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INSIDE

A Sign of Hope on MOC? — 5

Retirement Accounts Protecting You from You — 17

AAEM/RSA Congressional Elective: Be the Exception and Make the Rules — 18

AAEM17 Pre-Conference Courses — 20

AAEM17 Wellness Activity Highlights — 23

2018 LLSA Reading List — 25

Five Tips for Teaching When Time is Limited — 30

Residency Work Hour Restrictions: Is the Pendulum Swinging Back? — 36

American Academy of Emergency Medicine

23RD ANNUAL SCIENTIFIC ASSEMBLY

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COMMONSENSE

Table of Contents

Regular Features

President's Message: 3
From the Editor's Desk: A Sign of Hope on MOC? 5
Letters to the Editor 7
Washington Watch: 9
Foundation Donations 12
PAC Donations 14
Upcoming Conferences 15
Dollars & Sense: Retirement Accounts — Protecting You from You 17
Young Physicians Section: Five Tips for Teaching When Time is Limited 30
AAEM/RSA President's Message: Group Therapy 34
AAEM/RSA Editor's Message: Residency Work Hour Restrictions: Is the Pendulum Swinging Back? 36
Resident Journal Review: Advancing the Need to Reduce Unnecessary Antibiotic Treatment by Using the Biomarker Procalcitonin 37
AAEM Job Bank Service 42

Special Articles

ABEM Updates 6
AAEM/RSA Congressional Elective: Be the Exception and Make the Rules 18
2018 LLSA Reading List 25
Handling the "Handsy" Co-Worker 26
Digital Detox 27
Becoming Resilient 28
Hypertension Management in Stroke Patients: A Quick Update 32

Updates and Announcements

Upcoming Seventh Inter-American Emergency Medicine Congress 19
AAEM17 Pre-Conference Course Highlights 20
AAEM17 Wellness Activity Highlights 23

AAEM Mission Statement

The American Academy of Emergency Medicine (AAEM) is the specialty society of emergency medicine. AAEM is a democratic organization committed to the following principles:

1. Every individual should have unencumbered access to quality emergency care provided by a specialist in emergency medicine.
2. The practice of emergency medicine is best conducted by a specialist in emergency medicine.
3. A specialist in emergency medicine is a physician who has achieved, through personal dedication and sacrifice, certification by either the American Board of Emergency Medicine (ABEM) or the American Osteopathic Board of Emergency Medicine (AOBEM).
4. The personal and professional welfare of the individual specialist in emergency medicine is a primary concern to the AAEM.
5. The Academy supports fair and equitable practice environments necessary to allow the specialist in emergency medicine to deliver the highest quality of patient care. Such an environment includes provisions for due process and the absence of restrictive covenants.
6. The Academy supports residency programs and graduate medical education, which are essential to the continued enrichment of emergency medicine and to ensure a high quallity of care for the patients.
7. The Academy is committed to providing affordable high quality continuing medical education in emergency medicine for its members.
8. The Academy supports the establishment and recognition of emergency medicine internationally as an independent specialty and is committed to its role in the advancement of emergency medicine worldwide.

Membership Information

Fellow and Full Voting Member: $425 (Must be ABEM or AOBEM certified, or have recertified for 25 years or more in EM or Pediatric EM)
Affiliate Member: $365 (Non-voting status; must have been, but is no longer ABEM or AOBEM certified in EM)
Associate Member: $250 (Limited to graduates of an ACGME or AOA approved Emergency Medicine Program)
*Fellows-in-Training Member: $75 (Must be graduates of an ACGME or AOA approved EM Program and be enrolled in a fellowship)
Emeritus Member: $250 (Please visit www.aaem.org for special eligibility criteria)
International Member: $150 (Non-voting status)
Resident Member: $60 (voting in AAEM/RSA elections only)
Transitional Member: $60 (voting in AAEM/RSA elections only)
International Resident Member: $30 (voting in AAEM/RSA elections only)
Student Member: $30 or $60 (voting in AAEM/RSA elections only)
International Student Member: $30 (voting in AAEM/RSA elections only)
*Fellows-in-Training membership includes Young Physicians Section (YPS) membership.

