Two-thirds of the world’s population lives in the developing world and suffers from a lack of access to primary health care. In 2001, injuries accounted for about 5,100,000 deaths (about 20 percent of which were preventable by simple surgical intervention). Africa has the highest road-traffic-injury mortality rate in the world at 28 per 100,000 people and has 50 deaths per 10,000 vehicles compared to 1.7 deaths per 10,000 vehicles in high-income countries. Injury accounts for more deaths than those caused by tuberculosis (2.5%), diarrhea (4.3%), malaria (2.9%), HIV (6%), or cancer (5.2%). The worldwide leading cause of death among young people between five and 40 years of age is injury. Projections show that between the years 2000 and 2020, road traffic deaths will increase by 83 percent in low and middle-income countries.

In contrast, there will be a further 30 percent decline in road traffic deaths in high-income countries, continuing a pattern that has been established in recent decades.

Yet the world’s focus, although important, remains on the prevention and care of communicable diseases such as malaria, HIV/AIDS, and nutrition.

However, as nations continue to develop their transportation infrastructures, trauma continues to grow as a major cause of morbidity and mortality in poverty-stricken countries like Ghana. Effective trauma care requires sustenance and sufficiency of three components: emergency medical services (EMS), emergency departments to stabilize acute trauma victims, and orthopedic/trauma healthcare resources. Motec Life – UK (Motec) is a multi-disciplinary charity organization based in the United Kingdom that develops self-sustaining trauma care in countries like Ghana.

On October 23, 2008, Motec and the Ministry of Health organized a paramedic workshop, which was represented by the Ghana National Ambulance Service, the Directorate of Occupational Health,

continued on page 12
Great app ★★★★★
by BostonEDMD — Oct 5, 2009
“...Responsive, well designed and just enough info for a practicing community/academic ED MD of 9 years...”

A must have! ★★★★★
by PAZach — Sep 26, 2009
“A must have for any ER clinician.”

Great interface ★★★★
by Noel Hastings — Sep 29, 2009
“The interface is easy and quick to load and navigate. It has a good feel when transitioning from the book and there are multiple ways to reference the info you need...”

Superb reference ★★★★★
by EyedocWV — Oct 5, 2009
“Practicing medicine in the front line daily is strenuous as best. A quick reference like this in your pocket is invaluable. I would give it 6 stars if I could.”

Easier than Sanford ★★★★
by Geekstrap — Oct 13, 2009
“Great job. Very easy to navigate. This will be frequently used...”

EMRA Guide ★★★★
by JPEDMD — Nov 5, 2009
“Very nice job on creation of a simple to use, intuitive and functional interface...”
### Upcoming events

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### Advertising guidelines

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 March 1 will appear in the April/May issue.

EM Resident subscriptions are available only to individuals and institutions that are not considered eligible for EMRA membership as per the EMRA bylaws. For information on how to subscribe please contact Leah Stefanini, 866-566-2492 ext. 3298 or email lstefanini@emra.org.
“Forget the etomidate, just intubate…” “Activate the cath lab…” “Direct that chest tube posteriorly…” “He’s pulseless; get that central line in stat…” “Where is the timmol?” “Open the cricothyrotomy kit…” “It’s the second intercostal space…” “Push the mannitol now…” “Is vascular on their way? Get them on the line for me again…” “Run the FFP…” “We have a private vehicle drop off, she’s crowning…”

This is why we love what we do—always working at the forefront. We manage everything that makes its way to our doorstep—ophthalmology, ENT, orthopedics, trauma, medical codes, you name it. We do so while keenly aware of our capabilities and resources. We also do it while cognizant of our nation’s medical-legal climate and realizing that in no other place in our health care system does idealism collide with reality in such quantity.

As an emergency medicine resident, you are an integral part of the health care team. At times, you have to hesitantly discharge patients home for lack of a clear indication for admission. Many of them are uninsured and probably not going to heed your advice. In communities across America, you treat; you save; you counsel; you sympathize; you teach; you learn; you dare; you risk.

This high level of acuity is exhilarating and often what attracted many to our specialty. Others were looking for medical diversity or the lifestyle. Whatever your impetus, you have entered an intense and dynamic field which rivals all specialties in the passion and commitment of its residents. Emergency medicine residents are highly regarded in all off-service rotations. You are known for your expeditious ability to triage, assess, stabilize, treat, and disposition. Your work ethic is recognized throughout hospitals and is difficult to parallel.

Though hospital crowding and limitation of resources may be frustrating at times, your heightened sense of alertness pushes you to excel under these conditions. You seek more cases and work tirelessly. You scavenge procedures until you feel competent and then teach your successors. You grab the next chart eager to learn and hope the chief complaint is limited to one—though several are much more likely.

Above all, you are your patient’s greatest ally. You advocate for them with consultants and social assistance such as cab vouchers, blankets, meals, and shelters for the abused or recovering addict. You serve as the only access point to healthcare for many and consider their social condition to disposition.

You’ve dedicated a significant part of your life to the noble art of healing and improving the human condition. In doing so, you’ve amassed a significant debt that will keep you from reaping the full fruit of your labor for years to come.

In the course of your successes—if you are like the majority—you have been humbled by life’s unexpected twists and turns. Despite this, here you are, walking over to the next patient’s bedside and asking, “What brought you in today, and how can I help you?”

Throughout the rollercoaster we call medical school, the sudden ups and downs of residency, and the swift accelerations and deceleration of your early career, EMRA is here to lend you a hand. We have everything from career planning guides, chief resident manuals, advocacy handbooks, and a multitude of other educational resources for every step of the way. Pay our Website a visit if you haven’t done so recently— it’s all geared toward making your life a little easier.

So in recognition of all you have achieved, what you do today, and the lives you’ll change for the better tomorrow, here’s to you—the emergency medicine resident. Happy Resident Appreciation Day, Wednesday, March 3. ■
EMRA Board of Directors meeting! Your EMRA leaders gathered at the corporate office in Irving, Texas in January to formulate a strategic plan for the organization for the next three years. The new directives they hope to accomplish will further their efforts to serve emergency medicine residents and medical students.

EMRA representatives are coming to your area! 2010 will kick off the fourth year for the EMRA state tour, visiting ACEP state chapters to speak to residents on key topics. If your chapter or regional meeting would like to include a presentation from an EMRA leader, contact us today!

2010 Leadership and Advocacy Conference (LAC) will be held May 16-19 in Washington, D.C.! This always-inspiring meeting will be more exciting than ever with discussions surrounding the current topic of health care reform. Be sure to ask your residency program or ACEP chapter if they’re participating in the “Chair’s Challenge,” a campaign to provide as many travel scholarships as possible for residents to attend the conference!

Don’t have your EMRA ABx Guide iPhone App? It’s available in the App Store, so download it today! It allows you to search by organ system, diagnosis, organism, and special topics, with all the user-friendliness you love about your pocket guide.
A call to arms!

EMRA wants you! Right now, you are sitting on your couch with the TV on in the background or at your breakfast table drinking coffee! Maybe you’re one of the residents who keeps the latest EM Resident on top of your commode. Whichever category you fit in, you have something to contribute.

Like many, my residency program pays for my annual dues, so I never had much incentive to research the member benefits. It took becoming a member of the Board of Directors to understand just how much EMRA has to offer. Everyone knows about the EMRA Antibiotic Guide (now available on the iPhone!) and the free resident member access to EM:RAP. Besides material to help you become a better resident, we also help you prepare for your future with information available about practice types, signing contracts, and money management.

You just suffered through my shameless EMRA endorsement. Now, it’s time to promote yourself. Behind all of the EMRA benefits are countless residents who have contributed. Emergency medicine residents are known for having many talents and interest outside of the hospital. Share yours with us.

Did you just get back from practicing in an exotic country? Did you take care of a patient with an interesting illness or visual diagnosis? Perhaps you’ve had an interesting life experience completely unrelated to your profession. Write an article about it.

EM Resident will soon be adding another section—Consultant’s Corner. This column will feature an interview with a physician outside of emergency medicine, detailing the art of a proper phone consult to their given specialty. Know a physician outside of emergency medicine who constantly complains about poor presentations during consults? Well, here’s their chance to educate thousands of emergency physicians.

Some people like to critique more than create (myself included). After all, what’s better than taking a pen and marking until the paper looks like evidence from a murder scene? Become a member of the Editorial Advisory Committee.

OK, I get it—you’re not that into writing. EMRA also has many different committees. Are you only happy taking care of patients on a vent with two different pressors? Join the Critical Care Committee. Constantly checking out the latest updates on health care reform? Become a member of the Health Policy Committee. Infected with the travel bug? Join the International Emergency Medicine Committee. Perhaps you’re just a big nerd at heart. Well, there’s an app for that too on our Technology Committee.

Spend some time looking on our Website at www.emra.org to get a better idea of member benefits and where you might fit in. Feel free to contact our various committee chairs through our Website or email me at emresidenteditor@emra.org if you have any questions. Wherever you’re sitting right now, get up and get involved!

Carson Penkava, MD
University of Alabama
Birmingham, AL
Editor EM Resident/Secretary
If you are interested in serving on an EMRA committee, making a difference in EM and letting your voice be heard, send a letter of interest and your CV to emra@emra.org.

The deadline is April 15th.

To read more about the objectives of the following committees, please visit www.emra.org.

EMRA Committees

Critical Care   Health Policy
Technology   Research

International EM

Express yourself!

EM Resident invites readers to submit poetry, drawings, photographs, or creative pieces that express their personal and/or clinical experiences.

EM Resident welcomes letters to the editor. Letters may be submitted via mail or email. Please include your full name, title, institutional affiliation, and phone number for verification purposes. Letters are limited to 250 words. We reserve the right to edit letters for length and clarity and to determine which letters will be published.

Submit a letter to:

EMRA
1125 Executive Circle
Irving, TX 75038
or
dmisresidenteditor@emra.org
AMA resolutions can originate with you!

Prologue
This is my first grown-up column.
Yes, I was a reporter for my medical school newspaper, but let’s be honest, no one had time to read that. And although I understand that residency may be equally as hectic, I am ignoring all the Debbie Downers and convincing myself that you, my biggest fans, are on pins and needles waiting for these cliffhanger stories. At last, I am sooo Carrie Bradshaw!!

The AMA Interim Meeting: Where the magic really happens
Let’s start with the basics: The House of Delegates (HOD) is the principal policy-making body of the American Medical Association. Each state and specialty have representative seats and votes in this council. These seats and votes are proportional to the number of physicians they represent—very much like the US Congress. Delegates convene twice a year—at the annual meeting and the interim meeting—to discuss proposed resolutions.

Your EMRA speaker and vice-speaker are voting members of the Resident and Fellows Section (RFS) Council, one of the contingencies that sends representatives to the HOD. From November 7-10, we were in Houston, Texas to vote on your behalf.

Resolutions can be introduced by any state or specialty delegation. For example, a member of EMRA can write a resolution that is adopted by our representative council. We can then forward that resolution to the RFS. If adopted at that level, the resolution is sent to “the big house” (AMA HOD) for final approval.

In the past two years, EMRA has forwarded two resolutions to the Resident and Fellow Section (RDA); they were subsequently adopted and forwarded to the AMA House of Delegates. One of those, the Child Safety Seat Amendment was adopted by the AMA in 2008. It states that we support federal legislation that increases law enforcement standards for child safety seats used in the US and that the AMA support state and federal legislation that updates child car seat violations code from a secondary to a primary law.

More recently, a resolution regarding reporting suspected child abuse was passed in the RFS and was then introduced to the HOD at the annual meeting in 2008. At that time, Reference Committee recommended adoption, but the HOD referred it to the Council on Science and Public Health (CSAPH) for further evaluation.

