people were jabbing me with needles, and I would’ve liked to know what I was signing. I groggily woke up in a hospital room upstairs the next morning, barely cognizant of what happened the evening prior.

I was fortunate enough to only have an acute problem that was fairly straightforward. Many patients aren’t that easy. Patients who don’t speak English are less likely to have adequate access to primary care providers, may have complicated travel histories that expose them to pathology outside of our comfort zones, and may present further along in the course of disease than their English-speaking peers. As providers with patients who we can’t directly communicate with, we may become tempted to limit our questioning and make more presumptions than we would otherwise.

As a medical student in Miami, I face this language dilemma with most patient encounters. Should we use our limited language skills to pick up as much as we can, crossing our fingers that we don’t miss something or encounter a new phrase outside of our vocabulary? Dare we take the easy way out and use the family member next to the bed as our interpreter?

We need to be sure to recognize our own shortcomings and commit that extra bit of time for the sake of properly caring for our patients. It’s unrealistic to expect us all to become bilingual; we’ve got plenty on our plates as is. But as students who spend time in different facilities, we must be sure to know and utilize whatever language resources are available to us, be it a telephone or live interpreter.

A little extra effort in securing proper translation goes a long way to providing adequate and responsible care. Trust me—you’ll hope someone does it for you.

Graham Ingalsbe, MSIII
Medical Student Council
Southeast Region Representative
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Miller School of Medicine
Miami, FL

“Patients who don’t speak English are less likely to have adequate access to primary care providers...”

What student doctors needs to know about organ donation continued from page 22

of dealing in illegally-obtained organs will have their medical license revoked. Although they do exist in some other countries, there is no “black market” for human organ trafficking in the United States. Furthermore, no cases of stolen organs have been reported in this country.

Myth #7: My religion does not approve of organ donation.
Fact: All major religions within the United States support organ donation and transplantation, although different religions have different perspectives on the decision to give or accept donated organs. Most agree that organ donation can be a person’s final act of love and generosity toward others.

Myth #8: If I donate organs, I cannot have an open casket at my funeral.
Fact: An open casket funeral is possible for organ, eye, and tissue donors. A donor’s body is treated with care, respect, and dignity throughout the donation process.

Myth #9: Organ donation will add to my hospital bill.
Fact: Organ or tissue donation does not add any cost to the donor or their family.

Eighteen people die each day waiting for the gift of life. To register as a potential organ donor, visit http://donatelife.net/register-now/ today!
Preventing medical mistakes - think like a safety engineer

By now, we are all aware of the Institute of Medicine’s 1999 report that up to 98,000 deaths each year are due to medical mistakes. But what can we do to prevent such errors while working in the emergency department? No one goes to work planning to give the wrong dose of heparin or perform a procedure on the wrong part of the body, but it still happens. Ninety-three cases of wrong-site surgeries were reported to the Joint Commission in 2010.

Modern medical care depends on technology, from electronic medical records with digital radiographs to cardiac monitors and bedside ultrasound. We use machines to monitor, diagnose, treat, and keep records about our patients. Every step of patient management uses technology, yet often we are so busy using it that we do not realize these systems can lead to new errors and delays in care. As medical students starting our careers, it is of critical importance that we are aware of these problems and work towards solutions.

The field of Human Factors Engineering (HFE) examines the interaction between humans and the systems we use—both technological and organizational. The International Ergonomics Association uses the following definition: “Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data, and other methods to design in order to optimize human well-being and overall system performance.” HFE experts work to determine when this interaction is working as intended, when it may facilitate mistakes, and how to improve system design.

The following case illustrates the role of HFE with respect to external defibrillators.

A 60-year-old woman with chest pain and known coronary artery disease arrives in the emergency department by emergency medical services. The patient is diaphoretic with increased work of breathing. The cardiac monitor shows a narrow complex tachycardia, consistent with supraventricular tachycardia (SVT), with BP 80/60 and HR 180. The patient is recognized to be unstable and the team prepares for synchronized cardioversion.

The defibrillator is placed in “SYNC” mode and a shock delivered. Despite the appropriate shock the patient remains in SVT with a blood pressure of 70/40 and weak femoral pulses. The defibrillator is recharged and a shock delivered. The patient immediately goes into ventricular fibrillation (VF), is unable to be resuscitated, and dies.

Review of the code strip reveals that the monitor was not in SYNC mode for the second shock and the energy was delivered at the peak of the T-wave, placing the patient in refractory VF.

It sounds like a nightmare, but this situation occurs more often than you would expect.

In a usability study looking at monitor-defibrillators, 14 experienced paramedics accidentally administered an unsynchronized shock 50 percent of the time when they intended to perform synchronized cardioversion. More worrisome was that most of the users did not know that this error had occurred.

The root cause of the problem was that the defibrillators are programmed to revert to the unsynchronized mode after a synchronized shock. This is, by design, to prevent delays in case a patient converts to pulseless VT/VF and requires an unsynchronized shock.

However, the machines do not alert the provider that they have transitioned out of synchronized mode. Thus, in the middle of a synchronized cardioversion – a high-stress, high-stakes procedure – the device designer assumes that the provider will remember to place the defibrillator back in synchronization every time.
This approach to determining the root cause of the problem in the defibrillator study is one example of a “systems” way of thinking—instead of looking for human error, the researchers focused on whether the device’s design allows users to accomplish its intended function. According to this line of reasoning, the burden of safety should be on the device. Healthcare providers are doing their best to use the technology correctly. Expecting a healthcare provider to track the state of the medical device without assistance will result in a predictable number of adverse events.

While studies like this one target design choices the device manufacturer can change, it is not necessary to conduct research to prevent mistakes. Everyday we do things in the course of patient care that might cause harm—we have the opportunity to recognize and report such situations.

What often keeps healthcare providers from reporting errors and “near miss” errors is fear of punishment and blame. One important foundation for analyzing systems safety is promoting a “just culture,” where individuals are not punished for reporting errors.

The concept of “just culture” recognizes that individuals make mistakes—we are, after all, human—but also that this is not the same as being reckless. This awareness encourages people to report not only when mistakes occur, but also when they almost occur.

Safety scientists have long described the incidence of mistakes with an iceberg model: the accidents we know about are the ice we can see, while the incidents and near misses are the huge hulk of ice below the surface. Think about that in the context of those 93 wrong-site surgeries that were voluntarily reported to the Joint Commission last year.

The beauty of taking a systems approach to patient safety is that once you start, it rapidly becomes automatic. You start to see your emergency department differently. Instead of blaming yourself when you write a note in the wrong patient’s chart, you think, “How did this happen? What contributed to the mix up?” Or if you see a nurse stop before giving the wrong patient a medication, you think, “How can we design an ordering system that helps the right patient get the medications ordered for them?”

This mindset makes it possible to reduce the likelihood of the error happening again. So the next time a coworker points out a near miss or an error, thank them for catching it, think about how it happened, and report it. In the end, we as future physicians cannot improve the system and protect patients if we do not know where the problems are.

References
A lesson in clinical reasoning: Do not miss the life or limb threatening condition

Introduction

Emergency medicine physicians are master diagnosticians. On a daily basis, we are confronted with a barrage of patients with undifferentiated complaints that need to be seen and evaluated. The job of the emergency physician is to wade through this sea of patients who come into our departments and pluck out those patients who have life or limb threatening diagnoses and put them back on a road toward health. In some instances, we are not able to provide patients with an ultimate diagnosis, but we rule out any potentially serious life or limb threatening condition while they are under our care.

Whether they realize it or not, most emergency physicians use a two-pronged approach to clinical reasoning that combines both analytical and intuitive approaches to guide their thinking with respect to patients with undifferentiated complaints. Experts in clinical reasoning describe this as the dual-process clinical reasoning theory. The analytical approach uses deductive reasoning and relies on statistics, evidence based medicine, and highly systematic thinking to solve diagnostic dilemmas. The analytical approach tends to be more time consuming, but it is useful for less experienced diagnosticians seeking an organized approach to clinical reasoning in medicine.

The intuitive approach uses inductive reasoning and relies heavily on experience and an ability to recognize patterns of illness. Seasoned practitioners with a breadth of experience most often use the intuitive approach to match undifferentiated patient complaints with patterns of illness that they have seen in the past. The biggest advantage of the intuitive approach is speed. The pitfall of this approach is missing the serious life or limb threatening condition if one’s intuition of the pattern of illness is wrong.

History, physical, and initial evaluation

The patient was an elderly male with a history of hypertension and chronic back pain who presented with an acute onset of right foot drop and leg pain while vacuuming. The patient denied any trauma or recent falls, but felt as if the pain in his leg felt similar to his chronic back and sciatic pain. The pain came on very suddenly. The patient had been unable to move his foot since the onset of the pain. He was able to bear weight on the affected leg but had difficulty ambulating due to the foot drop. Vital signs were normal with a blood pressure of 146/68 and heart rate of 64. The patient’s physical exam demonstrated no heart murmurs, a regular rhythm, and no abdominal pain or masses. The patient had full passive range of motion of the hip, knee and ankle, and the right leg appeared grossly normal. There was a normal dorsalis pedis pulse. He had a normal neurologic exam with intact rectal tone and sensation, reflexes, and strength with the exception of an inability to dorsiflex his right foot demonstrating a complete foot drop. The patient had an ECG showing normal sinus rhythm and plain films of the spine, hip, and knee that were normal.

Clinical impression

The initial, intuitive impression of the providers in this case was that the patient had a process in his lower back that was causing his foot drop. The leading diagnosis was a ruptured disc causing impingement that resulted in the foot drop. The leading diagnosis was a ruptured disc causing impingement that resulted in the foot drop. The patient had a process in his lower back that was causing his foot drop. The leading diagnosis was a ruptured disc causing impingement that resulted in the foot drop. Other central nervous system causes that could have caused a foot drop such as a stroke, an epidural bleed or infection, and a compression fracture of a vertebral body were considered. The patient demonstrated an otherwise normal neurologic exam thus a stroke was not considered likely. He did not have concerning findings of fever, prior malignancy, or cauda equina.
“Seasoned practitioners with a breadth of experience most often use the intuitive approach to match undifferentiated patient complaints with patterns of illness that they have seen in the past.”