Pay dues online at www.aaem.org or send check or money order to:
AAEM, 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 Tel: (800) 884-2236, Fax: (414) 276-3349, Email: info@aaem.org

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President's Message

How Does AAEM Work?

Kevin Rodgers, MD FAAEM
AAEM President

"There is nothing stronger than the heart of a volunteer." — General James Doolittle

Ever wonder how volunteer organizations accomplish anything? Seems simple … dedicated, motivated volunteers with a great work ethic who believe in a common cause. After our recent board of directors meeting and lobbying day on Capitol Hill, I sat thinking about all the people that make AAEM work, specifically the BOD, the Committees and Task Forces, Sections and Chapters, and of course our staff from EDI. Certainly for most, there's an altruistic aspect of serving their specialty and their fellow emergency physicians that motivates their participation, but I believe it's also a heartfelt dedication to AAEM's tenants of democracy, integrity, transparency, advocacy, and championing the rights of the individual emergency physician.

Following the board meeting, a relatively new BOD member mentioned that there seemed to be a significant number of controversial discussions. From my viewpoint, the discussions and decisions made were a testament to the democratic process that AAEM embodies. Four times a year, board members take time out of their busy schedules (several with brand new babies!) to meet in person and provide the expertise, insight, and leadership needed to accomplish the Academy's goals. Between meetings, each board member serves as the BOD liaison to several of our 24 committees/task forces, helping them formulate and accomplish the specific goals and objectives the BOD and the Committees collaboratively developed. Every other month the five members of the Executive Committee have a conference call, to discuss ongoing AAEM business and issues. Meanwhile the Committees and Task Forces are constantly working to move the mission of AAEM forward. All of this work requires support services, and year-in and year-out, our EDI staff have provided AAEM with a level of expertise and dedication second to none.

As an example of what the board actually does during a BOD meeting and as a brief update, let me review some agenda items and decisions from December. And by the way, please remember to vote in the upcoming BOD election.

With an eye to fiduciary responsibility and to maximize the impact of our members' dues, the BOD focused on developing a more austere budget for 2017 that will provide AAEM with the financial freedom to accomplish new projects in coming years. To further this end, a waste reduction task force was formed that will identify ways to streamline staff work and improve efficiency and productivity.

The Marketing Task Force, led by Megan Healy, reviewed options for a new logo, slogan, and tag line. We will shortly be asking the membership to weigh in on several excellent options.

Ideas for presenting our due process agenda to the new leaders at HHS, CMS, and DOJ were formulated with our advocacy partner in Washington, Williams and Jensen.

With the tremendous success that Bob Stuntz and the Social Media Committee have already had in expanding AAEM's social media footprint, and with a focus on expansion of this strategic plan initiative, the BOD approved the funding for an additional staff FTE to support social media.

The BOD reviewed the plans for all educational meetings, including MEMC and AAEM17, and approved funding for several new initiatives at Scientific Assembly aimed at member wellness and mentorship. Come to the Scientific Assembly, it's going to be a phenomenal meeting!

On the heels of the successful formation of the Critical Care Section, the BOD approved the development of an Ultrasound Section.

I could go on with the remainder of the three-page agenda, but you get the idea. It's clear that the success and productivity of the Academy depends on the volunteers who serve on the BOD, our Committees/Task Forces, and our Sections and Chapters, as well as on our professional support staff from EDI. The Academy, myself in particular, owe those volunteers and our dedicated staff a debt of gratitude. Next time you see an EDI staff member, a Committee/TF/Section/Chapter chair/member, or a BOD member you know or who has been helpful to you — take a moment to say thank you and feel free to share any feedback or new ideas you have for the Academy.