After assessment, this resolution was adopted as amended (at the interim meeting of 2009) and supports that physicians act as advocates for children and have a responsibility to protect them if there is suspicion of abuse. It also addressed that suspected child abuse is being underreported and has proposed ways to attend to the current disparity between reporting requirements and compliance.

Among the hundreds of proposals that were brought forth last fall, some of the
most applicable to emergency medicine residents were:

- **Resolution 212**: The AMA adopted this resolution that supports federal legislation to extend Section 1011 of the Medicare Modernization Act, which provides federal funding to states for emergency services provided to undocumented immigrants.

- **Report 1 of the Council on Medical Service (I-09)**: The AMA adopted this resolution which encourages physicians and hospitals to collaborate to ensure adequate on-call coverage for admission from the ED, but opposed any regulatory efforts mandating coverage as a requirement for staff privileges.

- **Resolution 216**: The AMA adopted this resolution that intends to truly quantify medical tort reform. The AMA will study the true cost of defensive medicine and report back with subsequent updates every ten years.

- **Resolution 922/928**: The AMA referred this resolution to the AMA Council on Science and Public Health and to the Council on Ethical and Judicial Affairs. After further debate, they will issue an expeditious report (2010 Annual Meeting) on mandatory H1N1 and seasonal flu vaccinations for health care workers.

For more information on these resolutions or for a complete summary of all reference committee reports and other business from the AMA Interim meeting, please visit the AMA Website at www.ama-assn.org/ama/pub/meeting/i09-reports-resolutions/business-hod.shtml.

**Epilogue**

While we are speaking about the AMA, I wanted to address a recent trend. There has been a decline in the number of emergency physicians who have designated the American College of Emergency Physicians (ACEP) to represent them in the AMA HOD. Consequently, emergency medicine is in danger of losing one or more delegates in the AMA HOD. If you are a member of the AMA, you are eligible to designate the medical specialty society that represents your area of medical expertise in the HOD. Each AMA member is allowed one vote, and for every 1,000 votes received, the designated medical specialty society receives one additional delegate in the AMA HOD. ACEP is the only emergency medicine society that has a seat in the AMA HOD. Through the efforts of ACEP, emergency medicine has achieved victories in the House of Medicine on such issues as on-call coverage, use of ultrasound, reimbursement, disaster response and preparedness, crowding and boarding, ambulance diversion, and professional liability reform. In addition, this delegation was instrumental in electing the first emergency physician to the AMA Board of Trustees, Dr. Steven Stack.

To cast your ballot, visit the Website at www.ama-assn.org/go/ballot. Please ensure that emergency medicine will continue to have a strong and vital voice in the AMA.

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**EMRA Resolutions due April 21, 2010**

Want to make a difference in EMRA or the specialty of emergency medicine?

Then author a resolution.

A resolution is essentially a directive for EMRA to take a certain action or to form a policy. Resolutions for the EMRA Representative Council meeting to be held at the SAEM Annual Meeting are due April 21, 2010.

Visit the EMRA Website for more details, examples, and to submit your resolution on line.

You can always request more information from the Speaker of the Council at speaker@emra.org.

Get involved!
“Now that most devices are connected to the internet, it makes sense that applications and data should automatically sync across all of your devices...”

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**Productivity tools and strategies**

I’ve always been fascinated by how great leaders are able to juggle an insurmountable number of tasks and make it look effortless. I’m sure organizational aptitude has a lot to do with it, but I think technology has something unique to offer.

I’d like to introduce some productivity tools and strategies to maximize your time to pursue passions inside and outside of the house of medicine.

The first productivity strategy I’d like to introduce is automated sync. Now that most devices are connected to the internet, it makes sense that applications and data should automatically sync across all of your devices (Mac, PC, iPhone, Blackberry).

This seamless synchronization is beginning to be supported by more and more applications. One application that does this is DropBox, a free service that creates and synchronizes a network folder on all of your devices. You interact with the folder and files as you would any other, except that when you edit a document on one computer, it’ll update that document on every computer and device that you own. It’ll even update all your friend’s computers with which you’ve shared your folder.

The next strategy I’d like to offer is to capture information electronically and store it in a digital peripheral brain. I recently went on an international trip and used Evernote, a multiplatform application that stores and categorizes information. During my trip, I took pictures of my boarding pass, business cards, and handwritten notes of ideas with my iPhone. These notes were then automatically uploaded to a server, synchronized to all of my computers and other devices, and converted to text so that the content of every note could be searched by content, GPS coordinates, time, or label.

Inevitably, I lost those physical pieces of paper, but can still find and access that

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information in seconds. I’ve used this information to claim my lost baggage and submit some frequent flier miles.

The last productivity strategy I’d like to introduce is to use an enterprise search as much as possible. Instead of clicking through folders looking for content, search as much as possible to find what you are looking for. You can also use filters to automatically apply labels to all of your data, whether it be email, Evernote entries, or anything else.

These labels will allow you to apply multiple categories to your data, allowing you to search not only by the content, by its categorization. For example, I use gmail labels with automatic filters to categorize all of my email. I can almost always locate any email or document on my computer in less than five seconds, even if I can’t remember the date sent or people involved.

Although all of these applications require some time to familiarize, the ultimate time saved and the unique benefits far exceed the initial work. As always, feel free to contact me techcoordinator@emra.org with any feedback or with any suggestions for future technology articles.

Disclaimer: I have no financial interest in any of the products mentioned in this article.
Targeting trauma in Ghana

continued from front cover

and the Eastern Regional Directorate. Ghana National Fire Service (ER) and the Professional Drivers Union of Ghana also provided additional cooperation. The event, held in Kofordiua, was attended by 120 participants and was the first national paramedic-training program of its kind.

The training workshop supported a morning of didactic teaching comprised of ambulance aid skills, paramedic aid skills, and a broad overview of applicable ALS/ATLS. The afternoon comprised of split practical skills sessions and included four stations: cardiopulmonary resuscitation, spine immobilization, emergency intubation, and handling of accident victims.

transport times as rains and flooding can obstruct major roadways and impede traffic. A significant proportion of injury deaths thus occur in the pre-hospital setting, which emphasizes the role of the paramedic team in providing temporizing medical care while en route to a definitive treatment facility.

Effective trauma care development is slow as the government funds 80 percent of the public health services through general taxation and donor funds. The first approach to address this issue is to improve pre-hospital care via paramedic training with workshops similar to the Motec conference.

Of course, efforts to improve pre-hospital medical care should be combined with significant investments in improving hospital-based emergency care.

One barrier to the development of trauma centers in emergency departments is the

Given the size of Ghana and the relatively few centers able to provide trauma care, transport times can vary from 30 minutes to six hours. There is also significant regional and seasonal variation in
cash-and-carry system that is currently in place for supplies and medicines. Many existing hospital models focus on making a diagnosis and not on appropriate triage or rapid stabilization. Once patients are dropped off by EMS, there has to be a commitment on the part of the receiving hospital to provide rapid, effective emergency medical and surgical care. For this reason, only the simultaneous development of EMS and emergency medical care will result in a significant dent in mortality and an improvement in injury-related outcomes.

There is a large burden of morbidity and mortality from injury in developing countries, and this load is mostly ignored as developing nations focus on making an epidemiologic transition—advancing approaches to the prevention and treatment of infectious diseases. The number of trauma victims will only increase as the industrial and transportation infrastructure grows, fortunately, programs like Motec can fill a considerable need and help many people.

References


5. Motec-Life UK. Online at [www.moteclife.co.uk] as of 11/20/09

All right—brace yourself. I know this will come as a huge surprise to you, but the US economy took a nosedive this past year. The stock market tumbled; many jobs were lost; the housing market came crumbling down. A record number of banks were shut down, including the one housing my primary checking account (thankfully the FDIC covered it!). Our nation’s automobile manufacturers all appeared to be on their way to the junkyards.

Just when all hope seemed lost, the top executives from these bankrupt automakers flew in their private jets to Washington, D.C. and pled their cases in front of Congress. It was out of these talks that a new word was introduced to our nation’s everyday vocabulary—bailout. Banks, brokerage firms, and automakers received bailouts. It seems as if 2009 will forever be known as the year of the bailout.

With so many bailouts being passed around, I have one question for Congress, “Where’s my bailout?”

As an emergency medicine physician, I work in an office that never closes. Twenty-four hours a day, 365 days a year, my office doors remain open. If a patient walks through those open doors, federal law mandates that he receive emergency medical care. If a patient has an emergency medical condition requiring care beyond what I can offer, I am required to stabilize them to the best of my abilities and resources, before finding an appropriate facility to transfer them for more definitive care.

Assisting with this mission are countless numbers of ancillary staff. Emergency medical technicians and paramedics respond to these patient’s homes or businesses at any hour and in any condition to transport them to my office. Nurses, both those who staff my department and those staffing the rest of the hospital, work around the clock to care for them. Lab technicians, phlebotomists, and radiology technicians also provide invaluable services in the mission to provide the best emergency care possible.

Yet, despite all of the time, effort, and resources expended in caring for my patients, there is often no payment for these services. Thanks to the federal EMTALA mandate, I am required by law to treat any patient who presents to my emergency department, even if they have no means or intentions of paying for the services they receive.

It is estimated that every emergency medicine physician in the United States provides $175,000 in uncompensated care each year under the EMTALA mandate. Multiply that out for an anticipated 30-year career, and I will have provided approximately $5,250,000 in uncompensated care by the time I retire.

I don’t know about you, but I can’t think of any other industry where services are required under federal law to be provided regardless of the ability to pay. You can’t walk into the grocery store for milk and eggs and walk out without paying for them. You can’t fill your car up with gas without paying for the fuel. You can’t eat a meal at a restaurant and then walk-out on the check. So why is it that you can walk into my emergency room, be provided top-notch medical care, and then leave with no intention of paying for the services you received?

With the federal EMTALA mandate providing no incentive to pay, the uninsured will continue to flood our emergency departments...

Something must be done – I can’t afford to make a $5,250,000 charitable donation.

So as 2009, the year of the bailout, comes to a close, there is no better time for me to ask, “Mr. Senator, Mr. Congressman, and Mr. President—where is my bailout?”
Have you ever complained about the lack of beds in your emergency department? How about the consultant that has not called back in a timely manner? Have you bemoaned the challenges, but done nothing? If you find yourself in this latter category, I encourage you to take the time now to get involved.

As health care reform likely begins to wrap up the legislative phase (there will be the obligatory regulatory phase in the future), advocacy will take on an important role at the local level as we begin to implement change.

Recently, one of the hospitals that I work for sent out a letter asking physicians to support their request to the state for a Certificate of Need (CON) to expand the hospital’s inpatient bed capacity. They had sent out a similar plea to the leaders of all of the hospital departments a month earlier. Not a single letter had been sent to the state agency supporting the hospital’s CON request.

Every department wanted more beds, as we often face limited inpatient beds, spend four percent of our time on ambulance diversion, and have boarded as many as 40 patients in the past month in the emergency department. Yet no one had taken the time to send a simple letter to support the hospital in their efforts at change.

This is a perfect example of local and simple advocacy that requires minimal effort, but is so critical. In less than an hour, with the facts from the EMRA Advocacy Handbook and local statistics from the hospital, a quick letter was written and sent off to the appropriate parties. Some physicians might say that this was an intrusion into their job, uncompensated free consultation, or some other excuse. But the reality is that this is the advocacy we should be doing every day. It is what we need to do to support our patients and our specialty.