Using a more expansive, analytical approach to the patient’s symptoms, both peripheral nervous system and vascular causes of the foot drop were considered. There appeared to be no evidence of local injury to the leg to cause a peroneal nerve palsy or a past medical history of multiple sclerosis, diabetes, or other conditions to suggest a peripheral neuropathy. The patient had a normal dorsal pedis pulse and good capillary refill in the foot to make a vascular lesion less likely. He was in a normal sinus rhythm and had no abdominal masses to suggest an abdominal aortic aneurysm.

**Clinical course**

The team attempted to obtain an emergent MRI of the lumbar spine to assess for a ruptured disc or other spinal cause of the foot drop, but this testing was not immediately available. As the patient’s symptoms were stable and the team was able to arrange close follow-up with his primary physician, the patient went home with plans for an MRI as an outpatient. The patient was seen in clinic with continued foot drop but also having new swelling in the lower leg.

A second visit to the emergency department revealed a lumbar MRI with extensive degenerative disc disease and arthritis but no obvious spinal cord or nerve root impingement. An ultrasound of the leg revealed an acute deep venous thrombosis of the popliteal vein that extended into the distal femoral vein. Given the lack of an obvious cause of the patient’s symptoms from his lower back, an arterial vascular cause of the foot drop was pursued.

The patient had a CT angiogram of the torso and the right leg showing a normal aorta but an occlusive thrombus of the right popliteal artery and non-occlusive thrombus of the femoral artery with reconstitution of flow in the distal extremity. The patient was admitted to the hospital for anticoagulation and catheter-directed thrombolysis. The patient had a normal echocardiogram while hospitalized. The clot was not successfully treated with anticoagulation and the patient eventually underwent a thrombectomy of the popliteal artery and four-compartment fasciotomy of the lower extremity. During the surgery, the muscles of the anterior compartment of the right leg were necrotic. The patient recovered from the fasciotomies; however, he continues to have foot drop and is undergoing physical therapy to help with his ambulation.

**Discussion**

The patient’s initial presentation of foot drop was almost certainly the result of an acute arterial thrombosis. This thrombosis likely caused compartment syndrome and impacted the functioning of the peroneal nerve. The pitfall with the *intuitive approach* to the chief complaint of foot drop was that the team anchored on the presumption that the explanation for these symptoms lied in the patient’s lower back, such as a ruptured disc. Although they considered the possibility of a vascular cause of the patient’s symptoms on the initial presentation, the normal pulses and normal capillary refill of the lower extremity reassured the team. Had the team pursued additional diagnostic imaging they may have identified the diagnosis sooner.

As emergency physicians, we must remember the mantra of “worst first” diagnoses. This should be the foundation of our *analytical approach* to clinical reasoning. If the possibility of serious life threatening or, as in this case, limb-threatening conditions exist, they must be aggressively pursued. Not that every patient needs an exhaustive diagnostic evaluation to rule out every serious condition, but when the diagnosis is unclear and the possibility of a life or limb threatening condition remains, emergency physicians should search for these serious diagnoses.

The intuitive approach to diagnostic reasoning is effective and efficient, especially in the hands of experienced clinicians. Junior diagnosticians will often rely more heavily on the analytical approach to diagnostic dilemmas particularly when the clinical picture is confusing or the risk to the patient is high. Vascular catastrophes resulting from arterial thrombo-embolic disease and arterial dissections are notoriously difficult diagnoses to make. They pose a particular risk to emergency physicians as they are relatively rare conditions and have grave consequences if not diagnosed in a timely fashion. Given the real possibility of a limb threatening condition causing acute foot drop, intuitive diagnosticians must appreciate the gravity of the vascular, central and peripheral nervous system causes of this finding. When faced with this degree of uncertainty and magnitude, patients should be worked up aggressively.

**References**

Hyperoxia following cardiac arrest may worsen outcomes

The research question

Given the high rates of morbidity and mortality in patients with return of spontaneous circulation (ROSC) after cardiac arrest, clinicians and researchers alike have questioned how patient outcomes can be improved. For example, some current literature has demonstrated that hypothermia after cardiac arrest can improve neurologic outcomes.

Investigators are presently looking at the administration of oxygen at high concentrations – hyperoxia – as a common practice following cardiac arrest and ROSC. Based on theories from animal models, the investigators hypothesize that hyperoxia following ROSC results in worsened clinical outcomes.

Methodology

Study design

- Retrospective multicenter cohort study
- Data taken from a critical care database collected from 120 United States intensive care units
- Data taken from ICU admissions between 2001 and 2005
- Inclusion criteria: age older than 17, non-traumatic cardiac arrest, admission to the ICU, CPR within 24 hours before arrival to the ICU and ABG performed within 24 hours after ICU arrival
- Exclusion criteria: None
- Cohort groups were based on PaO2 levels obtained from the first blood gas in the ICU

- Primary Outcome: Survival to hospital discharge
- Descriptive statistics included means with standard deviations, medians with interquartile ranges (IQRs), and proportions with confidence intervals
- The primary outcome was then analyzed using chi-square tests and Kaplan-Meier survival curves (with log-rank tests to determine significance)
- Finally, odds ratios and multivariate logistic regression were used to identify factors that were predictors of mortality

Definitions for cohorts

1. Hyperoxia: PaO2 greater than 300
2. Hypoxia: PaO2 less than 60
3. Normoxia: PaO2 between 60 and 300

Results

Overall, 6,326 patients met the inclusion criteria (2,410 did not have an ABG within 24 hours of arrival to the ICU and were excluded). Sixty-six percent were functionally independent before admission. Forty-three percent were admitted from the emergency department, while the remaining patients were admitted to the ICU from a hospital inpatient service.

Eighteen percent met criteria for hyperoxia while sixty-three percent met criteria for hypoxia. Nineteen percent were neither—they met the criteria for normoxia. In-hospital mortality was greatest in the hyperoxia group. In-

“Avoiding hyperoxia in patients following cardiac arrest and ROSC is not an evidence-based practice at this time, and further additional studies need to be conducted before clinical practice is changed.”
hospital death was significantly higher for patients in the hyperoxia group than for patients in either of the other groups (p < 0.001 for hyperoxia vs. hypoxia and p < 0.001 for hyperoxia vs. normoxia group). See Table 1.

- In terms of secondary outcomes, when time to survival was analyzed using Kaplan-Meier survival curves, the only significant difference was between the hyperoxia and normoxia groups, with patients surviving longer if they were not exposed to hyperoxia (log rank p < 0.001).
- Of those who did survive to hospital discharge, those in the hyperoxia group were less likely to be functionally independent at discharge compared to the normoxia group.
- After multivariable logistic regression, factors that were associated with higher in-hospital mortality included: age, functional status before admission (those who were partially or fully dependent before admission were more likely to die in the hospital), admission directly from the emergency department, chronic renal failure, abnormal vital signs on ICU admission (hypotension, tachycardia, or hypoxia), and exposure to hyperoxia (OR of 1.8).

**Conclusions**
The authors conclude that hyperoxia after cardiac arrest and ROSC is associated with higher in-hospital mortality rates compared to hypoxic and normoxic groups. The authors of the study emphasize that patients exposed to hyperoxia also had lower rates of functional independence at hospital discharge as compared to patients in the normoxia group. These conclusions need to be carefully critiqued, however, given the significant limitations of the study.

**Limitations and criticisms**
This study has several limitations. The retrospective study design makes it challenging to comment on causation. Only association between hyperoxia and in-hospital mortality can be discussed.

Furthermore, the validity of the measurement of the primary variable—hyperoxia—is questionable. As discussed above, the PaO₂ was obtained from the first blood gas in the intensive care unit, not in the emergency department, which meant that an ‘initial’ PaO₂ could be obtained up to 24 hours following admission to the ICU. Presumably patients who were admitted from the emergency department had a true ‘initial’ blood gas in the emergency department. The critical reader does not know what the PaO₂ levels were from the time of ROSC to the delayed time point in the ICU, and patients may have been falsely categorized as hyperoxic or hypoxic.

The choice of survival to hospital discharge as the primary outcome may also not be the most clinically relevant outcome despite its convenience and ease of measure. One could argue that clinicians care more about improving longer term outcomes for patients including functional status at a given time post hospital discharge than in-hospital mortality.

Finally, these results may not be generalizable to emergency department patients. Most of the patients included in the study were already hospital inpatients before admission to the ICU (rather than admissions from the emergency department) and may well represent a different study population. In addition, patients who underwent cardiac arrest and ROSC in the emergency department but did not survive to ICU admission were not included in the database, also potentially skewing the mortality data.

**Does this change clinical practice?**
This study illuminates another possible factor in the management of patients with cardiac arrest and ROSC that may improve patient outcomes. Despite this, the study design as well as the lack of previous corroborating evidence limits the conclusions of the study. Avoiding hyperoxia in patients following cardiac arrest and ROSC is not an evidence-based practice at this time, and further additional studies need to be conducted before clinical practice is changed.

**Reference**
Kilgannon, J.H. et al. Association Between Arterial Hyperoxia Following Resuscitation From Cardiac Arrest and In-Hospital Mortality. JAMA 2010;313:2165-2171.

**Table 1: Primary Outcome**

<table>
<thead>
<tr>
<th>Patient’s PaO₂ Level</th>
<th>Hyperoxia (PaO₂ &gt; 300)</th>
<th>Hypoxia (PaO₂ &lt;60)</th>
<th>Normoxia (all others)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent in-hospital death</td>
<td>63%</td>
<td>57%</td>
<td>45%</td>
</tr>
<tr>
<td>95% Confidence interval</td>
<td>60-66%</td>
<td>56-59%</td>
<td>43-48%</td>
</tr>
</tbody>
</table>
Bouncebacks!

The case of a 71-year-old man with back pain

Though it is easy to predict the usual etiology of common complaints by “playing the odds,” we also need to include life-threatening causes in our differential. In law, we are innocent until proven guilty. In medicine, we are required to prove certain diseases are not occurring — we are, in a sense, guilty until proven innocent. A 50-year-old man with chest pain and diaphoresis has an MI until proven otherwise. A 22-year-old woman with lower abdominal pain has an ectopic pregnancy until proven otherwise...we can’t afford to be usually right.