Take Home Points

Come to Scientific Assembly — Hats off to the AAEM17 Planning Sub-Committee, who did an incredible job of crafting yet another state of the art meeting.

Our members are the Academy's lifeblood — without your involvement AAEM grinds to a halt. In order to focus on the individual practitioners of EM and their expanding needs, our committees must be strong. Please do not underestimate the value of your potential contribution. We need your brain power, your expertise, your service, your involvement, and your infectious energy. Two heads are better than one, and three better than two. This is your opportunity to "pay it forward" and improve the services AAEM members enjoy. Join a committee or task force today!

Don't forget to participate in democracy and vote in the BOD election, and if possible please attend the town hall session at the Scientific Assembly.

Finally, remember how much a little thank you means! I realize that a significant number of our members only interact with our staff via email or telephone. I want everyone to be able to put a face with those names, so I asked Executive Director Kay Whalen to provide us with a poster of our incredible EDI staff. If you're in Orlando, make sure to stop by the registration desk and say *thanks*! ■

AAEM Antitrust Compliance Plan:
As part of AAEM's antitrust compliance plan, we invite all readers of *Common Sense* to report any AAEM publication or activity which may restrain trade or limit competition. You may confidentially file a report at info@aaem.org or by calling 800-884-AAEM.

AAEM Staff

Laura Burns, MA
Senior Communications Manager
Laura works on marketing, including: meeting promotion, media inquiries & press releases, written and digital communications, *Common Sense*, advertising, websites, blog & podcasts, and social media. Staff liaison to: Social Media Committee, Marketing Task Force, Women in Emergency Medicine Committee, and Palliative Care Interest Group.

Ginger Czajkowski
Senior Membership Manager
Ginger works on recruiting and retaining members including: membership processing, member benefit management, and 100% group & residency program memberships. Additionally she manages the AAEM Job Bank, Certificate of Workplace Fairness, and Scientific Assembly Exhibitors. Staff liaison to: Membership Committee, Chapter Division Committee, the Young Physicians Section, and Chapter Divisions in Arizona, Tennessee, New York, & Virginia.

Tom Derenne
Program Manager
Tom works on the Oral Board Review Courses and with Scientific Assembly committee meetings & arrangements. Staff liaison to Academic Affairs, Clinical Practice & EMS Committees and Chapter Divisions in Florida, Delaware Valley and the Uniformed Services Chapter Division.

Alissa Fiorentino
***West*JEM Staff Liaison**
Alissa is the staff liaison for the *Western Journal of Emergency Medicine* (*West*JEM), including department and chapter division subscriptions, articles processing, and advertisement logistics.

Emily Marx, CAE
CME & Education Manager
Emily works on education and CME activities, including: AAEM Online, CME certificates & reports, scientific assembly competitions, MEMC abstracts and CPC, AAEM awards. Staff liaison to: ACCME Sub-Committee, Critical Care Section, and Chapter Divisions in the Great Lakes and California.

Kristen McGuire, CMP
Senior Meetings Manager
Kristen works on meeting planning for the MEMC-GREAT 2017 Joint Congresses.

Madeleine Hanan, MSM
AAEM/RSA Program Manager & AAEM Administrative Manager
Madeleine works with the AAEM board of directors, AAEM/RSA board of directors, Medical Student Council, and AAEM/RSA Committees on projects and initiatives. Staff liaison to: Operations Management Committee, Independent Practice Support Committee, and Wellness Committee.

Kathy Uy, MS CMP
Meetings Manager
Kathy works on meeting planning, including: Scientific Assembly, Written Board Review Course, MEMC, IAEMC, and other meetings. Staff liaison to: Education Committee and the Chapter Divisions in Texas, Missouri & Louisiana.

Darcy Welsh
Administrative Coordinator
Darcy works on administrative tasks and membership, including: membership processing, event registration, merchandise orders, general information, receipts & invoices. She also coordinates the AAEM residency visits.