If that is not enough for you, then I encourage you to come to the best conference of the year, ACEP Leadership and Advocacy, in Washington, D.C. Each year, the leaders of your specialty gather in our capitol to discuss the latest issues, work on leadership skills, and take to the Hill to encourage reform. Even though health care reform may be “complete,” it is still more important than ever to gather. There will be important issues left out and changes needed as the language of the bill is reviewed, in addition to advocacy on a multitude of other issues.

Talk to your Program Director or Department Chair about participating in the EMRA Chair’s Challenge if you are having a hard time finding the funds to travel. Every year, we ask programs to sponsor at least one resident (or more) to come to Leadership and Advocacy Conference and start their path to leadership. Your program will receive special recognition for this generous support and join many other great programs in being a breeding ground for future leaders.

Regardless of your interest or availability of time, I encourage you to get involved in advocacy on the local, state, or national level. The future of our specialty, the treatment of our patients, and our ability to provide effective care depends on the continued advocacy of great leaders like you. Take the time; get involved; make a difference!
The waiting game

Nurse: “Doctor, we’ve got an invisible man in the waiting room.”

Doctor: “I wish I could help, but I can’t see him now.”

Unfortunately, lengthening wait times is not a laughing matter. An article in the November Archives of Internal Medicine highlighted the continuously increasing median time to be seen over the past decade¹. Despite technological forays into internet posts of local emergency department wait times and the use of restaurant-like pagers, the wait time has continued to increase.

Three weeks after the report was released, Roshunda Abney left the emergency department at University Medical Center in Las Vegas after six hours without being seen to deliver her premature daughter at home. The infant’s death was an unfortunate reminder of June 2008 when video emerged of Esmin Green, a 49-year-old woman, dying on the waiting room floor at Kings County Hospital Center in Brooklyn after waiting 24 hours for a bed.

Although these cases may be outliers from the norm, how far off the curve are they? Evidence is piling-up outlining how emergency department crowding increases morbidity and mortality. We also know that waiting decreases both patient and staff satisfaction².

The conventional wisdom that throngs of low-income, uninsured people are to blame for increased waiting is wrong. In fact, data from the National Hospital Ambulatory and Medical Care Survey revealed decreased primary care access and decreased hospital efficiency leads to increased emergency department use across all socioeconomic divisions. Essentially, waiting has become synonymous with the emergency department.

We as staff wait for patients to arrive, wait for triage, wait for procedures to be done, wait for the results, wait for consultants, and then wait for a bed to be open. We are the experts at waiting. And as residents, work always follows us home. We wait to watch that movie so we can read the articles for journal club. We wait to get married and even wait to have children. We waited through medical school and some will wait through fellowship too.

I think back to the things I thought were so important as milestones and the steps I had taken to get to each one. I laugh at how hard I wished my 16th birthday would come sooner so I could get my driver’s license. Now, I abhor commuting. Who wants to admit the times things were done more to pad a CV than to meet the mission? This burden stems more from personal pride than societal expectations. From the time we could talk, the inevitable constant in conversations was “What are you going to be when you grow up?” I look back and regret each of the times I was so focused on the endpoint that I missed out on the experience itself.

With that in mind, by the time you’re reading this, I will be deployed as a medical officer in a shock trauma platoon for the Marine Corps in Afghanistan. I am not happy about leaving friends and family, and I am not a war-junkie. But I...
do not want to come back having spent the time just waiting to come home. I want to be there with my fellow Marines and Sailors, and I want to be there for them—putting my skills to use.

Indulge me for this last article so that I can impart some advice, cliché as it may be: stop and smell the roses. Take your job and your responsibilities seriously, but not every path has to be a shortcut through life.

Thank you all for the opportunity to serve as your RRC Representative and Member-At-Large in EMRA.

References

Meet your new board member

Our colleague, dear friend, and EMRA Board member, Steve Tantama, deployed to Afghanistan in January. Our thoughts and prayers are with him and we wish him a safe journey and timely return home.

Steve has done a wonderful job with the RRC and he will continue to serve as the resident representative to the ACGME. Historically, the RRC position within EMRA has played a vital role in supporting residents when meeting unexpected challenges however – residency program closures two years ago for example, when we supported residents in their relocation. It is imperative to have someone readily available to meet these types of challenges. Additionally, there is also importance and value in having a diversity of opinion and experience on EMRAs Board of Directors. These are some of the reasons why the member-at-large position will be reappointed for 2010.

The individual I have chosen as my appointment to fill the remainder of Steve’s term on the board for this year is Jonathan Heidt, MD. Please join me in welcoming him to the EMRA Board of Directors.

Edwin Lopez, MD, President, Emergency Medicine Residents’ Association

Jonathan Heidt is representing the Gateway city of St. Louis, MO! He is currently a third year resident (in a PGY 1-4 program) at Washington University in St. Louis. Jonathan began his education as an undergraduate at the University of Missouri – Columbia. After completing his degree in biochemistry, Jonathan returned home to St. Louis where he attended medical school at Washington University. During medical school, Jonathan met his wife, Elizabeth. Elizabeth and Jonathan were married after he finished his second year of medical school and two days after the USMLE Step 1 exam! They have two children – a three-year-old boy and a six-month-old girl.

Jonathan’s interest in health policy began during his first year of residency after working with two inspiring mentors who have had a significant involvement with ACEP. Since his intern year, Jonathan has worked on the SAEM Program Committee, the Missouri Chapter Board of Directors and as an EMRA Regional Representative. Upon completion of residency, he hopes to continue his training with a fellowship in administration.

During his free time, Jonathan enjoys traveling with his family. He especially enjoys the Caribbean and Costa Rica. Jonathan is excited to have this opportunity to serve as a member of the EMRA Board of Directors. If you have any questions or need assistance, please do not hesitate to contact him at jheidt@emra.org.
Aseptic meningitis: But what do we do with the fourth tube?

Meningitis is still a big deal. Despite advances in management, the mortality remains unchanged at 10-30 percent, with up to 40 percent of survivors suffering hearing loss or other cognitive damage. We all know the drill: suspected meningitis equals LP, empiric antibiotics, and inpatient admission awaiting CSF cultures. What else can we do in the emergency department (ED) to impact the patient’s ultimate disposition and inpatient management?

Fortunately, bacterial meningitis is seen with increasing rarity due to the success of immunization programs over the past two decades. Since the introduction of the Hib vaccine in 1987, the burden of Hemophilus influenza type B has decreased dramatically. Once the most common cause of bacterial meningitis in children, the incidence has declined by 94 percent within five years of introduction of the vaccine. As a result, the mean age of bacterial meningitis has increased from 15 months to 25 years from the mid 1980s to the mid 1990s.

Though Streptococcus pneumoniae is now the most common cause of bacterial meningitis in children between the ages of one month and two years, data suggest that the incidence has also dropped significantly since the introduction of the pneumococcal vaccine in 2000. It is estimated that 12,000 additional cases of pneumococcal meningitis and bacteremia are prevented annually as a result of this vaccine.

The success of vaccines has resulted in an increase in the ratio of viral to bacterial meningitis. Viral meningitis is defined as a febrile illness with clinical signs of meningeal irritation, absence of associated neurologic dysfunction, and no evidence of bacterial pathogens in the CSF of a patient who had not received antibiotic before the LP. Often the signs and symptoms of viral meningitis are indistinguishable from bacterial meningitis—specifically headache, stiff neck, photophobia, diarrhea, and myalgia. Each year, aseptic meningitis is responsible for 36,000 hospitalizations, 175,000 hospital days, and roughly $300,000,000 in hospital costs in the United States.

Approximately 85 to 90 percent of the documented cases of viral meningitis are caused by enteroviruses (EV), a family of picornaviruses which typically have a benign course in immunocompetent hosts. Viral meningitis occurs year-round, with a peak incidence in summer and early fall. According to prospective analyses among all-comers with clinical concern for meningitis, EV was detected in 5 to 16 percent of samples. For those in whom polymerase chain reaction (PCR) was ordered because of suspected viral meningitis, 11 to 49.6 percent were positive for EV DNA. At my own institution, approximately one third of all CSF samples submitted for EV testing have tested positive.

When a patient presents to the ED with signs and symptoms of meningitis, our clinical objectives should be two-fold—to rule out bacterial sources and identify alternative etiologies. In the absence of contraindications, an LP should be performed as quickly as possible and empiric antibiotics administered promptly. A CSF cell count with differential, gram stain, culture, protein and glucose should be ordered in the usual fashion. Herpes simplex virus PCR should be ordered if herpes encephalitis is on the differential.
in the ED, a positive result may have a low likelihood of affecting our decision making, with a sensitivity of 97.2 percent.11 Though this test is highly sensitive, it may be insufficient for distinguishing among alternative diagnoses with a specificity of 96.3 percent and a specificity of 97.2 percent.11 Though this test is unlikely to affect our decision making in the ED, a positive result may have a great impact on inpatient management.

Many institutions are able to obtain EV PCR results within the first 24 hours, and some studies have demonstrated decreased antibiotic use, less diagnostic testing, and shorter hospital stays in patients who have a positive EV PCR.12,13

In summary, in the era of highly effective vaccines against bacterial pathogens, the etiology of acute meningitis in children has become predominantly viral. Early recognition can greatly affect inpatient management by potentially decreasing antibiotic use, shortening hospital stays, decreasing health care costs, and providing reassurance to families. Though every precaution should be taken to identify and treat bacterial pathogens in the ED, clinicians should remember the prevalence of alternative etiologies, and consider EV PCR as part of the emergency medicine physician’s armamentarium.

### References


### Table

Univariate Analyses of Potential Biological Predictors of Bacterial and Aseptic Meningitis

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Bacterial Meningitis (n=96)</th>
<th>Aseptic Meningitis (n=102)</th>
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Abbreviations: CI, confidence interval; CRP, C-reactive protein; CSF, cerebrospinal fluid; OR, odds ratio; PCT, procalcitonin; WBC, white blood cell.

Si conversion factor: To convert glucose level to millimoles per liter, multiply by 0.0555; WBC (blood) to x103/L, multiply by 0.001

*The first percentage for each marker corresponds to the marker’s sensitivity.

*Values are the 95% CIs for sensitivity.

*The second percentage for each marker corresponds to the marker’s specificity.

*Values are the 95% CIs for specificity.
Emergency medicine pragmatism and health reform

“Which enantiomer is this?”... visions of the organic chemistry lab and nights spent learning sets and subsets of reactions flashed into my head as I sat in the top floor of the poison center. Digging deep into my memory, I was pretty sure that my polarized sunglasses were involved in the answer, but I refrained from putting them on during rounds. It was then, on this toxicology rotation and in the haze of chemical bonds, I considered one of the unique and valuable components of emergency medicine.

Inherent in our specialty is a pairing of academic and intellectual sophistication with pragmatic applications and improvisation (imagine Einstein as a woodworker or perhaps Jon Stewart as a plumber). When discussing toxic alcohols, we often look at the chemical structures, reactions, metabolites, and enzymes involved with those reactions—methanol, formaldehyde, formic acid and the like. Obviously, some smart people had figured out why this reaction was important; however, the treatment seemed so practical—so simple—so MacGyver. Give me a beer, and I’ll keep this patient from going blind by blocking the conversion of methanol to its toxic metabolite with ethanol. Perhaps, to maintain some sophistication, I’ll use fomepizole. The treatment is practical, ingenious, but rooted in an academic knowledge and understanding of the process.

The same pairing exists in many other aspects of emergency medicine. For example, consider pre-hospital medicine: the early identification and intervention of patients with acute myocardial infarction has proven benefit. Thus, we put EKG machines in our ambulances and train our pre-hospital personnel to read basic EKG patterns.