Our case this month involves a patient with back pain. He does have reproducible back pain with palpation, but we will blow the surprise — his bounceback diagnosis is not lumbosacral strain. One approach to this patient is the front door/back door technique; after inquiring about his back pain symptoms (exacerbators, relievers, history of, etc.) inquire about symptoms caused by life-threatening etiologies.

Put another way, a ROS directed to life-threatening problems will go a long way toward identifying these diagnosis. As you read the documentation below, see how many risk management problems you can find. We detail the six most glaring examples.

A word of caution: Though serious problems need to be considered with all emergency department patients, extraneous testing does not need to be reflexively performed. Sometimes, constipation is just constipation…

Initial Visit

Chief complaint (at 20:36): Back pain

Vital signs

<table>
<thead>
<tr>
<th>Time</th>
<th>Temp (F)</th>
<th>Pulse</th>
<th>Resp</th>
<th>Syst</th>
<th>Diast</th>
<th>Pos.</th>
<th>O2 sat</th>
<th>O2%</th>
<th>Pain scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>20:48</td>
<td>97.1(oral)</td>
<td>72</td>
<td>20</td>
<td>140</td>
<td>80</td>
<td>L</td>
<td>98</td>
<td>RA</td>
<td>6</td>
</tr>
<tr>
<td>00:11</td>
<td>71</td>
<td>16</td>
<td>113</td>
<td>67</td>
<td>S</td>
<td>98</td>
<td>RA</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

History of present illness (at 21:09): 71yo WM with h/o HTN reports was watching the game and it had just started overtime when felt a spasm and pain in left lower back. Denies any twisting/turning/lifting/trauma to the back. Reports lay down on the hard floor to help the pain, took two advil from his wife and placed a cool cloth on the back. Still with spasm and unable to get up off the floor, so called 911 for assistance to emergency department. Denies any known recent back injury. No prior illness. No cough/咽rorrhea/chest pain/ear ache/sore throat/dysuria/hematuria/urinary incontinence/numbness or tingling down extremities/bowel or bladder dysfunction/weakness in legs. Denies chest pain/abd. p., fever.

Past medical history/triage

Triage nurse: Pain started spontaneously while at home watching TV. Pain is a stabbing, pressure in the left lower back that does not radiate. Denies trauma. Denies pain, or burning with urination.

Medication, common allergies: Morphine (nausea)

Current meds: Prinivil

PMH: Hypertension, kidney stones
PSH: Lobectomy for TB in the 1960’s

Exam (at 21:10)

General: Alert and oriented X3, well-appearing WM in no acute distress; lying flat on his back on the bed; unable to sit upright, but can roll over on his side

Head: Normocephalic; atraumatic.

Resp: Normal chest excursion with respiration; breath sounds clear and equal bilaterally; no wheezes, rhonchi, or rales

Card: Regular rhythm, without murmurs, rub or gallop

Abd: Non-distended; Patient has some tenderness to palpation in left upper quadrant without guarding or rebound

Back: No c/t/v midline tenderness; +tenderness to palpation over left paraspinous area in lumbar region

Ext: 5/5 strength DF/PF at ankles/IS/HS/quads; nl sensation to light touch; patellar DTR’s 2+ and symmetric bilaterally; neg SLR bilaterally; 2+ DP pulses bilaterally

Skin: Normal for age and race; warm and dry; no apparent lesions

Orders

At 21:00: Demerol 50 mg IVP, Phenergan 12.5 mg IVP. .9NS – 1L bolus

At 23:39: Vicodin 2 PO, Vicodin 2 PO to go

Results (Reviewed at 21:58):

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Units</th>
<th>Ref. Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC</td>
<td>15.3</td>
<td>K/uL</td>
<td>4.6-10.2</td>
</tr>
<tr>
<td>HGB</td>
<td>13.2</td>
<td>G/DL</td>
<td>13.5-17.5</td>
</tr>
<tr>
<td>PLT</td>
<td>175</td>
<td>K/uL</td>
<td>142-424</td>
</tr>
<tr>
<td>NA</td>
<td>135</td>
<td>M/MO/L</td>
<td>135-144</td>
</tr>
<tr>
<td>K</td>
<td>5.1</td>
<td>M/MO/L</td>
<td>3.5-5.1</td>
</tr>
<tr>
<td>CL</td>
<td>102</td>
<td>M/MO/L</td>
<td>98-107</td>
</tr>
<tr>
<td>CO2</td>
<td>26</td>
<td>M/MO/L</td>
<td>22-29</td>
</tr>
<tr>
<td>BUN</td>
<td>22</td>
<td>MG/DL</td>
<td>7-18</td>
</tr>
<tr>
<td>CREAT</td>
<td>1.3</td>
<td>MG/DL</td>
<td>0.6-1.3</td>
</tr>
</tbody>
</table>

LFT’s amylase/lipase: WNL

Urine dipstick: Protein; Results: Trace

Progress notes (at 23:39): Abdominal exam benign with palpation although reports that abdomen sore with palpation of lower left side and upper left side. Still with some muscle spasm in the lower back, but able to walk and desires to go home. Counseled patient to return immediately for worsening abdominal pain, fevers, etc.

Diagnosis: Spasm – muscle, back

Disposition: The patient was discharged to Home ambulatory. Follow-up with primary care physician in 2 days.

Prescriptions: Vicodin 5mg twenty (20). Take one-two by mouth every four-six hours as needed. Released from the emergency department at 00:19.

Discussion of documentation and risk management issues

Error 1: Abdominal pain was mentioned in progress note but not discussed in HPI

Discussion: This may seem a minor point, but concomitant abdominal and back pain in a 71-year-old significantly changes the differential diagnosis. There are many entities that cause both abdominal and back pain including pancreatitis, peptic ulcer disease, aortic aneurysm, ureterolithiasis, pyelonephritis, mass, and diverticulitis. The HPI states patient denies abdominal pain, but should be readdressed after it is elicited on physical exam.

Teaching point: The physician’s note needs to be consistent.

Error 2: The patient required a significant amount of pain medication possibly indicating a more serious underlying etiology of his pain.

Discussion: He initially received IV narcotics and then additional PO narcotics. Incidentally, these were ordered at the same time that the progress note said he had improved. This makes the progress note unbelievable. If he was feeling so much better, then why did he require Vicodin on top of Demerol?

Teaching point: In a 71-year-old man without a prior history of back pain, repeated doses of narcotic meds is a red flag for more serious illness.

Error 3: Overreliance on normal urine

Discussion: The urine does not show blood in 20-25% of patients with ureterolithiasis/kidney stones. In a retrospective study by Luchs et al. (2002), urinalysis had a sensitivity and specificity for ureterolithiasis of 84% and 51%, respectively, while the false positive rate was 20%.

In other words, 20% of patients with a positive urinalysis for blood had alternative diagnoses (e.g. diverticulosis, pyelonephritis) rather than ureterolithiasis. The urine may also show blood with a ruptured aortic aneurysm.

A retrospective study by Pomper et al. (1995) in a New York hospital showed an 87% incidence of hematuria in ruptured abdominal aortic aneurysm and that the presence of gross hematuria caused a statistically significant delay in diagnosing a ruptured aortic aneurysm. The lesson learned is that a normal urine result should not lead the doctor astray from a deadly diagnosis.

Teaching point: A test with low specificity and sensitivity should be interpreted with caution.

Error 4: Elevated WBC count was not addressed.

Discussion: It is not uncommon to shotgun lab work on patients when we know something is wrong, but are not yet sure what it is. This can work against the clinician especially with nonspecific tests such as a D-dimer in a pregnant patient, ESR in a swollen knee, or white blood cell count in almost anyone!

Leukocytosis is a marker of systemic inflammation or infection; with this patient, it provided little diagnostic guidance. There is utility in trending white blood cell counts and this is often a tool of our internists. The EM physician does not have this luxury.

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sign, which may have been in fact vital as a hint of his more serious underlying disease process.

While the second blood pressure in isolation may not be abnormal, it is the evolution of his blood pressures that raises a red flag. Could this have been the beginning of his slippery downward slope? How about a third to break the tie?

Teaching point: Always address abnormal vital signs.

Bounceback visit - emergency department 2 days later

- Shortly after 8PM, while sitting on the toilet, the patient has sudden onset of abdominal pain radiating to the back. He calls his PCP, who does not return the call, so the wife calls the squad.
- When paramedics have the patient stand up to transfer to the cart, he has a syncopal episode.

21:09: Presents per squad. Chief complaint of abdominal pain. Pulse 122, BP 96/49, O2 sat 100%.


Physical exam: The abdomen does have voluntary guarding and it is moderately distended. He does have a pulsatile mass palpated in the left side of the abdomen. Femoral pulses both present but slightly decreased. Palpebral conjunctiva pale. Skin is moist. His mental status is alert and oriented, although he keeps closing his eyes during the history.

21:16: Empiric diagnosis of ruptured aortic aneurysm. Vascular surgeon is paged and immediately calls back. Agrees to come in immediately for emergency surgery

21:27: Systolic BP decreases to 80. Hb returns at 6.5. Patient is taken to surgery where a ruptured aortic aneurysm is found. Surgery includes aorto-bi-iliac bypass with reimplantation of inferior mesenteric artery.

- Hospital course: The patient makes good recovery and leaves the hospital in good condition.

Discussion of ruptured aortic aneurysm and risk management principles

This patient presented initially as do many patients with ruptured abdominal aortic aneurysm (AAA); he had atypical symptoms that were easily attributed to another disease entity. The triad of ruptured AAA – hypotension, back pain, and pulsatile abdominal mass – is present in less than half of patients with this entity. Almost a quarter of patients with ruptured AAA are historically initially misdiagnosed with renal colic.

The incidence of AAA is 1% in men over the age of 65, and it’s the cause of death in 15,000 patients per year. Most asymptomatic aneurysms are found incidentally on a CT or US of the abdomen. Frequent presenting symptoms in patients with AAA are syncope, abdominal pain, hypotension, back pain, or sudden death. Risk factors include hypertension, tobacco use, and age. If diagnosis is delayed until rupture, mortality climbs to 75%.