Kay Whalen, MBA CAE
AAEM Executive Director
Kay works with the AAEM board of directors on: projects and initiatives, policy and procedures, political action committee, AAEM Physician Group, and AAEM Services.

Janet Wilson, CAE
AAEM Associate Executive Director, AAEM/RSA Executive Director
Janet works with the AAEM board of directors on: projects and initiatives, policy and procedures, AAEM Foundation, and Chapter Divisions. Janet also works with the AAEM Resident and Student Association on board activities, projects and initiatives, and policy & procedures. Staff liaison to: ACCME, Finance, Government Affairs, International & Legal Committees.

A Sign of Hope on MOC?

Andy Walker, MD FAAEM
Editor, ***Common Sense***

In the May/June 2015 issue of *Common Sense*, my "From the Editor's Desk" column was titled, "Is MOC an RPITA?" (Is Maintenance of Certification a Royal Pain in the Ass?), and I was invited to give a lecture by that title at AAEM's Scientific Assembly in February of 2016. From what many of you have told me in person or through your letters to the editor, many of you agree that the answer to that question is: *Yes!* As I explained in that column:

...neither I nor any emergency physician I know believes that board certification should be for life. In a constantly changing medical world some form of regular recertification or maintenance of certification (MOC) is necessary. That's why, from the beginning, ABEM and AOBEM have required retesting every ten years. I never objected to that or even questioned it. It seems perfectly reasonable. Over the last several years, however, I have come to regard ABEM's MOC program more and more as a royal pain in the ass (RPITA, pronounced ar-peet'-a). I began to feel this way when ABEM added a small annual test (the LLSA) to its big test every ten years (the ConCert exam). Now, I don't really care if I take a small test every year or a big test every decade, but why both? Why not fold the ConCert into the LLSA and drop the big test every ten years, or make sure the critical literature of the last decade is covered in the ConCert and drop the LLSA? Doing both strikes me as a redundant and unnecessary waste of my time and money.

...Since then, things have only gotten worse — much, much worse. Now ABEM, like the other member boards of the American Board of Medical Specialties (ABMS), requires an Assessment of Practice Performance (APP) as part of MOC, on top of both the Concert and LLSA tests. And the APP includes both a Practice Improvement (PI) activity and a Communications/Professionalism (CP) activity, ***both of which must be done every five years****. So, over each ten year period between ConCert exams, an ABEM diplomate must pass eight LLSAs (four in each five year period between ConCerts), perform two PI projects and two CP projects, and then pass the ConCert.*

I went on to point out that,

*In 2013 ABEM took in over $13 million, for a profit of just under $3 million, and reported net assets of almost $27 million. I'll let you look up the compensation of its executive director, directors, and staff for yourself. ABMS took in over $18 million for a profit of just under $2 million, and is sitting on net assets of over $16 million. Its CEO earned almost $800,000.** I also reviewed the results of the Academy's survey on MOC, which showed most of you feel the same way I do about it, and reported that, *The Academy has passed the results of this new survey, including the comments, on to ABEM. AAEM continues to engage in dialogue with ABEM in an attempt to make sure its MOC requirements are evidence-based, cost-effective, not excessively burdensome to emergency physicians, and of proven benefit to patients.*

Well, in the last few months there have been small signs of progress. As you can see from the announcements below, ABEM has temporarily suspended the communication/professionalism component of its Assessment of Practice Improvement. (This part of MOC has since been renamed Improvement in Medical Practice.) This suspension will last until December 31, 2018. ABEM has also folded the eight self-assessment CME credits required each year (out of 25 total CME credits required per year) into the LLSA tests, essentially eliminating this as an extra requirement. These are small gestures to be sure, but are still hopeful signs that bigger changes might come with continued pressure on ABEM and the ABMS.

> "In the last few months there have been small signs of progress … ABEM has temporarily suspended the communication/professionalism component of its Assessment of Practice Improvement."