Consider the fellowships and training that exist in wilderness medicine—high-pressure irrigation with a Ziploc? A splint out of a ski? (Just please don’t use my new Rossignols!) The examples are limitless, and emergency medicine is truly a specialty of intellectual pragmatists—wherever, whenever, whomever, whatever.

Perhaps now that emergency medicine has a seat at the health-care-reform table, we can apply some of these same principles. The problems are certainly important and undoubtedly complex. Many in our field have spent careers examining and conducting studies on the important issues. The minds and the knowledge exist, and we must ensure that the voices are heard. The solution, or more accurately, solutions will not be simple, but the unique decision-making and reasoning skills the emergency physicians possess will be valuable in addressing comprehensive resolutions.

One aspect of this reform is cost containment and reduction. A “one size fits all” model may not be the right approach, as the challenges are different between emergency medicine and internal medicine. Similarly, this approach might not be appropriate within the specialty, as there are different challenges facing county and private emergency departments. However, if we remain educated and continue to think pragmatically, we can continue to protect the interests of our patients and providers in the future.
Emergency medicine in Nigeria: A student perspective

Introduction
Emergency medicine in Nigeria is an important, yet still developing, specialty area of medicine. Most major hospitals in Nigeria have bold and prominent inscriptions for “Accident and Emergency” treatment areas, yet improvements are needed to reduce morbidity and mortality from injuries and acute illnesses, especially traumatic injuries caused by vehicle crashes, gunshots, and natural disasters. Traffic crashes alone contribute to approximately 80 percent of all hospital emergency cases in Nigeria.

Pre-hospital setting
The Nigerian government has only recently begun to focus on issues of emergency medicine. The Federal Road Safety Commission (FRSC) is one of the only government organizations focusing on the provision of pre-hospital emergency care. FRSC vehicles are not equipped for resuscitation, but are able to transport victims to the nearest hospital, clinic, or other site where medical care can be provided. Although FRSC provides an important role in pre-hospital care of the injured patient, it is not the agency’s primary function. FRSC was established to ensure that traffic laws are obeyed, that violators of those laws are punished, and that vehicles are road worthy. Most patients are transported to the hospital by either an FRSC vehicle or a passer-by to help patients and families in the immediate aftermath of a crash or other disaster. There is currently no hospital-based medical command, although the hope is to one day develop a hospital call center that will be dedicated to emergency cases.

Hospital setting
Nigeria has the equivalent of tertiary hospitals, but the accident and emergency units in these hospitals are often poorly staffed. In the typical tertiary care center, the accident and emergency unit is staffed by an average of three resident physicians, from medicine, surgery, and/or obstetrics-gynecology. The pediatrics department, usually named the children emergency resuscitation (CHER) unit, is often located several blocks from the main accident and emergency unit. An intern is posted every day from 4PM until 8AM to be on call daily in the CHER. Only a few nurses are posted along with the physicians in these units.

A major breakthrough for emergency medicine came this year when the Nigeria National Assembly passed a bill mandating hospitals to immediately assess, evaluate, and treat all acutely ill and injured patients on arrival. Emergency care for those patients under five years of age and for elderly patients is free of charge.

Emergency medicine training for students and residents
Studying medicine in Nigeria takes an average of six years. Currently in Nigeria, there are no official residencies for emergency medicine, although update courses do exist to keep physicians informed of the latest trends in emergency medicine. The first exposure to emergency medicine for medical students is during the fourth year of study and then again during the sixth year of study. Students learn basic resuscitation skills and how to administer various resuscitation drugs. However, without formal residency training available, formal educational opportunities for students can be limited.

With more than 30 medical schools in Nigeria and a handful of those schools with emergency medicine interest groups, EMRA has a great opportunity to contribute to medical student education and the development of emergency medicine as a specialty. Initial efforts are underway to increase awareness of emergency medicine, to recruit more EMRA members, and to find mentors and advisors. Additionally, those students who are already EMRA members and others interested in the specialty are working to organize workshops, seminars, and conferences related to emergency medicine.

Obinna F. Odoemena, MD
Ebonyi State University Teaching Hospital
Abakaliki, Ebonyi State, Nigeria
Medical Student Nigeria Representative

“Traffic crashes alone contribute to approximately 80 percent of all hospital emergency cases in Nigeria.”
Updated CDC triage guidelines and the emergency physician

In January 2009, the CDC released updated field triage guidelines for injured patients. A panel of experts from emergency medicine, trauma, auto industry safety, federal agencies and other important group representatives reviewed the available scientific evidence along with their own expert opinions and revised many criteria. These changes affect which patients are transferred to specialized trauma centers.

The triage protocol is divided into four steps. The first step considers physiological criteria such as Glasgow Coma Scale, blood pressure, and respirations. The second step considers anatomic criteria such as penetrating injuries or crush injuries. The third step relates to mechanism of injury such as falls and auto crashes, and the fourth step accounts for special considerations.

The first major change to the physiologic criteria is a respiratory rate of less than 20 in an infant less than one years old is to be transported to a level one or level two trauma center. The panel concluded that this “more appropriately reflects the risk for severe injury” in infants. The criteria formerly used respiratory rate of less than ten for transfer to a trauma center. This may result in a higher number of infants being triaged to a trauma center. Likewise, the trauma team should retain a higher level of suspicion for serious injuries using this new criterion.

The next major change is in definition of significant mechanism of injury. Any child who falls greater than ten feet or two to three times their height is to be transported to a trauma center. The literature review and discussion that ensued provided evidence that pediatric patients are more likely to sustain severe injury from falls of these heights. Treating physicians should have a high suspicion of severe injuries, including significant traumatic brain injuries. Evidence exists that there are a significant number of head injuries in this patient population.

The definition for significant compartment intrusion has been revised. Now, an intrusion of greater than 12 inches at occupant site or greater than 18 inches at any site in the car should be transported to a trauma center. While it might be difficult for a physician to view the vehicle in a crash, it is imperative to question the emergency medical technicians and paramedics about the damage to the vehicle because it can be significant when assessing for injuries.

The criterion that classified a rollover crash as a significant mechanism of injury has now been deleted. This is significant because an increasing number of rollover collisions will be triaged to lower level trauma centers (three and four) and community, non-trauma emergency departments. Rollover crashes with partial or complete ejection of a patient from the vehicle are associated with severe injuries but ejection from a vehicle is a criterion that has been retained separately. The panel also concluded that extrication time greater than 20 minutes is not a good measure of severely injured patients. It has also been deleted in hopes of reducing over-triage.
A significant change has been made to the criterion of burn patients. Burn patients, in the absence of other traumatic injuries, should be transported to a specialized burn center. Studies showed that burn patients with traumatic injuries who were transported to a trauma incurred a lower mortality rate.

There were many other modified criteria in this step worth mentioning briefly. Time sensitive extremity injuries and end stage renal disease requiring dialysis were added for various reasons. Cardiac disease, respiratory disease, insulin dependent diabetes mellitus, morbid obesity, cirrhosis, and immunosuppressed patients were all deleted from the special criteria because available evidence did not show these co-morbidities to be predictors of worse outcomes in trauma patients. Women who are pregnant at gestation greater than 20 weeks and EMS provider judgment were both added as special considerations.

These new CDC field triage criteria should be reviewed by all emergency physicians, residents, and medical students interested in emergency medicine, as these guidelines provide criteria for the optimal care of injured patients. The full CDC report is available online at: http://www.cdc.gov/mmwr/PDF/rr/rr5801.pdf.

References

National Outstanding Medical Student Award

The American College of Emergency Physicians (ACEP), a national medical specialty society representing emergency medicine with more than 25,000 members, is seeking your help in selecting a medical student who intends to pursue a career in emergency medicine, and who has demonstrated outstanding patient care and involvement in medical organizations or the community.

The award is intended to recognize students who excel in compassionate care of patients, professional behavior, and service to the community and/or specialty.

Award recognition includes:
- a plaque from ACEP
- free one-year membership in ACEP
- free registration to ACEP’s annual meeting
- reception at ACEP’s annual meeting

Submit an application for a medical student. You may obtain the application form by:
- Visiting ACEP’s Web site at: www.acep.org (Click tabs: Practices Resources/Graduate Medical Education/Medical Student Resources/National Outstanding Medical Student Award)
- E-mailing academicaffairs@acep.org
- Calling 800/798-1822, ext. 3143

We look forward to receiving the name of your National award applicant. Thank you for your help in recognizing an outstanding medical student interested in pursuing an emergency medicine career.

Apply Now!
Deadline:
February 15, 2010

Call for 2010 EMRA Spring 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 March 15th. Awards will be presented at the EMRA Award Reception during the SAEM Annual Meeting in Phoenix, AZ from June 3-6.

EMRA Travel Scholarships to SAEM
EMRA will sponsor three $500.00 travel scholarship for active resident members to attend the 2010 SAEM Annual Meeting.

Robert J. Doherty, MD, FACEP, EMF/ACEP
Teaching Fellowship Scholarship
This scholarship provides tuition for the ACEP Teaching Fellowship, an intensive course in faculty development.

Dr. Alexandra Greene Medical Student Award
The Dr. Alexandra Greene Medical Student Award recognizes a student who displays a significant dedication to emergency medicine.

Residency Director Award
This award recognizes a residency director who serves as a role model for residents and exemplifies those qualities residents value in a mentor.

Assistant Residency Director Award
This award recognizes an assistant or associate residency director who serves as a role model for residents and exemplifies those qualities residents value in a mentor.

Jean Hollister EMS Award
This award recognizes a resident who has made valuable contributions to pre-hospital care and emergency medical services.

Academic Excellence Award
This award is given to a resident who has done outstanding work in research or other academic pursuits.

Dedication Award
This award recognizes an EMRA member who has demonstrated significant dedication in promoting the goals and objectives of EMRA at local, state and national levels.

Residency Coordinator Award
This award is given to the residency coordinator who regularly goes above and beyond the call of duty for the good of the program and its residents; supports resident endeavors in extracurricular activities like community service, research, etc.; and actively supports resident involvement in their specialty organizations.

Local Action Grant
This grant is awarded to promote the involvement of emergency medicine residents in community service and other activities that support the specialty of emergency medicine.

For more information visit www.emra.org.
2010 ACEP Leadership and Advocacy Conference

May 16-19, 2010
Washington, D.C.

For complete conference schedule and registration, visit www.acep.org. Deadline: May 1, 2010

Be sure to ask your academic chair about participating in the EMRA Chair’s Challenge.

EMRA/YPS Residents and First Timers Leadership and Advocacy Essentials

Sunday, May 16, 2010
12:30 pm – 12:40 pm
Welcome and Introduction
Edwin Lopez, MD, EMRA President and Kathleen Cowling, DO, FACEP, ACEP Vice President

12:40 pm – 1:20 pm
Introduction to Advocacy and Healthcare Reform
Nathaniel Schlicher, MD, JD
EMRA Legislative Advisor

1:20 pm – 2:00 pm
Current Issues and Crises
Jennifer Wiler, MD, YPS Member

2:00 pm – 2:40 pm
Healthcare Economics
Ethan Booker, MD, YPS Member

2:40 pm – 2:50 pm
Roundtable Discussion
EMRA Board of Directors

3:50 pm – 4:00 pm
Break

4:00 pm – 6:00 pm
Delivering Powerful Presentations
Learn to deliver powerful, effective presentations at a podium or in your hospital administrator’s office; use effective strategies that convey enthusiasm and executive presence. Coaches offer critiques that are constructive and supportive to help improve your delivery, control and confidence.