Physical examination can be misleading. Peripheral pulses may be normal, even in cases of rupture. Cullen (periumbilical ecchymosis) and Grey Turner’s signs (flank ecchymosis) indicating retroperitoneal hematoma only rarely occur. Pulsatile abdominal mass in unreliable.

The diagnosis in an unstable, hypotensive patient is clinical, as occurred when our patient returned. He was taken to the OR with a diagnosis based on symptoms and physical exam findings. If he had been taken to CT while so unstable, he likely would have “crashed” there (the circle of death) and the outcome may have been different. Labs with acute rupture will be normal. Our patient had anemia when he returned, probably because he had already ruptured
It is rare for a 71-year-old, a member of America’s “greatest generation” to present to the emergency department with atraumatic back pain. He had no mechanism for a back strain/spasm and had an unusual presentation—he was sitting in a chair watching TV when his pain started. He did have some pain with palpation of the back, but the physical exam was not definitive evidence that a more serious etiology was occurring. Abdominal pain was mentioned, but not adequately pursued. The lesson from this study—as well as today’s case—is that unless a specific life-threatening entity is considered in the differential diagnosis, it will not be found.

**Risk management principles with first visit**

The main lesson to learn from today’s case is, when faced with an unusual presentation in a patient with risk factors for a potential life-threatening illness, this disease needs to be excluded. Our patient was an elderly man with atraumatic back pain. He had no mechanism for a back strain/spasm and had an unusual presentation—he was sitting in a chair watching TV when his pain started. He did have some pain with palpation of the back, but the physical exam was not definitive evidence that a more serious etiology was occurring. Abdominal pain was mentioned, but not adequately pursued.

In addition, he had two significant risk factors for AAA: Age and hypertension. It is rare for a 71-year-old, a member of America’s “greatest generation” to present to the emergency department with the first episode of back pain in his life.

Common illnesses occur commonly, but rare disease always needs to be considered. ■

**Suggested readings/references**


**Call for 2011 EMRA Fall Award Nominations**

It’s time to nominate yourself or a colleague for an EMRA Award. Visit the Website for application instructions. Deadline for submission is **August 15**. Awards will be presented at the EMRA Award Reception during ACEP’s *Scientific Assembly* in San Francisco, CA, Saturday, October 15, 2011.

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  Given to an outstanding faculty member who has served as a unique role model for residents.

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A review of sutures in the emergency department

“Ale plus pansai, Dieu le guérit” (“I dressed him, and God healed him.”)

— Ambroise Paré 16th century

Ambroise Pare is considered one of the pioneers of modern surgery, but the uses of sutures even predate him by several thousand years. The ancient Egyptians were known to have used sutures as far back as 3000 BC; the oldest known suture was found on the abdomen of a mummy dated back to 1100 BC. Materials such as plant fibers, linen, bark, and parchment were used. Even the pincers from large ants were used to hold wounds together by South American Indians. Fortunately, today the advancement of medicine and science has given us a wide selection of sterile, effective sutures for almost any wound that is encountered in the emergency department.

This is a review of some common sutures that we encounter in the emergency department, their properties, and their recommended uses. Hopefully at the end of the article, you will have a better understanding as to why certain wound locations, depth, and a patient’s social situation, warrants one suture over another.

The key function of a suture is to maintain wound closure and to support healing during period of greatest vulnerability. Sutures are the most time intensive of all closure materials, but they provide the strongest closure. They are most often separated into two categories: non-absorbable and absorbable. By definition, non-absorbable sutures preserve their tensile strength for 60 days, while absorbable lost most of their tensile strength within 60 days. As always, regardless of the wound and suture selected, all patients require a thorough history including PMH, tetanus status, and allergies, not just to meds, but also to latex and adhesives. All wounds must also be thoroughly inspected for foreign bodies and irrigated with saline or water not only to remove matter, but to also decrease bacterial concentrations. This allows for a reduction in the risk of infection after the repair.

An understanding of wound healing and suture terminology other than its ability to be absorbed is often overlooked in the emergency department. It is important to understand the interaction of suture materials with human tissue healing. Wound healing is divided into several chronologic categories: day zero-day five is labeled the lag phase, where the wound is dependent on the sutures to maintain closure, day five-day 14 is the fibroplasia phase where there is a significant gain in wound strength, and day 14 to resolution of healing where there is continuous remodeling. At complete resolution, the wound never gains more than approx 80 degree of its original tensile strength.

Tensile strength is defined as the maximum load that a material can support without fracture when being stretched, divided by the original cross-sectional area of the material. Suture size affects the tensile strength and is stated numerically by the number of zeros. The greater the number of zeros, the smaller the suture, thus the less tensile strength a suture will have. When choosing the size of a suture, the emergency physician should use the smallest diameter suture that will adequately hold the wound. This will allow for the best cosmetic outcome.

Sutures are also categorized by the number of strands of which they encompass. There are monofilament sutures which are single stranded, encounter less resistance, and more readily withstand the harboring of bacteria. Multifilament sutures are braided or twisted, are less difficult to handle and tie, but can potentially serve as seeding sites for bacteria and thus have the potential for higher infection rates. Coated multifilamentous sutures are best suited for intestinal procedures.

The most likely attribute that an emergency physician will take into consideration is whether a suture is absorbable or non-absorbable. The reason is that a suture’s degradation or lack thereof accounts for the length of time a suture is needed to keep a wound together before the fibroplastic phase, where a suture may be placed, and more importantly, when a patient is required to follow up with his or her PCP. The following list of sutures will be grouped by absorbable vs non-absorbable, will include tensile strength, tissue reactivity, and recommended uses.

Absorbable

Surgical gut, or cat gut, is an organic suture that is constructed from collagen from beef or sheep intestine. It is hypothesized that the term “cat gut” is derived from cattle gut and not from cats. It comes in plain or chromic and has moderate tissue reactivity. Chronic cat gut is treated with chromic salts which help it retain its tensile strength for two-three weeks in most tissue. It is more readily absorbed in the oral mucosa, thus tensile strength in the oral cavity is approximately 10-14 days and is optimal for oral mucosal repairs. A newer form of fast absorbing cat gut may be used in epidermal closures where tensile strength is needed for approximately five to seven days such as facial lacerations or in children where areas of suture or staple...
removal may be difficult or painful. The tensile strength of fast absorbing cat gut is less than plain or chromic and the emergency physician must be aware of this during knot tying. Fast absorbing cat gut may also be used in episiotomy repair and lacerations under casts.

Poliglecaprone 25, sold under the trade name Monocryl, is a monofilament suture with minimal tissue reactivity. It features superior pliability for easy handling and tying and comes dyed or undyed. It retains high suture strength for approximately two weeks and is recommended in areas of high tension. It is optimal for subcuticular and deep subcutaneous approximation including facial lacerations. Monocryl Plus is an antibacterial coated suture to help decrease infection rates.

Poliglecapron 910, which came to the market in 1974 under the name Vicryl, is a monofilament suture. It is a minimally reactive, braided suture which comes in blue, dark colored hair. It will require four-five knots for security due to its “slippery” surface. This can make it an acceptable choice for a running subcuticular suture. Prolene is also recommended for use in contaminated or infected wounds.

**Nonabsorbable**

*Polypropylene (Prolene)*

This is the first synthetic suture introduced. It is a minimally reactive monofilament. It has high tensile strength and is easily handled. The only minor drawback of nylon sutures is a property called “memory” which is defined as the “tendency to return to its original state.” Thus, three-four throws are needed to secure knots in place. Ethilon’s main role in the emergency department is for skin closure. If the physician is anticipating soft tissue edema, Ethilon may not be the optimal choice because it may not accommodate the swelling. Another approach is to loosely tie the knots.

Polypropylene is a plastic suture marketed as Prolene. It has the least amount of tissue reactivity with a very high tensile strength. The advantage of PDS is its tensile strength at seven days. Due to its intrinsic stiffness, PDS is not usually the best choice in the emergency department due to its difficult handling and time constraints in the emergency department. It also costs approximately 14 percent more than Vicryl.

**Adapted from deLemos (7); Ethicon (6); and Tintinalli (3)**

### Suture Types

<table>
<thead>
<tr>
<th>Suture Type</th>
<th>Type</th>
<th>Tensile Strength</th>
<th>Tissue Reactivity</th>
<th>Recommended Uses/Clinical Pearls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromic Gut</td>
<td>Absorbable</td>
<td>2-3 weeks</td>
<td>Moderate</td>
<td>Not commonly used in the ED</td>
</tr>
<tr>
<td>Fast Absorbing Gut</td>
<td>Absorbable</td>
<td>5-7 days</td>
<td>Moderate</td>
<td>Consider using in facial lacerations, intraoral, under casts</td>
</tr>
<tr>
<td>Poliglecaprone 25 (Monocryl)</td>
<td>Absorbable</td>
<td>2 weeks</td>
<td>Minimal</td>
<td>High tension areas</td>
</tr>
<tr>
<td>Poliglactin 910 (Vicryl)</td>
<td>Absorbable</td>
<td>25% at 4 weeks</td>
<td>Minimal</td>
<td>Subcutaneous, galea, intraoral</td>
</tr>
<tr>
<td>Poliglactin 910 (Vicryl Rapid)</td>
<td>Absorbable</td>
<td>Lost by two weeks</td>
<td>Minimal</td>
<td>Consider in areas where rapid absorption is beneficial</td>
</tr>
<tr>
<td>Polydioxonone (PDS)</td>
<td>Absorbable</td>
<td>50% at 4 weeks</td>
<td>Minimal</td>
<td>Difficult to handle, costs 14% more than Vicryl</td>
</tr>
<tr>
<td>Nylon (Dermalon or Ethilon)</td>
<td>Nonabsorbable</td>
<td></td>
<td>Minimal</td>
<td>Skin closure, soft tissue approximation. Due to memory, consider tying 3-4 knots. May also require loose knots to accommodate swelling.</td>
</tr>
<tr>
<td>Polypropylene (Prolene)</td>
<td>Nonabsorbable</td>
<td></td>
<td>Least</td>
<td>Stretches to accommodate swelling. Good for contaminated or infected wounds. Comes in blue for easy identification</td>
</tr>
<tr>
<td>Dermabond</td>
<td></td>
<td></td>
<td>None</td>
<td>Never over joints, within wounds, or within wound margins.</td>
</tr>
</tbody>
</table>

**Adapted from Capellan, Hollander (8) and Pepid LLC Medical Information Resources (9)**

### References

7. deLemos D, Stack AM, Wiley JF. Closure of skin wounds with sutures. UpToDate. 2010
9. Pepid ED Platinum, Pepid LLC Medical Information Resources. 2010
Coffee versus tea
A comparison of residency training in the U.S. versus the UK: An insider’s perspective

The first history I ever took was from a wee Scottish man, while I studied medicine at the University of Edinburgh. Leaving the whisky behind, I drifted down south to the bright lights of London and completed my first two years of training. Now as an emergency medicine resident on the south side of Chicago, I transition from tea to coffee.