6:00 pm – 7:00 pm
Resident and Young Physician Section Reception

Monday, May 17, 2010
7:00 pm – 7:50 am
Resident’s Breakfast
Edwin Lopez, MD, EMRA President

2010 Chair’s Challenge Leadership and Advocacy Conference Scholars Program

Support the development of our specialty’s future leaders and patient advocates

What the ACEP Leadership and Advocacy Conference does for Emergency Medicine Residents:

✓ Exposes them to the legislative process
✓ Fosters in them the advocacy spirit
✓ Teaches them the skills needed to effectively communicate issue-related messages
✓ Empowers them to actively use these skills as leaders

The experience culminates with the residents, along with the other conference attendees, meeting with their U.S. Senators and Representatives on Capitol Hill to discuss the most important health policy issues. For complete schedule and registration form, please visit www.acep.org.

Sponsorship commitment deadline: May 1, 2010

For more information and sponsorship form please visit www.emra.org
Intern introspection

I have nearly completed my third month as an emergency medicine resident. I am tired, find myself constantly missing my wife, and have at least six phone calls to return. Instead of chronicling these last few months on paper, my time probably would be better spent reviewing EKG’s and RSI drugs. Yet I have always found that introspection makes you a stronger individual.

Sometimes I don’t even have time to wash my scrubs. I’ve missed the one or two televisions shows that I used to watch regularly and was one of the last to discover that Walter Cronkite had died. Our garage is only painted partially—a project I started in June but have yet to complete. There is a giant weed in our backyard that is almost as tall as the windows. I am past due for a visit to the dentist and still must upload pictures from our honeymoon to a photo-sharing site.

Yet despite all of this, you won’t hear me complaining. In fact, I am the happiest I have ever been. I love being an emergency medicine resident. The old adage about time going by quickly when you are having fun must be true, as every shift I have worked seems to end only moments after I have arrived. Being an emergency medicine resident is at the same time both incredibly gratifying and exceedingly humbling. I’ll spend a moment or so addressing the latter:

- As a medical student, I became accustomed to formulating a differential diagnosis in order of what was most likely to least likely. Now, I have to shift to a style of cognition that focuses on the lethal causes of a patient’s complaint, even if they aren’t very likely.

- I have discovered that I must work on eliciting a better history. I’ll often miss one key element of the history that ends up being either pathognomonic of the disease or would have helped me rule out a life-threatening illness.

- The well-being of patients is now my responsibility. When the nurse informs me that one of my patients is having shoulder pain, it is my duty to address the issue. I could simply reply with a verbal order to give the patient analgesics. Yet before I do this, a million thoughts race through my mind. What are the patient’s allergies? Maybe the etiology is not musculoskeletal but rather something cardiovascular. What am I missing?

- I have realized I don’t have much confidence in my diagnostics skills—a function of experience, I am sure. This is a function of inexperience, I am sure. I have studied disease states and their corresponding physical exam findings and laboratory derangements, yet I am unable to examine a patient,
review his or her workup and confidently say that I have the correct diagnosis and disposition.

- I’m inclined to order a CT scan on everybody with abdominal pain. While discussing the patient with an attending, I will often become less inclined to want to jump immediately to imaging, as he or she will point out a few simple physical exam findings or predictive values that speak against ordering a CT scan. In reply, I humbly concede and wonder when I will become more confident.

As overwhelming as residency has been so far, I am continually reassured that emergency medicine is the right discipline for me. I am incredibly challenged, working daily to become better at addressing the acute needs of patients and determining whether or not the patient needs admission to the hospital. Emergency medicine seems to be a discipline in which I will always be striving toward reaching the next level of excellence and will challenge me throughout my career.

After only a handful of months in the trenches, I have discovered a few rules-of-thumb that surely make a shift more rewarding and will enable me to provide better care for patients. These are typically well received and seem to be just as important as being able to read a chest film or correlate a chest pain complaint with an EKG finding:

- Keeping patients well informed reduces anxiety while they are in the emergency department. By simply letting a patient know how long he or she can expect to wait for test results makes the visit less stressful. Additionally, offering a warm blanket to a patient or informing family members of cafeteria hours invariably return a smile.

- Nurses have been at this a lot longer than I have, and typically, their inquisitions are significant and generally serve as friendly reminders that I should rethink what I am ordering or attempting to accomplish. Dismissing these or replying with an “I’m the physician” attitude never is a good idea.

- Much of what I do is translating. For instance, most patients need further explanation of what a “short term observation” admission means. Explaining to a patient what to expect during the remainder of his or her stay in the emergency department seems to always be welcomed.

I still have months and months of training to go, certainly expecting that each will be less intimidating and hopefully, more rewarding. I plan to enjoy each shift more than the prior, never neglect to offer blankets to patients, and hope to become an emergency medicine physician capable of handling anything. Becoming more confident and competent is a gradual process. Though setbacks surely will occur along the way, these are what make you a stronger individual and ultimately a better emergency medicine physician.

Paul M. Been is an emergency medicine intern at Akron General Medical Center in Akron, Ohio. He attended the University of Michigan for his undergraduate studies and the Lake Erie College of Osteopathic Medicine for medical school. His interests outside of emergency medicine include running, home improvement & inexpensive red wines.

EMRA Events at the 2010 SAEM Annual Meeting

EMRA will hold its Spring meeting in Phoenix, AZ in conjunction with the SAEM Annual Meeting June 3 – June 6, 2010

JW Marriott Desert Ridge Resort and Spa

Watch the EMRA Website for the specific dates and times of events.

Keep the following timeline so you don’t miss an important deadline.

- Resolutions due April 21, 2010.
- Representative Council Reference Committee applications due May 6, 2010.
- Vote allocation cutoff May 6, 2010.
A new year of opportunities

2010 should be interesting. The housing market appears more stable than last year, meaning that borrowing, buying, and selling should be easier in 2010 than in 2009. The investment world also appears more stable, and your retirement accounts should be gaining in value. As of this writing, the administration appears to have a health care bill in the final stages of approval, but the details and impact continue to be debated by all involved. The potential good news for emergency medicine is that all appear to agree that Medicare eligibility will increase significantly.

As you start this year, consider these pearls:

- Borrowing/interest rates remain at near-historic lows
- For many, the home buyer tax credit continues to offer tremendous incentive
- A new specialty-specific disability contract is available for emergency medicine as of October 1, 2009
- The income restriction for converting to a ROTH IRA is waived in 2010
- Cash is still king

From a strategy perspective, consider this:

**Fund your Roth IRA!**

In your careers, there may never again be a better time for you to do this. If you are still in residency or just starting in practice, your income tax bracket is as low as it will ever be. You should pay taxes now rather than deferring them to the future.

You have the opportunity now to contribute $5,000 to your 2009 Roth IRA until April 15, 2010. The tax cost is minimal, and you can lock this money in to a tax-free growth and withdrawal plan for the remainder of your practice. Also, if you have to, you can withdraw the money for a down payment on your first home with no tax penalty. I don’t recommend this, but it is available.

**Buy a house!**

As of this writing, interest rates on a 30-year-fixed mortgage are between 4.75 percent and 5.00 percent. This is a historically low borrowing rate (zero is as low as you can go!) and may not happen again in your home-buying lifetime. For first-time homebuyers, there is a tax credit of up to $8,000 that can be taken as long as you purchase by April 1, 2010. There is also a new tax credit of up to $6,500 for repeat home buyers.

Note that these are credits—not deductions. This is much more valuable to you. This represents an opportunity for medical students moving to a new town for residency, for graduating residents moving to start practicing, or anyone who is staying in their current location but considering a move in the next year.

There are some limitations, so check with your tax advisor for specifics.

**If you graduate in 2010, obtain disability insurance prior to signing your contract!”**

M. Shayne Ruffing
CLU, ChFC, AEP
Roth conversion
In 2010, you can convert some existing pre-tax retirement plans into a Roth IRA. Currently, we are in a very low national income tax environment. Federal tax rates as well as capital gain (investment) tax rates will likely increase in the future. Your current traditional IRA, 403(b) or 401(k) has been funded with pre-tax money which grows tax deferred and will ultimately be fully taxable as income when you take it out at retirement. If you convert these dollars to a Roth IRA in 2010, you will add the amount of the conversion to your taxable income for that year, and then the investment will grow tax-free and be available tax-free in the future. As previously stated, you will likely never be in a lower income tax bracket than you are in now, so this is a slam dunk for building long-term wealth.

Please note that you cannot convert a plan that you are actively participating in, such as your house-staff 403(b). You can convert a traditional IRA, a former employer 403(b) or 401(k), and former federal plans like the TSP.

Make sure you talk with your CPA before doing this so that you know the tax impact and can adequately prepare for it. Do not pay the taxes out of the conversion amount.

Disability insurance
As of October 2009, there are four excellent companies (in most states) that offer true own-occupation coverage to an emergency physician for the entire contract period (age 65 or age 67). Prior to completing residency, you can lock in $5,000 of personal, tax-free disability insurance and add another $10,000 or more of future earnings protection. You can obtain a competitive analysis of contracts by sending an e-mail to EMDI@mybpginc.com. I encourage you to take advantage of this prior to finishing training. If you graduate in 2010, obtain disability insurance prior to signing your contract!

SEP IRA
If you are in the process of doing your taxes for 2009 and you are just now realizing how much you owe in tax because of that moonlighting you did last year, open a Simplified Employee Pension plan (SEP). This is a type of individual retirement plan that allows you to defer approximately 20 percent of any non-taxed, 1099 income that you may have had last year, up to a maximum of $49,000. If you are befuddled, call your CPA. He or she should be able to assist you in maximizing any opportunity. If you will be an independent contractor in the future, this can become your new retirement plan.

Cash planning
I am often asked, “Where is the best place to put money? Should I invest in stocks, real estate, my 403(b), or something else?” I encourage you to find value in having liquid cash during this stage in your career. There will be time to invest for growth. If you do not have three months of your living expenses in a cash account now (checking, savings, or money market), stash every spare dollar into a savings account until you do. Having a good cash reserve is a quick fix for most things that ail you financially.

Shayne Rufing, CLU, ChFC, AEP is the creator of the Confident Transition Plan™ for medical residents, the Physician Disability Income Analyzer™ and the Physician’s Financial Navigator™. Shayne specializes in executive benefit planning for physicians and medical practices. He can be reached at 800.225.7174, or via e-mail at shayne@mybpginc.com.

Shayne is an Financial Advisor offering Securities and Advisory Services through NFP Securities, Inc., a Broker/Dealer, Member FINRA/SIPC and Federally Registered Investment Advisor. The Benefit Planning Group is not an affiliate of NFP Securities, Inc.

A 28-year-old Caucasian female presents to a suburban ED for lymphadenopathy. She has a visibly enlarged lymph node in her right cervical region and palpable left cervical lymphadenopathy. She first noticed an enlarged lymph node under her right arm one month prior. All nodes are increasing in size. She also complains of night sweats, nausea, and weakness. She has intermittent right-sided abdominal pain, and a decreased appetite, without significant weight loss. Her PCP has prescribed two courses of unknown antibiotics without resolution of the symptoms. Work-up for HIV, syphilis, mononucleosis, and hepatitis B were negative. She is concerned that her PCP is not acting aggressively enough.

The patient denies any past medical or surgical history and is not on any medications. She is unmarried, without children, and works as a waitress. She has an uncle with an unknown form of leukemia and healthy parents and siblings.

On exam, the patient is a well-appearing female in no distress with stable vitals. Her large right lymph node is visible on gross inspection, spanning six centimeters by three centimeters. Lymph nodes are palpable in her left cervical region, right axilla, right supraclavicular region, and bilateral inguinal area.

The patient has fair, Caucasian skin and a large, darkly-pigmented lesion on her lower left posterior thorax that is palpable and irregular. The patient states that this has been present since birth without change, and her mother has a similar lesion. The patient has an otherwise benign exam. A chemistry panel, CBC, and liver enzymes are within the normal limits. B-HCG and monospot are negative. CXR shows no infiltrates. KUB shows a non-specific bowel gas pattern.

This patient does not have any medical concerns warranting emergent medical therapy. General surgery was consulted for the outpatient biopsy. A right inguinal lymph node biopsy displayed incompletely excised nodular malignant melanoma.

Malignant melanoma is increasing in incidence. Most melanomas are caught in the early stages and can be treated by surgery alone. The five-year-survival rate for localized melanoma is 99 percent, but decreases to 65 percent and 15 percent with localized and regional spread. Two-thirds arise from normal skin, and one-third arise from a pre-existing mole. There are many patterns of this condition.

- **Lentigo maligna** is a one to three centimeter brown patch on sun-exposed skin in the elderly, usually involving only the epidermis.

- **Superficial spreading malignant melanoma** is malignant growth along the dermo-epidermal junction, producing a visually expanding brown patch of skin with varied pigmentation and irregular borders. This usually remains high in the dermis and is unlikely to invade blood vessels or lymphatics unless it grows downward and produces a papule or nodule. This pattern can be evaluated by the ABCDE list (see Table 1) or the Glasgow list (see Table 2).

- **Nodular malignant melanoma** occurs when the malignant melanocytes grow vertically down...
into the tissue, creating a black or red dome-shaped nodule. The surface may bleed, ooze, and crust over. The prognosis is poor, because the lesion is deep.

- **Acral lentiginous melanomas** are under the nails or on the palms and soles.¹

- **Desmoplastic melanoma** occurs on the head and neck. The lesion has no pigment, making it hard to diagnose.²

Risk factors for developing malignant melanoma include fair skin or red hair, greater than one episode of bad sunburn in childhood, greater than 50 moles, multiple atypical moles, family history of malignant melanoma, and prior melanoma.¹ Five percent of those with melanoma will have another form of skin cancer, so a complete skin exam is essential.⁶

Prognosis worsens with increased thickness, ulceration, lymph node involvement, distant metastases, and elevated lactate dehydrogenase.¹ Based on our patient’s extensive lymphadenopathy, prognosis is poor.

Treatment includes excision of the skin lesion with a two millimeter margin of normal skin for histiologic diagnosis. A wider excision should then be performed based on the depth of the lesion.¹ Removing the nearest lymph node in lesions greater than one millimeter thick has not shown increased survival unless there is palpable lymphadenopathy.⁶ Recurrence in the lymph node basin is 20 to 30 percent after resection, and this increases with extracapsular extension and multiple lymph node involvement.⁴

Adjuvant radiation therapy and chemotherapy with and without biologic agents (interferon) have shown no increased survival benefit¹⁶, neither have vaccines and limb perfusion/infusion strategies.⁵ There are studies showing a slight increased survival benefit using interferon alpha alone with recurrent melanoma; however, the studies are small, and the benefit may not outweigh the toxicity⁵,⁶.

Prevention of malignant melanoma includes avoiding sunburn with sunscreen and a wide-brimmed hat.¹ Education of patients using the ABCDE self-screening exam also lends to early diagnosis and improved outcome.²

### References


### Table 1. ABCDE List

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymmetry</td>
<td>Border irregular</td>
<td>Color irregular</td>
<td>Diameter over one centimeter</td>
<td>Erythema</td>
</tr>
</tbody>
</table>

*Any major feature or a score of >3 yields melanoma suspicion.

### Table 2. Glasgow List

<table>
<thead>
<tr>
<th>which has major features</th>
<th>minor features worth 1 point each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in size</td>
<td>Diameter &gt;6mm</td>
</tr>
<tr>
<td>Change in/irregular shape</td>
<td>Inflammation</td>
</tr>
<tr>
<td>Change in/irregular color</td>
<td>Oozing/bleeding</td>
</tr>
<tr>
<td></td>
<td>Mild itch/ altered sensation</td>
</tr>
</tbody>
</table>

Figure 1 demonstrates the ABCDEs of melanoma. Source: National Cancer Institute.

Figure 2 is advanced malignant melanoma - a nodular melanoma. Source: National Cancer Institute.
Emergency department crowding: What causes it and how it affects our patients

Walking down the hallway of an urban emergency department can be quite a perilous task. Invariably, each hallway is filled with beds, some with people talking on their cell phones, writhing in pain, or more often than not, sleeping. Why? Because almost every ED in the country is facing one, ever-rising problem—crowding.

How bad is this ED crowding phenomenon? A study published in the New England Journal of Medicine states that over the past decade, the number of ED visits has increased 26 percent, while the number of ED’s has decrease by nine percent. Collectively, hospitals have closed 198,000 beds. In 2002, a Lewin Group survey determined that 90 percent of level one trauma centers were operating at or above capacity. In short, more patients, less hospitals (Figure 1).

The main causes of this ED crowding can be summarized into a few, broad categories: things that brought patients into the hospital (input factors), bottlenecks within the ED (through-put factors), and hospital obstacles outside the ED (output factors).

The input factors include what most residents, attendings, and nurses complain about—non-urgent visits and so-called “frequent flyers.” A frequently flyer is defined as someone with four or more annual visits to the ED. This category includes drug-seekers, malingers, hypochondriacs, and occasionally those with chronic illness, but no access to healthcare. While some have very real problems, most don’t. Their impact is significant—enough so, that one study stated that these frequent flyers make up 14 percent of the total number of ED visits.

The other input factors are non-urgent visits. These visits are the people that come in with “six months of elbow pain” or with the common concern of “I thought I should get that checked out.” These visits account for another eight percent of total ED visits.
Although these input factors account for a small portion of total ED visits, they still contribute to overall ED crowding.

Other causes of ED crowding that tend to have a larger impact, but are less noticed, are those throughput factors such as resource shortages (an entire article in itself) and output factors. One of the most pervasive and damaging output factors is ED boarding. A boarded patient is someone that has already been admitted to another department of the hospital and is awaiting a bed. A point-prevalence study showed that at any given time, 22 percent of ED patients are actually boarded patients.

If there is a bed shortage in the MICU, a septic patient needs to be given continuous critical care in the ED until a bed becomes available. How does that directly impact us? Each boarded patient still requires the same ED nursing staff, space, and resources they required before being admitted, all while the new myocardial infarction patient is being rolled in.

Why did this happen? While the answer is multi-factorial, one of the main causes is an act called the Emergency Medical Treatment and Labor Act (EMTALA), passed in 1986. This act gave everyone in the US the legal right to emergency care. It was a great thought and one of the reasons I wanted to be an Emergency Physician—the idea of treating everyone.

Only there was one oversight—there was no funding for the program. So from that point on, all patients had access to healthcare, but if they did not have adequate health insurance, the hospital would get no reimbursement for this care.

Beyond the hassle of having cluttered hallways, ED overcrowding hurts our patients. When crowded hospitals reach their peaks, they divert ambulances to other nearby hospitals. In 2003, there were more than 500,000 ambulance diversions—that’s nearly one diversion a minute. Each diversion, while providing a break for beleaguered staff, causes a ripple effect that compromises access to care throughout an entire city.

Moreover, each diversion delays patient care. One of my attendings, always says “time is myocardium,” in reference to treatment delays for acute MI’s. Numerous studies have shown the adverse effects of delays in treatment of myocardial infarctions, ischemic strokes, time to antibiotic therapy for pneumonia patients, and early goal-directed therapy in sepsis patients. In short, this constant ED crowding is hurting the very people who need care most.

These observations aren’t new. They have been documented for years—there was an article published in *US News and World Report* in September of 2001 entitled “Crisis in the ER: Turnaways and Delays are a Surefire Recipe for Disaster.” So why revisit an issue that’s already known? This is a problem that rests on our shoulders to solve, and the only way to solve a problem is to understand how it arose.

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References
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Spontaneous rupture of a renal angiomyolipoma

**Case report**

A 52-year-old Puerto Rican male visiting the US presented to the emergency department with an acute onset of right flank pain radiating to the right lower quadrant. The pain—sharp and intense—had begun last night. Prior to the onset of pain, the patient was in his usual state of health. He denied any fever, chills, nausea, vomiting, dyspnea, chest pain, palpitations, diarrhea, dysuria, hematuria, melena, or blood in the stool. There was no relation of the pain to ingestion. He took ibuprofen without relief. He denied similar prior episodes.

The patient denied any medical history, recent abdominal trauma, or prior surgeries. He did not report any tobacco, drug or excessive alcohol use. His family history was noncontributory.

The patient arrived with a blood pressure of 144/70, heart rate of 80, temperature of 36.7°C (98.0°F), a respiratory rate of 20 and an O₂ saturation on room air of 100 percent. His physical examination revealed right upper and lower quadrant tenderness without rebound tenderness, guarding, right costovertebral angle tenderness, obturator sign, Rovsing sign, distention, masses, or abdominal bruits. Bowel sounds were normal. The rest of the physical examination was unremarkable.

Laboratory evaluation—including a complete blood count, comprehensive metabolic panel, amylase, lipase, coagulation studies and urinalysis—were within normal limits. An EKG was performed which showed normal sinus rhythm without acute ischemic changes.

A CT scan of the abdomen and pelvis without contrast revealed a rupture of an angiomyolipoma (AML) in the lower pole of the right kidney with a large perinephric hematoma (Figure 1).

The patient was admitted to the urology service and started on IV antibiotics and narcotic medication for pain control. On hospital day two, the patient underwent successful right renal embolization (Figure 2). The patient remained pain free and his hematocrit remained stable. He was discharged on hospital day three with oral antibiotics, pain medications, and instructions to follow up with his physician in Puerto Rico for a repeat MRI in one week to evaluate the nature of the renal mass.

**Discussion**

Renal angiomyolipomas are generally benign tumors composed of mature adipose tissue, tortuous blood vessels, and smooth muscle cells. They account for one to three percent of all renal tumors and are generally more common in middle-aged women. Spontaneous retroperitoneal hemorrhage is the initial manifestation of approximately 15 percent of AMLs, particularly in those greater than four centimeters.

There are three recognized etiologies for spontaneous rupture of a renal AML. Wünderlich’s syndrome, a spontaneous retroperitoneal hemorrhage of non-traumatic origin occurs in up to 50 percent of patients with tumors greater than four centimeters. Secondly, a renal AML can manifest with bleeding or rupture after trauma, even with a low velocity mechanism. Rarely, there can be rupture of renal AML during pregnancy.