The United Kingdom (UK) and the United States (US) are fundamentally similar in their perception and utilization of the emergency department and the role of the emergency physician. Further examination reveals that the two countries are indeed “divided by a common language,” and I am not just referring to the name: A&E (Accident and Emergency) versus ER (Emergency Room)! Here, I attempt to compare resident education in both countries in the context of transatlantic differences in training organization and emergency health care systems.

As we all know, emergency medicine is a relatively young specialty. In 1968, a group of eight US physicians formed the American College of Emergency Physicians (ACEP), the goal of which was to provide quality emergency care by education, structure, and standards for the new “emergency physicians.” In the US, Emergency Medicine is a well-established, academically-competitive specialty.

However, emergency medicine in the UK predates this development. It was 1952 when Mr. Maurice Ellis (surgeons go by Mr. in the UK) was appointed as the first consultant in emergency medicine in the UK at Leeds General Infirmary. Mr. Maurice Ellis also holds the distinction of being the first president of the Casualty Surgeons Association, which was established in 1967.

In both countries, the function of the emergency department is similar—to stabilize the acutely ill, to triage patients and provide a safety net for patients with primary care issues. That being said, the concept of emergency medicine in the UK is very different from its European neighbors. The “Franco-German model” places the clinical entity of emergency medicine exclusively in the prehospital setting. Inside the hospital, emergency medicine is considered an interdisciplinary activity that does not require specialty status. Barring a few exceptions and the UK, the equivalent of an US emergency department does not exist in these other European nations.

Although there are significant differences in the perception of emergency medicine and system organization as mentioned, the patient population and emergency department workload in several studies have been shown to be remarkably similar. It is, however, important to mention that the complicated issue of healthcare payment in the United States, along with legalization of firearms, does have an effect on the pathology experienced. The abundance of primary care providers in the UK increases the likelihood of direct hospital admissions that bypass the emergency department, and is effective in identifying medical conditions before they become emergencies. In contrast, there is an increasing amount of primary care
provided in emergency departments across the United States, which may decrease the average overall acuity of patient encounters. However, the lack of early intervention can contribute to the severity of illness seen.

There is also a substantial difference in the physician involvement in prehospital medical care. In the US, the involvement of emergency physicians in Emergency Medical Services (EMS) has been crucial to the development of this field and its innovative research. This is evidenced by ABEM approving the latest official subspecialty of emergency medicine, creating an EMS/prehospital fellowship. The UK hosted some of the earliest initiatives involving doctors in prehospital care and developed the field provision of advanced life support skills. The county of Derby introduced an accident flying squad as early as 1955. Medical involvement in prehospital care in the UK, however, has seen little development since and largely exists on a voluntary and informal basis. Prehospital care is a crucial part of any emergency physician’s training, and the incorporation of this into US residency programs is a boon to the next generation of physicians and prehospital providers.

Emergency medicine training in the UK and US are structured in very different ways. Emergency medicine residencies in the US can be three or four years in length, depending on the institution. As practice niches develop, a number of fellowships are available for emergency medicine graduates, including prehospital medicine (emergency medical services), research, toxicology, global health, palliative care, hyperbaric medicine, sports medicine, ultrasound, pediatric emergency medicine, critical care. In the UK, emergency medicine trainees enter specialty training after five years of medical school and two years of foundation training. Foundation training is compulsory for all medical school graduates, and structurally is equivalent to intern/resident year in the US. Trainees split their time equally between medical and surgical specialties, the aim of which is to give a broad overview of practicing in different fields while gaining competency in core clinical skills. Those wishing to pursue a career in emergency medicine must then complete a two-year core training program (Acute Care Common Stem), during which doctors train in anesthesia, acute medicine, intensive care, and emergency medicine. Following that, a third year finds the trainee learning about emergency medicine with a pediatric and musculoskeletal focus.

Additionally, UK trainees must pass the Membership of the College of Emergency Medicine (MCEM) examination, the equivalent of the US in service training exam. Trainees will then go onto further specialist training which lasts an additional three years. Completion of clinical training is followed by the final examination, namely the Fellowship of the College of Emergency Medicine (FCEM) must be passed (equivalent to the boards ABEM written certification exam). Upon completion of training, the physician will be eligible for entry to the GMC Specialist Register, and allowed to apply for a post as a Consultant in Emergency Medicine.

Add it all up, and emergency medicine residency training after medical school in the UK totals eight years. This discrepancy in post graduate training years translates to extra clinical experience with the average American trainee seeing 4,500 patients in training, compared to 12,000 in the UK. A similar discrepancies is likely to translate to procedural experience although exact figures have not been extrapolated. It is important to highlight that although post graduate training is significantly longer in the UK, residents there are not required to complete an undergraduate degree prior to attending medical school. Thus, the average age at completion of training in both countries is around 30 years old.

Supervision is a key component of resident training. In the US, the emergency department is staffed 24 hours a day with a consultant-level physician who works in the department and provides real time support and education to the residents. The largest obstacle in the UK is to overcome a lack of this supervision from senior medical staff, including consultants. Since supervision from attending level physicians is such a problem, this responsibility has fallen on the registrars and staff grade doctors. Although independence later in training is beneficial in the development of autonomous practice patterns, early on it provides a potentially detrimental amount of informal education.

Several more features of training are similar between countries. The core educational curricula boast comparable out-of-department critical care training (anesthesia, acute medicine, intensive care, and trauma surgery) in the earlier years. As the trainees progress, a greater amount of time is spent in the emergency department. A vast majority of training programs in both countries spend time in more than one institution, allowing residents to experience diverse clinical environments. Didactic curricula in both systems do not differ greatly, with universal requirements for weekly protected conference time, journal clubs, and peer review.

continued on page 38
Coffee versus tea

In recent years, regulatory bodies in both countries have made strides to decrease duty hours. In the UK, the European Working Time Directive was made law in 1993; this led to a reduction of duty hours to 48 hours per week in 2009.13 The objective of this directive was to increase health and safety in our workplace. Although decreased duty hours do help decrease a trainees mental anguish, the training system in the UK may negate this positive effect. A study by Whitley et al in 1994 showed that physicians in the UK reported significantly higher levels of stress and depression than their colleagues in the US, Australia and Asia.14 The hypothesis was that senior registrars, who are still in training, are overwhelmed as they are expected to teach, conduct research, and acquire management skills so that they can obtain highly desirable consultant appointments.

Luckily, my transition to the US system has not substantially prolonged my training. I do feel strongly that as long as I develop a taste for bagels and can give up crumpets, I will not be adversely affected. As the US continues to alter work hour restrictions, it will be interesting to see the effect on length of training, financial concerns, and the undergraduate training model. The advancement of emergency medicine in the US is exciting for those who would like to pursue an academic career, without the logistical and service constraints of the National Health Service. Other than my alternative definition of what football really is and the resulting confusion while taking a sports-related history, my experience leads me to believe that both systems adequately prepare trainees to be competent emergency physicians.

References

EMRA Fall Elections

EMRA elections will be held during the EMRA Representative Council meeting at ACEP’s Scientific Assembly in San Francisco, CA, October 17, 2011 for the following positions:

- **President-Elect:** Candidates for President-Elect must make a three-year commitment to EMRA. The first year serving as President-Elect. The second year in the term is as the President. The third and final year is spent as Immediate Past President/Treasurer.
- **Vice Speaker of the Representative Council:** This two-year term with the first year serving as Vice Speaker and the second as Speaker, assists Speaker as Parliamentarian for the Representative Council, acts as director of all Representative Council taskforces, and is the EMRA Delegate to the AMA Resident and Fellows Section at the annual and interim AMA meetings.
- **Academic Affairs Representative:** Candidates for Academic Affairs Representative must make a two-year commitment to EMRA. Position responsibilities include: Representing EMRA to the ACEP Academic Affairs Committee, acting as EMRA liaison to the Council of Residency Directors (CORD), and serving as EMRA board liaison to the Medical Student Governing Council.
- **Secretary/EM Resident Editor:** Candidates for Secretary must make a two-year commitment to EMRA. Position responsibilities include: Recording minutes at the Representative Council and Town Hall meetings. Editing EM Resident. This position carries full responsibility for content, production and publication of EMRA’s bi-monthly magazine that educates and informs EMRA members.
- **Technology Coordinator:** Candidates for Technology Coordinator must make a two-year commitment to EMRA. Position responsibilities include: Procuring, reviewing, and approving content for the website, as well as developing implementation plans for content organization. Advising the board on matters of technology, and ensuring that the membership’s technology needs are being adequately addressed.

For full position descriptions please visit www.emra.org.

If you are interested in running for a position, please email your CV, a statement of interest (200 words or less), letter of support from your residency director, and a photo (jpeg format) to mbyers@emra.org by September 2, 2011. EMRA will post statements and photos received from candidates on the EMRA Website. Nominations from the council floor will also be accepted.

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**MAKE YOUR VOICE HEARD**

**Call for Fall Resolutions**

Get involved and steer the future of EMRA by writing a resolution. A resolution is a directive for EMRA to take certain action or to form a policy. These resolutions are discussed and voted on at the EMRA Representative Council Meeting at ACEP’s Scientific Assembly in San Francisco, California, Monday, October 17, 2011.

The deadline for submissions is September 2, 2011.

For more information on authoring a resolution or to see recent adopted resolutions, visit www.emra.org or email speaker@emra.org.

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**EMRA would like to thank the following Emergency Medicine Residency Programs and ACEP Chapters for meeting the 2011 Leadership & Advocacy Conference Chair’s Challenge!**

- Albert Einstein Medical Center
- Allegheny General Hospital
- Brown Emergency Medicine
- Charleston Area Medical Center
- Christiana Care Health System
- Drexel University
- Emergency Medicine Physicians of Tulsa
- Emory University
- Georgetown University/Washington Hospital
- Harbor-UCLA Medical Center
- Henry Ford Hospital
- Indiana University
- Johns Hopkins Hospital
- Medical University of South Carolina
- Mount Sinai Medical Center
- North Shore University – LIJ
- Oregon Health Sciences
- Orlando Regional Medical Center
- St. Joseph Mercy Hospital
- St. Mary Mercy Hospital
- SUNY Upstate Medical University
- UNC Hospitals
- University of California – Davis
- University of Chicago
- University of Florida – Gainesville
- University of Iowa
- University of Kentucky
- University of Louisville
- University of Michigan
- University of Mississippi
- University of Nevada – Las Vegas
- School of Medicine
- University of New Mexico
- University of North Carolina – Chapel Hill
- University of Rochester
- University of Virginia
- UT Southwestern Medical Center
- UTCOM Chattanooga
- Washington University St. Louis
- York Hospital

**ACEP Chapters**

- Alabama Chapter ACEP
- Colorado Chapter ACEP
- Emergency Medicine Residents’ Association
- Emergency Medicine Residents’ Association – Michigan
- Government Services Chapter ACEP
- Indiana Chapter ACEP
- Iowa Chapter ACEP
- Kentucky Chapter ACEP
- Michigan College of Emergency Physicians
- Nebraska Chapter ACEP
- Nevada Chapter ACEP
- New Mexico Chapter ACEP
- New York Chapter ACEP
- Ohio Chapter ACEP
- Oregon Chapter ACEP
- Pennsylvania Chapter ACEP
- South Carolina College of Emergency Physicians
- Tennessee College of Emergency Physicians
- Utah Chapter ACEP
- Wisconsin Chapter ACEP

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**EM reflections**

**EM reflections**

**EM reflections**

EM reflections
1. Which of the following statements regarding community-acquired pneumonia is correct?
A. Antibiotic therapy should be initiated empirically based on likely pathogens and comorbid conditions
B. Initial antibiotic selection should be guided by sputum culture results
C. Radiographic findings are often predictive and specific for the infectious etiology
D. The benefit of obtaining blood cultures on all hospitalized patients has been clearly established
E. Typical pneumonia is differentiated from atypical pneumonia by clinical presentation

2. The current recommendation for the sequence of treatment of ventricular fibrillation in an adult inpatient is
A. CPR until defibrillator available, shock at 200 J with a biphasic defibrillator, CPR for 2 minutes, recheck rhythm
B. Immediate placement of an AED, begin CPR if no shock advised, shock at 200 J when monophasic defibrillator is available
C. Shock at 200 J with a monophasic defibrillator, CPR for 2 minutes, recheck rhythm
D. Shock at 300 J with a biphasic defibrillator, epinephrine 1 mg IV, shock at 300 J, recheck rhythm
E. Shock with a monophasic defibrillator at 200 J, 300 J, 360 J, epinephrine 1 mg IV, shock at 360 J, recheck rhythm

3. A 66-year-old woman presents after experiencing a 15-minute episode of dyspnea after walking her dog. She has no cardiac history, but she does have a history of hypertension and a family history of coronary artery disease. Vital signs and physical examination are unremarkable, and she is breathing normally. ECG and initial troponin I levels are normal as well. This patient’s early risk stratification for acute coronary syndrome is
A. No risk
B. Low
C. Intermediate
D. Indeterminable
E. High

4. A 62-year-old man presents after being struck in the head with a piece of wood 2 hours earlier. His wife said he was “dazed” but did not lose consciousness. He says he has a severe headache. The GCS score is 15, and he has a 3-cm scalp hematoma. The rest of the examination is unremarkable. The most appropriate next step in the emergency department is:
A. Admit to the observation unit for serial neurologic examinations
B. Discharge with head injury instructions
C. Obtain a brain MRI and a neurosurgery consultation
D. Obtain a noncontrast head CT scan, and if negative, discharge
E. Obtain skull x-rays to screen for more severe intracranial injury
The following residency programs have 100% EMRA membership among their residents. EMRA would like to thank these programs and residents for their continued support.

Advocate Christ Medical Center Program
Akron General Medical Center
Albany Medical Center
Albert Einstein Medical Center, PA
Allegheny General Hospital
Baylor College of Medical
Baystate Medical Center
Beth Israel Deaconess Medical Center
Beth Israel Medical Center
Boston Medical Center
Brigham & Women's Hospital
Brooklyn Hospital Center
Brown University
Carolinas Medical Center
Case Western Reserve University/Metro Health Medical Center
Charleston Area Medical Center
Christiana Care Health Services
Christus Spohn Memorial Hospital
Cone Health System
Cooper Hospital
Denver Health Medical Center
Duke University Medical Center
E Carolina University Brody School of Medicine
Eastern Virginia Medical School
Emory University School of Medicine
FL Hospital Medical Center Orlando
Genesys Regional Medical Center
George Washington University
Georgetown University Hospital
Grand Rapids Medical Education Partners/MSU
Hamot Medical Center
HealthPartners
Hennepin County Medical Center
Henry Ford Macomb Hospital
Henry Ford Wyandotte Hospital
Indiana University School of Medicine
John Peter Smith Health Network
Johns Hopkins Hospital
LA State University, New Orleans
LA State University, Baton Rouge
Lehigh Valley Health Network
Loma Linda University School of Medical
Long Island Jewish Medical Center
Maimonides Medical Center
Maine Medical Center
Maricopa Medical Center
Medical College of Georgia
Medical College of Wisconsin
Medical College of Virginia
Medical University of South Carolina
Michigan State University KCMS
Morrison Hospital
MSU/Sparrow Hospital/Lansing
Mt. Clemens Reg Medical Center
Mt Sinai Medical Center/Miami
Mt Sinai School of Medicine, NY
MWU/COM @ Providence Hospital
Cook
Newark Beth Israel Medical Center
NJ School Osteo Medical/Kennedy University Hospital
North Shore University Hospital
NY Hospital Medical Center of Queens
NY Methodist Hospital
Ohio State University Medical Center
Ohio Valley Medical Center
Oklahoma State University Center
Oregon Health Science University
Orlando Health
OSUCOM/Southwest Medical Center
OU COM/Doctors Hospital
OU COM/Grandview Hospital
OU COM/Southern Ohio Medical Center
Palmetto Health Richland
Penn State Milton S Hershey
Queens University
Resurrection Medical Center
SIU University Emergency Medical Residency
Sinai-Grace Hospital
St. J ohn Hospital & Medical Center
St. Louis University School of Medical EM Program
St. Lukes Hospital/Emergency Medical Residency
St. Lukes Roosevelt Hospital Center
St. Vincent Mercy Medical Center
Stanford University Medical Center
State University, NY Brooklyn
State University, NY Buffalo
State University, NY Stony Brook
State University of NY Upstate, Syracuse
Summa Health System, Akron
Synergy Medical Education Alliance
Tawam Hospital
Thomas Jefferson University
TX A&M/Scott & White Memorial Hospital
TX Tech Health Science Center
UMDNJ, University Hospital
UMDNJ Robert Wood Johnson University
UNECOM/Kent Hospital
University Hospital Case Medical Center
University of Alabama, Birmingham
University of Arizona
University of Arkansas
University of AZ UPHK Grad Medical Education Consortium
University of CA, Davis
University of CA, Irvine Medical Center
University of CA, San Diego
University of CA, SF Fresno/ED
University of CA, SF Medical Center
University of Chicago Medical Center
University of Cincinnati Hospital
University of Connecticut
University of Florida
University of Florida Health Science Center
University of Illinois Hospital/Chicago
University of Iowa Hospital & Clinics
University of Kansas School of Medical
University of Kentucky
University of Louisville, KY
University of Maryland
University of Massachusetts
University of Michigan
University of Mississippi
University of Nebraska Medical Center
University of New Mexico
University of North Carolina
University of Pennsylvania Medical Center
University of Pittsburgh Medical Center
University of Puerto Rico
University of Rochester
University of South Florida
University of Texas, Southwestern Medical Center
University of Toledo Medical Center
University of Utah Hospital & Clinics
University of Virginia Health System
University of Wisconsin
Vanderbilt University
Wake Forest University
Washington University School of Medicine
Wayne State University/Detroit Receiving
West Virginia University
William Beaumont Hospital
Wright State University
Yale New Haven Medical Center
York Hospital
Arrowhead Regional Medical Center
Carilion Clinic, Virginia Tech
Haaglanden Medical Center, Netherlands
Haga Ziekenhuis, Netherlands
Henry Ford Hospital
Hospital Leyenburg, Netherlands
King Hussein Medical Center
London Deanery, UK
Mt. Clemens Regional Medical Center
National University of Singapore
Onze Lieve Vrouwe Gasthuis, Netherlands
OU COM/Affinity Medical Center
Palms West Hospital
Royal Adelaide Hospital, Australia
Royal College of Surgeons, Ireland
Royal Prince Alfred Hospital, Australia
St. Antonius Ziekenhuis, Netherlands
St. James Hospital, Ireland
Stirling Royal Infirmary, UK
UTCOM Chattanooga
The top three topics about transition

This time of year always brings discussion regarding the subject of transition. As I travel through emergency department’s and medical groups throughout the country, there are three consistent topics that I am receiving questions about. Inquiring minds seem to want to know:

- How to evaluate and purchase appropriate disability insurance
- How to plan for retirement now and in the future
- How to allocate increased income

I hope that the following summary offers confidence, education and awareness as you make decisions for yourself and your families.

Disability insurance for emergency residents

In October, 2009, the emergency medicine disability marketplace was turned on its head with the introduction of a new, high-quality disability contract that was priced 30 percent less than the competition. Since that time, the rest of the industry has engaged in a bitter game of enhancing benefits, reducing costs, and offering concessions in order to remain competitive.