Renal AMLs are associated with tuberous sclerosis syndrome (TSS). Between 50 and 80 percent of all TSS patients present with renal AML; the bleeding of these tumors is the primary cause of death in adults with TSS. Twenty percent of all patients with AML are diagnosed with TSS. These patients more commonly present with spontaneous AML rupture, and they.
are more likely to manifest initially with massive hemorrhage, compared to patients without TSS.4

Diagnosis is dependent upon imaging. Ultrasound is rapid, non-invasive, and sensitive for the detection of hemorrhage but is less effective for defining the nature of the condition or the source of the hemorrhage.2 CT is the imaging modality of choice because it can reveal the source of bleeding.6 In the series by Argente et al, it detected both the hematoma and its origin in 92.6 percent of cases.2 A fat density within a non-calcified renal mass remains the most important diagnostic finding of AML on CT scan. If calcification is detected, a renal cell carcinoma is the most important differential diagnosis.3

The treatment of renal AML is indicated by the presence of clinical manifestations or the risk of complications. Lesions over four centimeters in size are more inclined to grow and bleed, and treatment is recommended on a prophylactic basis. The treatment of renal AML was predominantly surgical, until Moorhead et al in 1977 described the first case of selective arterial embolization of these lesions.7

Most authors currently regard partial nephrectomy as the treatment of choice for many nonhemorrhagic tumors.1 There is no significant loss of kidney function after surgery, even in patients with one kidney.3,9 Urinary fistulas are the most common complication (approximately ten percent), followed by infection.1

Embolization is indicated for those cases of multiple tumors, in patients with a high surgical risk, and particularly in the emergent treatment of bleeding renal AMLs, as in our case.1 In the series by Bestard-Vallejo et al, complications of embolization were recorded in up to 18.7 percent of cases, with pleural effusion and sepsis being the most common.1 Repeat bleeding after embolization has been reported in up to 20 percent of cases.11 There is no reported significant loss of kidney function reported after embolization.1

Oesterling et al have proposed the following treatment protocol based on size and symptoms of AML.10 Patients may be followed conservatively with yearly CT scans for those with isolated AML, less than four centimeters in diameter and semiannual CT scans for those with larger lesions. Patients with TSS and AML less than four centimeters in diameter should receive a semiannual CT scan. When an AML increases in size or becomes symptomatic, embolization should be considered. Patients with TSS and an AML four centimeters in diameter have a high risk of developing symptoms and may also require arterial embolization.3

Conclusion

Spontaneous hemorrhage of renal AML remains common and potentially fatal for the patient. Spontaneous rupture is related to size and is more likely to occur with increased severity in the setting of associated TSS. CT scan is the best diagnostic modality, and optimal treatment of hemorrhage of renal AML remains embolization, though surgical treatments for nonhemorrhagic AML predominate.

References

A 72-year-old female presenting to the local emergency department states “I have this big lump on my forehead,” with two weeks of increased swelling and pain. She reports recurrent episodes of sinusitis for which she has been using various intranasal sprays, with minimal to no relief.

The patient has a past medical history of hypertension and otherwise has no other pertinent history. She is afebrile with a pulse of 88, respiratory rate of 12, and a blood pressure of 140/75. As seen in Figure 1 and 2, you note a 4.5 by 4.5 centimeter doughy mass on the forehead, with overlying erythema and fluctuance.

This patient presented to our emergency department and was diagnosed with Pott’s Puffy Tumor. As seen in the CT images in Figures 3 and 4 is there is a vast amount of subperiosteal erosion. She was started on intravenous ampicillan/sulbactam.

Following consultation from both ENT and neurosurgery, she underwent surgical drainage, with associated bony debridement and trephination, and continued washes for seven days. Cultures grew out Streptococcus milleri, and she was treated with high dose IV penicillin for three weeks. She was then placed on oral antibiotics for another three weeks as an outpatient. Our patient has fully recovered, and has no complaints as of the writing of this presentation.

Pott’s Puffy Tumor is rarely seen in the modern era of antibiotics. This entity is seen more frequently in adolescents and young adults, likely because adolescence corresponds with a peak in the vascularity of the diploic system and growth of the frontal sinus. The diploic veins drain the frontal sinuses, and because of their thin walls, facilitate hematogenous spread of sinus infections to bone or brain.

This infection then may erode through the bony cortex, leading to a subperiosteal collection of pus or can erode inward causing meningitis, epidural or subdural empyema. It is named after Sir Percival Pott (1713-1788), an English surgeon who first described this process in 1760.
“Pott’s Puffy Tumor is a rarely seen in the modern era of antibiotics.”

Early diagnosis is critical to prevent complications. Patients generally present with indolent forehead swelling with or without systemic symptoms, which could be mistaken for a simple scalp abscess or infected sebaceous cyst. Imaging with computed axial tomography or magnetic resonance imaging to define the extent of the infection is warranted. Simple drainage will result in recurrent collection or complications from spreading infection. A combined approach is suggested, with six weeks of antibiotic therapy and surgery, which includes abscess drainage, bony debridement, and trephination of the frontal sinus.

“Early diagnosis is critical to prevent complications.”

The Emergency Medicine Foundation (EMF) and Emergency Medicine Residents’ Association (EMRA) are pleased to announce one of the EMF/EMRA Resident Research Grantees for the 2009-2010 year, Christopher H. LeMaster, MD. He was awarded a $5,000 grant.

Dr. LeMaster’s project, entitled, “Emergency Department Central Venous Catheters: Prospective Registry and Quality Improvement Project” is being conducted at Brigham and Women’s Hospital. Jeremiah D. Schuur, MD, MHS is serving as the mentor.

If you are interested in learning more about EMF, please go to www.emfoundation.org or contact the Emergency Medicine Foundation by calling (800) 798-1822 x3216.
Day one of OB rotation

Beth Israel Deaconess emergency medicine intern has arrived early; no OB residents yet in sight. Intern stares at gibberish scrawled upon a white board: G3P2 38 6/7 8/100/-1 TOL Pit VBAC. Able to decipher some of these hieroglyphics, but can’t even guess at “TOL.” Discouraged already, intern turns away.

Intern wanders to a computer—one off to the side and less likely to “belong” to someone—to sign into the system called OB Trace. Has no password and no idea where to get one.

Asks a nurse to sign him on. Looks up a patient from the board. Two squiggly lines.

Hmm. Line on top is baby’s heart rate; bottom squiggles are contractions. When heart rate goes down, that’s a “decel.” There are benign and bad decels; which is which again?

As Intern struggles to reason through the question, OB Trace kicks him out. It’s configured to do so every few minutes to protect the privacy rights of the unborn. (What if some civilian found out that this baby was tachy!)

Denied computer access, Intern now free to focus on critical concerns.

What’s the food situation? Is there a kitchen? If so, what’s it like? Most importantly: what is the free peanut butter situation?

Intern takes nonchalant-yet-purposeful-seeming laps around the OB floor—acting like he’s going somewhere, wondering how many laps it takes to go from anonymous to ridiculous. Eventually scopes out a promising-looking door. Enters, finds kitchen.

Review of kitchen systems: +cleanliness, +refrigerator, +toaster, +microwave, -foosball table, -flavored coffee maker like they have on medicine rotation, +peanut butter, +bread loaves, +graham crackers.

Intern hides fistful of individualized peanut butter servings and graham crackers deep in cupboard over sink. (Later he will learn there is an inexhaustible bounty of peanut butter on the OB rotation, but for now, he is taking no chances. He knows from hard experience on other rotations that the peanut butter supply people can be cruel.)

Intern makes toasty warm peanut butter sandwich (with grape jelly!). Notes presence of staff bathroom next to kitchen. Always good to know. Permits moment of panic about implications of one man and 40 women sharing single staff bathroom just off of kitchen. Grits teeth, pulls self together, launches self out of kitchen. Conference room. Huge screen television. Boring channel.

Who chooses the channel? Do the nurses mostly use this room, or the attendings, or the residents, or some combination? Is there a remote? Is it the sort of remote where if you hit the wrong button, no one can get the TV to work again for a week and everyone hates you? If I’m halfway through “Apollo 13” on a slow night and it’s right at the part where they’ve realized the carbon dioxide buffers aren’t working, will I get to finish the movie if a baby has a decel?

Imagine if every month or so you had to get a new job. Meet 40 or 50 new colleagues. Adjust to a new shift schedule. Learn a new set of rules, practices and computer systems. Figure out where the bathroom was. Maybe map out a new commute.

That’s residency. Every few weeks – usually right as you’re starting to feel vaguely competent, feet up on a table, s/p two TOL VBACs (Trial of Labor/Vaginal Birth After C-section) and one second-degree vaginal laceration repair, with well-earned toasty peanut butter and jelly sandwich in hand, one eye on the overhead fetal heart rate monitors and another on the Red Sox game, chatting with friendly colleagues – someone grabs you by the scruff of your neck, yanks you out of your half-built little nest, and tosses you out to start all over again.

Day one at Children’s Hospital in Boston

Bl emergency medicine intern ponders a card listing hideously complex vital signs parameters for children of various ages. Stupid children. Little show offs.

And then, a stroke of luck: a fellow intern appears to offer a PGY-1 consult: “Bathroom down the hall. Au Bon Pain open 24 hours. Sign out 30 minutes for dinner. Get a spectralink phone as soon as you arrive or they run out. Claim your computer by labeling it with your name and shift. No known free peanut butter (NKFPB) but bags of Reese’s in the drawer under the printer …”
1. A 57-year-old woman with a history of metastatic breast cancer presents with progressive chest heaviness and shortness of breath that is worse when she lies down. Vital signs are blood pressure 110/55, pulse rate 135, respiratory rate 28, and temperature 37°C (98.6°F); oxygen saturation is 91% on room air. Lung examination reveals decreased breath sounds on the right side, with dullness to percussion in the lower two thirds. What is the most appropriate initial therapy?

A. Administer fluid bolus of normal saline 500 mL IV; send blood for CBC, electrolytes, and cultures X 2; give ceftriaxone 1 g IV and azithromycin 500 mg IV
B. Obtain ABGs on room air, d-dimer measurement, and duplex scan of lower extremities; administer enoxaparin 1 mg/kg subcutaneous
C. Obtain stat 12-lead ECG; give nitroglycerin 1 unit sublingual, aspirin 325 mg, metoprolol 5 mg IV; call for cardiology consultation
D. Provide high-flow oxygen; give nitroglycerin sublingual and furosemide 40 mg IV; insert Foley catheter
E. Provide high-flow oxygen; obtain portable chest x-ray; perform right thoracostomy

2. Administration of β-adrenergic blockers to a patient with an acute MI is indicated with which of the following findings?

A. First-degree heart block
B. Heart rate of 55
C. History of pain of more than 6 hours’ duration
D. History of severe asthma
E. Pulmonary edema

3. The most effective medication to lower blood pressure in a patient with an acute aortic dissection is:

A. Fentanyl
B. Labetalol
C. Metoprolol
D. Nitroglycerin
E. Sodium nitroprusside

4. The most specific diagnostic test that can be obtained most rapidly for an emergency department patient to make the initial diagnosis of aortic dissection is:

A. 12-lead ECG
B. Aortic angiography
C. Helical CT chest scan
D. Portable chest x-ray
E. Transesophageal echocardiography

5. Which of the following is the most common ECG abnormality associated with mitral valve prolapse?

A. Paroxysmal supraventricular tachycardia
B. QT prolongation
C. Rapid atrial fibrillation
D. ST-segment depression in leads II, III, and aVF
E. Ventricular tachycardia

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The 2009 Final CPC competition was held at the ACEP Scientific Assembly in Boston.

The Best Resident Presenter was Anita Bangale, MD, The George Washington University and the Best Discussant Presenter is Brian Lin, MD, Stanford University/Kaiser.

The Runners-up were Resident Presenter, Brian Baker, MD, New York University, Bellevue Hospital Center and Discussant Presenter, J.D. McCourt, MD, University of Nevada.

Congratulations to all the 2009 CPC participants.

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Candidates sought for EMRA Consulting Editor

The Emergency Medicine Residents’ Association and Academic Emergency Medicine, the official journal of the Society for Academic Emergency Medicine, are seeking candidates for the new position of EMRA Consulting Editor.

The successful candidate will have a demonstrated interest in medical publishing and residency education. The primary functions of the EMRA Consulting Editor will be to represent the interests of the emergency medicine resident community on the editorial board, and work with the Senior Associate Editor for Education, and the CORD and CDEM Consulting Editors, to ensure the success of the journal’s initiatives to enhance the value of the journal for residents.

A joint committee of the EMRA board of directors and the journal’s editorial board will review applications and make a selection.