For the audience reading this article, this competition is a good thing, overall. Benefit limits have increased. Contract quality has increased, and price has decreased. However, misinformation is abundant.

The bottom line is that in the field of emergency medicine there are currently five very competitive contracts, in most states. The competitive features to understand are:

- **Own occupation definition of disability** – each of these contracts will consider you totally disabled if you cannot perform the substantial and material duties of your occupation, regardless of outside income or earnings. Understand that all disability claims are unique situations and are handled in a similar way by any company. All of the companies want to pay as much as an insured is eligible for, but certainly not more, than is reasonable. An own occupation contract does not guarantee that you will receive full benefits in every situation, but it does offer the most comprehensive, flexible level of income protection, in the most diverse set of potential claim scenarios.

- **Benefit limits** – this is where current residents really benefit. As of spring 2011, a resident or fellow within the last six months of training can obtain up to $6,500 of tax free monthly income protection. Obtain this prior to completing training and you may be able to start in practice with greater than 100 percent of your net income insured. This is well above the normal industry guidelines and the opportunity expires as soon as you complete your training.

- **Out of pocket cost** – of course, price is always an issue, so this is a benefit of the current environment as well. The relative benefit cost is as low as it has been in 10 years. For the most significant price reductions, obtain disability as a group of at least three people. Males can save 10-12 percent; females can save 45 percent!

A competent disability advisor will be able to compare multiple contracts, design an appropriate strategy and negotiate the terms of the contract(s) if there are any medical complications. For more detailed information on this topic, review the Disability Filter video, located at www.integratedwealthcare.com/education.

Retirement planning

After years of minimal income and delayed gratification, the transition in to practice offers the opportunity to finally make up for lost ground. There are three things to understand about retirement planning:

- **Set a goal** – you need some understanding of what you want to accomplish and when. This will validate the amount of ongoing retirement contributions as well as guide the investment structure.

- **Invest appropriately** – try to achieve maximum growth with minimal risk. This can be a complex topic, so if you are not comfortable making your own investment decisions, pay someone for their expertise.

- **Reduce income taxes** – as income goes up, so does your relative tax bracket. Look for 403(b), 401(k), 457, and SEP IRA plans to allow for significant tax reduction. If you are self employed, the SEP IRA or solo 401(k) allow for very high pre-tax contributions.

Allocating income

Whether you are juggling a house-staff salary or looking to allocate a higher level of practice income, take some time to create a budget. For quantifiable objectives—such as a home down-payment, vacations and emergency savings—create a separate account at your bank for each goal, and contribute a fixed monthly amount via bank draft. For retirement, education for children, debt repayment, and other larger items, develop an end goal and make contributions that are in line with those objectives.

Having a well planned budget will allow you to maximize available income, minimize income taxes and maintain confidence in your personal financial situation.
Come to a meeting and be a part of the ACEP Council

Erin Schneider, MD
EMRA Health Policy Committee Chair
Oregon Health Sciences University
Portland, OR

Most states would be delighted to have residents participate, and in many cases, as one of their alternate delegates.

If you have been to an ACEP Scientific Assembly meeting in the past, you have seen doctors walking around the conference center with brightly colored ribbons hanging off their badges. Many of these are ACEP council members, who represent ACEP members across the world. Despite involvement for several years with EMRA and ACEP, I have to admit I did not know about the Council until I was invited to serve on it. My time on the Council was key to understanding the importance of ACEP to our specialty and patients, and I hope after describing my experience, I will inspire you to come to this year’s meeting.

The ACEP Council is structured similarly to the US House of Representatives. This group of physicians represents the 53 chapters of ACEP, EMRA, AACEM, and the 30 membership sections. Each chapter is allowed one councilor (plus another per 100 members), and an unlimited number of alternate councilors. EMRA is allowed four councilors, and residents may also participate by attending the conference as an alternate.

The Council elects the Board of Directors, Council officers, and the President-Elect of ACEP (think executive branch). Resolutions—similar to a bill in Congress—may be submitted by any two members and are debated at the reference committee meetings the day before voting. Recommendations by the Council then go the Board of Directors, who sets ACEP policy. Throughout the year, emails go out to the Council with discussions on important topics in emergency medicine. Above all, the councilors represent the members’ interests and are the voice of the organization to the board.

I was offered a position on the Council while serving as one of Oregon’s resident board members. I was appointed to a position on a reference committee that covered policy and advocacy resolutions—everything from legalization and taxation of marijuana, to Medicare-for-all, to advocacy education in residency. As one can imagine, the testimony was spirited, passionate, and at times, funny.

It was my job to keep track of the pro and con arguments for a few resolutions, so that we could provide a summary before the Council the next morning. If the reference committee does this well, there should be little re-debate on the issues during the actual voting process.

The next day, we voted, debated, and word-smithed. Some of the resolutions I thought would generate debate did not, but some of the word-smithing went on for hours. Words matter when you are creating policy that represents the opinion of thousands of physicians. The speaker and vice-speaker kept the meeting in order even when individuals were out of line and even kept things humorous. When my reference committee’s set of resolutions was up for debate, we all sat on the podium in front of the several hundred physicians who make up the Council.

Unfortunately I forgot to hand off my orange voting card to my alternate councilor before I came to the podium. Realizing it was too late to turn around, I became the only on one stage to proudly vote in front of the entire assembly by way of bright fluorescent orange card.

A friend who was sitting in the back approached me after the meeting and said with a grin, “way to stand by your vote, Schneider!”

Compared with prior organized medicine assemblies I have attended, this meeting was the most relevant one. The assembly works to address and improve our field through a myriad of ethical concerns, health policy, and medical practice issues. The decisions made have the potential to directly influence our daily practice. The group is large enough to represent emergency medicine interests, but small enough to be able to get through all the resolutions in one session per year.

So how can you be a councilor? Leaders in your local chapter typically hold these positions; however, residents are occasionally funded for the position—especially ones involved with the board. It helps to have some knowledge of the process and parliamentary procedure. Try attending a meeting of your state medical association, the AMA House of Delegates, or the EMRA Representative Council.

The best way to learn about the Council meeting is to come to one, held this year in San Francisco on October 13-14. Most states would be delighted to have residents participate, and in many cases, as one of their alternate delegates. Many residents come to SA anyway for the educational program, so why not stop off and be part of the Council? The deadline to be certified as an alternate delegate is 60 days prior to the meeting, so contact your state chapter today!
Risk management pitfalls in the treatment pedicatric bronchiolitis

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1. “The ‘happy wheezer’ did not respond to the first albuterol nebulizer treatment. Let’s continue the albuterol treatment until the patient is completely clear.”
   The AAP’s Subcommittee on the Diagnosis and Management of Bronchiolitis recommends “a carefully monitored trial of adrenergic medication as an option and that inhaled bronchodilators should be continued only if there is a documented positive clinical response to the trial using an objective means of evaluation.” This recommendation reflects the fact that use of bronchodilator agents remains controversial, and results regarding their benefits for viral bronchiolitis are inconsistent. In addition, continuous albuterol treatment will expose the patient to side effects and unnecessary prolonged stays in the emergency department without benefits.

2. “Let’s send this wheezer home on steroids.”
   In contrast to dexamethasone’s demonstrated effectiveness in treating asthma and croup, to date no conclusive evidence has shown that use of systemic dexamethasone improves outcomes in first-time wheezers with bronchiolitis. In addition, because of safety concerns with use of high-dose inhaled corticosteroids in infants, they should be avoided unless there is a clear likelihood of benefit.

3. “We need to get a radiograph because this wheezer has a fever.”
   In the emergency department, radiographs should not be routinely obtained for diagnosis of bronchiolitis because no literature supports the practice. Radiographs may be useful in cases of severe disease that require further evaluation or if another diagnosis such as foreign body aspiration, pneumonia, or CHF is suspected on the basis of history and physical examination findings.

4. “We need to admit all first-time wheezers with bronchiolitis if they do not clear in the emergency department.”
   One of the main reasons to admit patients with bronchiolitis is the concern regarding the development of apnea. Risk factors for apnea include young age (< 6-12 weeks old), prematurity, a history of apnea of prematurity, presentation with apnea, or apnea witnessed by a parent or healthcare provider. In addition, patients with bronchiolitis may be admitted because of respiratory distress, hypoxia, or dehydration related to the inability to take fluids secondary to increased work of breathing. Wheezing alone is not a criterion for admission unless it is associated with other risk factors for severe disease or apnea. Social factors such as parental comfort and reliability in ensuring appropriate care and follow-up should be taken into consideration when disposition decisions are made in the emergency department.

5. “The ‘happy wheezer’s’ pulse oximetry reading is 90 percent on room air. We need to immediately provide supplemental oxygen.”
   In a wheezer who has no respiratory distress but has low SpO2, the first priority is to ensure that pulse oximetry probes are placed appropriately, particularly in the active infant/child. Poorly placed probes and motion artifact will lead to inaccurate measurements and false alarms. Before instituting oxygen therapy, the initial reading should be verified by repositioning the probe and repeating the measurement. The infant’s nose should also be suctioned. If the SpO2 level remains below 90 percent, oxygen should be administered. The infant’s clinical work of breathing should also be assessed and may be a factor in the decision to use oxygen supplementation.

6. “This neonate is wheezing; she must have bronchiolitis.”
   Other life-threatening causes of wheezing should be considered. Clues from the history and physical examination such as sweating and exertion with feeding, heart murmur, and hepatomegaly should be elicited to rule out CHF and “cardiac wheezing.” This determination is important before starting a trial of nebulized adrenergic treatment.

7. “This two-month-old patient with 30 weeks’ gestation has mild wheezing and a respiration rate of 60 breaths per minute. Her pulse oximetry reading is 92 percent on room air after a nebulized adrenergic treatment. I can send him home with albuterol and frequent bulb suctioning.”
   Bronchiolitis presentation is variable, and tachypnea and increased work of breathing can proceed wheezing. This patient has three risk factors for severe disease, including young age, prematurity, and hypoxia. In addition, he has a risk factor for apnea (i.e., < 48 months post conception, considering his prematurity). Close observation is warranted.

8. “The mother states that this neonate has had a runny nose and cough for two days. The nurse called because the baby turned blue for a brief period. He is now breathing at a rate of 60 breaths per minute, and his pulse oximetry reading is 96 percent on room air, so I can send him home.”
   Young age (< one month old) and witnessed apnea by a healthcare provider are major risk factors for developing another apneic episode or persistent apnea. Admission of this neonate to a monitored bed (with apnea monitor) is indicated.
Risk management pitfalls for emergency ultrasound

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1. “I didn’t know there was so much literature to support the use of ultrasound.”
   Know the emergency ultrasound literature. For the previously established applications, research has moved beyond the assessment of technical and diagnostic accuracy and toward diagnostic decision-making and patient outcomes research.

2. “The views weren’t great, but the images I did see looked negative, so I sent the patient home.”
   Know your limitations. When used appropriately, clinician-performed bedside ultrasound is a powerful tool that can improve patient safety, improve quality of care, and decrease emergency department lengths of stay. Clinicians put their patients and themselves at risk, however, when they do not recognize the limitations of ultrasound and the limitations of their own ultrasound skills.

3. “Ultrasound is great because its sensitivity is so high.”
   Be focused and specific. The goal of emergency ultrasound is to assess for specific abnormalities with appropriate sensitivity rather than performing comprehensive studies. It is more important for emergency clinicians to be able to recognize, integrate, and act on abnormal ultrasound findings, especially life-threatening ones, than to try and perform consultative ultrasound examinations.

4. “There wasn’t much space in the room, so I decided to scan the patient from the opposite side and use my non-dominant hand since it was closer.”
   Develop, perform, and practice your scanning approach the same way every time. Good scanning habits will avoid errors, improve consistency, and increase efficiency.

5. “The ultrasound looked abnormal, so that must be the problem.”
   Avoid over-relying on or being overly influenced by information obtained on bedside ultrasound. Clinicians must always remember to integrate findings on ultrasound into the patient’s overall clinical presentation (i.e., findings on history and physical examination, laboratory studies, and results of other imaging modalities).

6. “It looked abnormal on the initial view, so I stopped the exam and then called the consultant.”
   Remember to confirm or refute findings seen on 1 view with a second or multiple views. Findings seen on a single view may be secondary to artifact or may under- or over-represent an abnormal finding. Be sure to interrogate any abnormal finding from multiple different views in order to confirm and better characterize the finding. Avoid arriving at a final impression until multiple views have been attempted and used.

7. “The initial ultrasound scan was negative, so I didn’t bother to repeat it.”
   One of the many benefits of clinician-performed bedside ultrasound is its ability to be repeated. Repeat scans may reveal abnormal findings — which may have taken some time to accumulate — and should be performed when a patient’s clinical course deteriorates.

8. “It was so busy that I didn’t have time to do the ultrasound.”
   With appropriate training and practice, emergency ultrasound can be performed rapidly and efficiently integrated into almost any patient work-up. For several of the 11 emergency ultrasound applications, decreased lengths of emergency department stay and significant time savings have been shown.

9. “The FAST examination was negative, so I assumed the patient wasn’t bleeding in the abdomen.”
   While the FAST examination has good sensitivity and excellent specificity for intraperitoneal bleeding, ultrasound is a poor diagnostic test for the detection of hollow viscous injury and retroperitoneal blood.

10. “The patient had large-volume ascites, so I didn’t need to use ultrasound to guide my paracentesis.”
    Loops of bowel can be present between the abdominal wall, and the expected location of ascitic fluid based on physical examination and the distribution of ascites may often be variable as well, even in patients with large fluid volumes.

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**LA. New Orleans Area. Independent Contractor. Physician. 28-bed ED. 41,000 visits/yr. 40-hr shifts daily w/ 24-hr MLP cov. BC/EP: EM. Call Renaldo Johnson at (214) 712-2035.**

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**OH. New Lebanon. Independent Contractor. Physician. 10-bed ED. 16,000 visits/yr. 12-hr shifts. BC/EP: EM. Call Adam Schweigert at (800) 444-2522.**

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This two-year program offers you affiliations with the Emory University School of Medicine, CDC, the Agency for Toxic Substances and Disease Registry (ATSDR), and the Georgia Poison Center. The Georgia Poison Center is among the 5 busiest poison centers in the United States and receives more than 90,000 calls per year. As an Emory/CDC Medical Toxicology Fellow you will:
- Participate in the toxicological evaluation, management and bedside care of patients at five Atlanta-area metropolitan hospitals
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- Work and train with international Medical Toxicology Fellows and Pharmacy Clinical Toxicology Fellows as well as mentor/teach medical students and rotating residents
- Have protected time to moonlight and maintain your primary medical students and rotating residents
- Participate in international and domestic chemical-associated outbreak and public health investigations
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- Have the opportunity to obtain a Masters of Public Health (MPH) degree at Emory in a single year (this adds one additional year to the 2-year fellowship)

For more information please contact:
Brent Morgan MD
Director, Emory/CDC Medical Toxicology Fellowship
Georgia Poison Center
50 Hurt Plaza SE, Suite 600
Atlanta, GA 30303
(404) 616-6651
bmorg02@emory.edu
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- Mass poisoning from diethylene glycol contaminated cough syrup (Panama)
- Occupational exposures to manganese (Mexico)
- Aflatoxicosis from contaminated maize (Kenya)
- And others....

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- Learn from a diverse faculty that includes more than 10 board-certified medical toxicologists
- Work and train with international Medical Toxicology Fellows and Pharmacy Clinical Toxicology Fellows as well as mentor/teach medical students and rotating residents
- Have protected time to moonlight and maintain your primary clinical skills within and/or outside of the Emory system
- Participate in international and domestic chemical-associated outbreak and public health investigations
- Receive formal training in epidemiology, statistics, scientific writing, medical management of both biological and chemical casualties, public health risk assessment, laboratory science, and more
- Have the opportunity to obtain a Masters of Public Health (MPH) degree at Emory in a single year (this adds one additional year to the 2-year fellowship)

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New Hampshire, Manchester: Democratically governed emergency medicine group serving population of 37,000 visits yearly seeks BC/BP physician. We are located near the ocean, Boston and the White Mountains. New members share same night/weekend/holiday mix as other group members and are eligible for shareholder status in one year. Email response to KZaffino@CMC-NH.org or mail to Kathleen Zaffino MD 100 McGregor St. Manchester, NH 03102.

New Hampshire, Portsmouth: Portsmouth Emergency Physicians, PC in Portsmouth, NH is looking for a full-time RT BC/BP physician for 2011. Portsmouth Regional Hospital [Level II] receives transfers-in for cardiac and neurosurgery and is strong in virtually all call categories. The ED volume is 28,000 with ca. 20% admission rate, and we have double and triple coverage. This fee-for-service group has an excellent compensation package including health and liability insurance plus retirement, etc. On the coast of NH,
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Ohio, Barberton and Wadsworth: SUMMA Health System-Barberton Hospital is a full-service community hospital in southern suburban Akron with 44,000 ED visits/yr. WRH Health System in Wadsworth sees 20,000 patients per year. Work at one site or combination of both. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Ohio, Cambridge: Southeastern Ohio Regional Medical Center is a 177-bed, full-service facility treating 31,000 ED pts./yr. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Ohio, Cincinnati: Situated in desirable Anderson Township, Mercy Hospital – Anderson sees 48,000 patients per year. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.
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Pennsylvania, Pittsburgh: Alle-Kiski Medical Center in Natrona Heights boasts a brand new ED to see 36,000 emergency pts./yr. The Western Pennsylvania Hospital-Forbes Campus sees 47,000 EM pts./yr. in Monroeville. Both are proximate Pittsburgh’s most desirable residential communities. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

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**South Carolina, Waynesboro:** NES HealthCare Group is seeking a full-time emergency medicine physician to staff newly renovated Emergency Department of Burke Medical Center. Candidates must be BC/BP EM and have current ACLS and PALS. Competitive compensation, physician education and incentive program offered. This 40-bed facility has an annual ED volume of 12,000, and has been caring for the citizens of Burke County since 1951. Burke Medical Center is located 40 minutes south of Augusta and just west of South Carolina. Waynesboro offers small own charm with the conveniences of a “big city.” Contact: Megan Evans, Physician Recruiter, 1-800-394-6376, mevans@neshold.com or fax CV to 631-265-8875.

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West Virginia, Weirton (near Pittsburgh, PA): Weirton Medical Center affords easy access to desirable residential areas and amenities in WV and PA. The ED treats 41,000 patients annually. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

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Become a donor...

It’s easy and important!

Organ and tissue donation and transplantation provide a second chance at life for thousands of people each year. You have the opportunity to be one of the individuals who make these miracles happen. By becoming a donor, you give the gift of hope for the thousands of individuals awaiting organ transplants and hope for the millions of individuals whose lives could be enhanced through tissue transplants.

Last year alone, organ donors made more than 28,000 transplants possible. Another one million people received cornea and other tissue transplants that helped them recover from trauma, bone damage, spinal injuries, burns, hearing impairment and vision loss.

Unfortunately, thousands die every year waiting for a donor organ that never comes. You have the power to change that. Go to organdonor.gov and sign up to become a donor today!

Source: http://www.organdonor.gov

To the Class of 2011

You just graduated medical school and want to plan a fabulous trip before residency starts but do not know where to go... Below is a list of the top ten vacation spots according to the Travel Channel to help get you started. To read more on what to do with the Last Summer of Your Life, see Austin Dennard’s article on page 21.

1. Paris, France
2. New York, NY
3. Rome, Italy
4. Cancun, Mexico
5. London, England
6. Miami, FL
7. Orlando, FL
8. San Francisco, CA
9. Myrtle Beach, SC
10. Branson, MO

Source: http://www.travelchannel.com/Places_Trips/Travel_Ideas/Travel_Tips/Top_10_Vacation_Spots

EMRA Congratulates the 2011 Graduates!

“Today is your day! Your mountain is waiting. So... get on your way.”

— Dr. Seuss
Steer your Emergency Medicine career in a new direction!

“With the support of my Premier colleagues, I have grown as a physician, a team member, and an individual. I have been challenged to develop and learn new processes, worked alongside hospital executive members and had the valuable experience of moving our ER to a new facility.”

Frederick Raiser, DO
PHCS Assistant Medical Director
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The right fit

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