The appointment is for two years, commencing at the June 2010 SAEM Annual Meeting. Candidates must have at least one year of residency training remaining (i.e. graduation no sooner than June 2011), and a candidate graduating in June 2011 must commit to continuing in this role during his or her first year post-residency.

Interested applicants should submit a letter of interest outlining qualifications, a CV, and no more than two letters of support, one of which must come from the candidate’s residency director, indicating adequate release time to perform the functions of the post, and financial support of travel to the SAEM Annual Meeting to attend the journal’s editorial board meeting. (The next such meeting will be on Friday, June 4 in Phoenix.)

Applications must be submitted electronically to emra@emra.org. The deadline for applications is 5:00 p.m. EST on Friday, February 26.

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2009 Final CPC Competition Winners

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Congratulations to all the 2009 CPC participants.
Irving, TX – The Emergency Medicine Residents Association (EMRA) today announced that Nathaniel Schlicher, MD, JD, an emergency physician from Gig Harbor, WA, and Kaedrea Jackson, MD, MPH, an emergency physician from Brooklyn, NY, have been named recipients of the American Medical Association (AMA) Foundation’s 2010 Leadership Award. Dr. Schlicher is one of only four early-career physicians in the nation to receive a leadership award, and Dr. Jackson is one of six emergency medicine residents to receive the same distinction.

The AMA Foundation will honor 30 individuals with the award at its annual Excellence in Medicine Awards ceremony on March 1, 2010, in Washington, D.C. This award provides medical students, residents/fellows and early career physicians from around the country with special training to develop their skills as future leaders in organized medicine and community affairs. Presented in association with Pfizer Inc., recipients of the award are recognized for demonstrating outstanding non-clinical leadership skills in advocacy, community service and education.

“I am excited for these two emergency physicians to be recognized in such an elite group of medical professionals. Uplifting and encouraging residents and young physicians are crucial to the future of our specialty.”

Edwin Lopez, MD, President, Emergency Medicine Residents’ Association

As EMRA’s Legislative Advisor since the spring of 2008, Dr. Schlicher has significantly contributed to emergency medicine advocacy efforts involving medical students and residents in emergency medicine. Notably, he envisioned and served as editor-in-chief for the production of EMRA’s Emergency Medicine Advocacy Handbook, an accessible overview of the central health policy issues facing emergency physicians.

Dr. Jackson has served on EMRA’s Board of Directors since October of 2008 — first as Vice Speaker of the Representative Council, then as Speaker of the Council after one year. During her term, she inspired the participation of many EMRA resident representatives at the biannual council meetings. In addition, she engaged in implementing new strategies for involving members in the legislative process and promoting the organization.

“At this critical time in our nation’s health system reform efforts, encouraging leadership in the medical profession is more important than ever,” said Richard Hovland, President of the AMA Foundation. “I am confident that these exceptional individuals will provide a strong voice in the medical community to improve health care delivery in the United States.”

The Emergency Medicine Residents’ Association (EMRA) seeks to promote excellence in patient care through the education and development of emergency medicine residency trained physicians.

The AMA Foundation, a 501(c)(3) tax-exempt foundation, is the philanthropic arm of the American Medical Association and is committed to improving the health of Americans through support of quality programs in public health and medical education. Some of the AMA Foundation’s current programs include grant programs for free clinics and healthy lifestyles projects, medical student scholarships and health literacy initiatives. Visit www.amafoundation.org to learn more.

Two emergency medicine leaders honored by AMA Foundation as outstanding leaders in medicine

Alphabet Soup  Benjamin Lawner, DO, University of Maryland

How to effectively increase critical care billing in the ED.
Risk management pitfalls for pediatric dehydration

From the January 2010 issue of Pediatric Emergency Medicine Practice. Reprinted with permission. To access your EMRA member benefit of free online access to all EM Practice and Pediatric EM Practice issues, go to www.ebmedicine.net/emra, call 1-800-249-5770, or email ebm@ebmedicine.net.

1. “I know acute gastroenteritis is treatable, so I can’t imagine many pediatric patients die just from having diarrhea.”

Dehydration is a significant problem that causes death among patients in the United States and worldwide. In the United States, approximately 300 pediatric patients die from diarrhea and dehydration per year; worldwide, 1.5 to 2.5 million deaths occur annually in patients younger than 5 years.

2. “I had a 3-month-old with a 40°C (104°F) temperature all day. He was drinking well, so it seemed strange that he looked so dehydrated.”

Even though this patient is drinking well, fever causes increased insensible losses. In addition, fever will increase the pediatric patient’s respiratory rate, further contributing to insensible losses.

3. “Taking a history is important, so I generally ask parents to tell me how many episodes of vomiting and diarrhea their child is having.”

The assessment regarding dehydration should be based on a very detailed and chronological history. Instead of asking solely for the number of episodes of vomiting and diarrhea, quantifying and qualifying questions should address specific amounts, frequency, timing, and consistency of input and output.

4. “I perform a physical examination of my dehydrated patients, but I’m never quite sure which findings are most important.”

Multiple studies have shown the clinical characteristics most suggestive of dehydration include change in general appearance (eg, listless, sleepy, poorly responsive), absent tears, dry or sticky mucous membranes, sunken eyes, and delayed capillary refill. Although there is some variability in the literature, the aforementioned signs are most sensitive, along with other less important signs and symptoms found in dehydration tables.

5. “I always get laboratory tests when I put in the IV. I put a lot of stock in a high SUN and low bicarbonate level.”

Guidelines from multiple organizations (eg, AAP, WHO) indicate that patients with mild or moderate dehydration do not routinely need laboratory testing. In general, no laboratory test results have been shown to predict levels of dehydration in lieu of an accurate physical examination. Laboratory testing should be performed if clinically indicated on the basis of dietary history or disease state and for all severely dehydrated patients. A high SUN and/or low bicarbonate level may suggest dehydration, but these results will not dictate the level of dehydration or the amount of fluid that should be administered.

6. “Is it okay if I administer glucose along with an NS bolus? I’ve heard it’s helpful.”

Most clinicians bolus with NS. One study found that unscheduled returns and hospitalizations were lower among patients who received IV dextrose, even after controlling for volume of fluid received, age, antiemetics, and duration of symptoms. However, in the absence of prospective trials, the significance of this study remains unclear.

7. “I usually treat mildly dehydrated patients with oral fluids and moderately dehydrated patients with IV. Are there other options?”

Pediatric patients with mild dehydration are usually able to drink orally with the aid of a teaspoon, syringe, bottle, cup, etc. Even patients with moderate dehydration are often able to overcome the disorder after receiving an oral rehydration regimen (ie, small amounts spaced at short intervals). If oral rehydration fails, additional IV or NG rehydration can occur.

8. “Sometimes I get surprisingly low or high sodium levels in patients when I don’t expect it. I never have really understood what conditions could cause such laboratory abnormalities.”

Depending on total body water and sodium levels, patients who have a variety of diseases may suffer from hyponatremia or hypernatremia.

9. “I’m always reluctant to give too much fluid to a patient with hypovolemic shock, as I don’t want to cause pulmonary edema.”

Patients who have hypovolemic shock should be aggressively treated with NS 20 mL/kg boluses, aiming for 60 mL/kg over the first hour. The primary goals are to restore intravascular volume, provide hemodynamic support, and ultimately to achieve euvoema with correction of electrolyte abnormalities. Although pulmonary edema rarely occurs with large volume fluid administration, more often than not, a careful physical examination and close monitoring should prevent this.

10. “Sammy, a 6-month-old patient, has jitteriness and has been vomiting for 3 days. The history suggests a strange diet. I gave a bolus of fluid because he looked dry, but now his sodium level is 162 mEq/L. What do I do now?”

In this instance, a history and physical examination will help to decipher the underlying diagnosis. Normal saline 20-mL/kg boluses should be given until the patient’s vital signs are stable and his sodium level begins to drop (usually with bedside testing or, if necessary, formal laboratory testing). Sodium correction should occur over 24 to 48 hours. After the patient is stabilized, fluids should be changed to D5 ½ NS, D5 1/3 NS, or D5 ½ NS. Fluids should also provide for maintenance requirements and ongoing losses.
Risk management pitfalls for evaluation and management of non–st–segment elevation acute coronary syndromes

From the January 2010 issue of Emergency Medicine Practice. Reprinted with permission. To access your EMRA member benefit of free online access to all EM Practice and Pediatric EM Practice issues, go to www.ebmedicine.net/emra, call 1-800-249-5770, or email ebm@ebmedicine.net.

1. “The ECG didn’t show any ST elevations.”
   Non–ST-segment elevation acute coronary syndromes have a similar mortality rate as STEACS and should be evaluated and treated with the same urgency. However, NSTE-ACS require more thought on the part of the treating physician in order to ensure that each class of therapy that is needed (antiplatelet, anticoagulant, antiischemic, and reperfusion) has been used.

2. “She didn’t look that sick. Her chest pain resolved with nitro.”
   Anginal chest pain is a TIMI risk factor when it occurs within 24 hours before presentation, even if the patient is pain-free while in the ED.

3. “I don’t think her epigastric pain is due to cardiac disease.”
   Many patients present with atypical symptoms or anginal equivalents. This presentation is more common in women, patients with diabetes mellitus, and older patients.

4. “He used cocaine yesterday. Those T-wave changes are just due to his left ventricular hypertrophy.”
   Stimulant-induced vasospasm can occur for days after drug use by patients. These patients should be treated similarly to other NSTE-ACS patients, with the exception of holding b-blockers. In addition, routine stimulant abuse increases the lifetime risk of CAD.

5. “I didn’t think to ask this young man about sildenafil use.”
   Phosphodiesterase inhibitors are used by patients of all ages. The patient history conducted by the emergency clinician must include questions about their use. Nitroglycerin therapy is contraindicated within 24 hours of sildenafil or vardenafil use and within 48 hours of tadalafil use to avoid the complication of hypotension.

6. “I thought those T-wave inversions were old.”
   ST-segment depression, new T-wave inversions, and ST elevation in aVR are 3 acute NSTE-ACS injury patterns the emergency clinician must know. Assuming that these changes are old (especially changes considered nonspecific) may lull the clinician into a false sense of security. Old ECGs should be used for comparison whenever possible to determine if changes are new or dynamic.

7. “I admitted him to the hospital after the ECG and enzymes were back. His pain was mostly controlled. The primary care physician said to admit him to the floor. I don’t know why he had a ST-segment elevation MI upstairs.”
   Risk stratification of NSTE-ACS patients in the ED is essential to ensure that high-risk patients are treated with an appropriate level of care. Patients with continued ischemia may need serial ECGs or biomarker tests to ensure that they do not need more intensive management.

8. “I dosed her by her body weight. I don’t know why she bled.”
   Many studies have demonstrated that overdosing of anticoagulant and antithrombin medications leads to poorer outcomes. Elderly patients, women, and the obese are particularly prone to having their medications dosed incorrectly. Body weight and creatinine clearance levels are useful in determining appropriate doses of medications.

9. “Why would the b-blocker I gave worsen his heart failure?”
   Morphine sulfate and IV b-blockers have been shown to increase the rate of mortality in NSTEACS patients when used indiscriminately. Both of these medications should be reserved for special situations and not used routinely in the ED.

10. “Why would I transfer this patient? He didn’t have ST-segment elevations.”
    High-risk patients with NSTE-ACS benefit from early invasive strategy. This strategy includes PCI within 24 to 48 hours after admission. Also, patients with refractory or recurrent ischemia should receive immediate PCI. Patients in these categories may require transfer to a center where this therapy is available.
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