Unfortunately, based on the article "Myth Busters" in the July 2016 *ABEM Update*, ABEM continues to underestimate and downplay the time and expense of MOC, neglecting all the time and money emergency physicians must spend to obtain the LLSA articles and prepare for the LLSA and ConCert tests, as well as take the exams. And ABEM continues to vastly underestimate the burden of the Practice Improvement component of the Improvement in Medical Practice part of MOC, especially for those of us who work part-time, in multiple hospitals, in small hospitals, or practice locum tenens emergency medicine.

In that same issue of *ABEM Updates*, ABEM claims that, *"it welcomes the feedback provided by candidates and diplomates, and your ideas*

Continued on next page

do result in changes and improvement to ABEM examinations and the ABEM MOC program." So keep up the pressure! Contact ABEM and the ABMS and tell them what you think of MOC. If board-certified specialists in emergency medicine like you don't do this, it won't get done at all. ABEM needs to hear from all its diplomates, not just AAEM's leadership. The information you need is below.

American Board of Emergency Medicine (ABEM)
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moc@abem.org
3000 Coolidge Road
East Lansing, MI 48823-6319
Office hours are 8:30 a.m.to 4:30 p.m. ET, Monday through Friday
(517) 332-4800

American Board of Medical Specialties (ABMS)
http://www.abms.org/contact-us/
353 North Clark Street
Suite 1400
Chicago, IL 60654
(312) 436-2600

* This information may be found at www.guidestar.org, where you can see the IRS Form 990 for every nonprofit corporation in the United States — ABEM and the ABMS, AAEM and ACEP, etc. I urge you to go to GuideStar, set up a free account, and take a look at these documents. They make for **very** interesting reading. You will be amazed at how much money some of these nonprofits are sitting on, as well as what they pay their leadership and staff. ■

ABEM Updates

Patient Satisfaction Surveys Not Required

On June 21, 2016, ABEM implemented a pilot to no longer require diplomates to attest to completion of a communication/professionalism (C/P) activity. This requirement is typically met by the physician attesting that she or he is participating in a patient satisfaction survey. During the pilot, diplomates will see the status "You do not have a requirement," or in some cases, "Future requirement on hold" on their ABEM MOC Personal Page. The pilot extends through December 31, 2018. During this pilot, ABEM will seek a more meaningful way to assess a physician's contribution to the patient's experience of care. Whether this requirement is permanently discontinued is, in part, dependent on a final decision by the American Board of Medical Specialties.

Self-Assessment Credits Covered by LLSAs

As part of the CME requirement, diplomates were asked to attest that eight of their 25 annual CME credits be self-assessment credits. Because LLSA tests are self-assessment activities, the self-assessment credit requirement is automatically met by physicians who have met the LLSA requirement. As of August 30, 2016, ABEM no longer requires that diplomates attest to completing "self-assessment" CME credits.

Questions?

If you have questions about these or any other ABEM-related topic, contact ABEM at abem@abem.org, or 517-332-4800. ■

Letters to the Editor

Letter in response to the September/October 2016 article titled "Who Cares About Due Process?"

I have practiced emergency medicine since 1986 and had planned to continue to practice for another 4 years. This article was almost too personal. ABEM certification was established in 1980 with re-certification mandated every 10 years. Continuous certification was established by 2000. I am sure ABEM thought that rigorous testing would bring credibility and respect to our specialty. I cannot speak about what happens in academic centers, but I certainly can confirm that emergency physicians are the stepchildren of the hospital. It has nothing to do with competency. The medical staff is often rude, and if the right buttons are pushed by the medical staff, nursing, or administration, the ED medical director is summoned to the CEO's office.

He or she is told to dismiss the ED staff physician who has somehow attracted the anger of someone in the hospital. And the CEO holds the director hostage by threatening to terminate the contract. Thus the ED physician is abruptly terminated.

Up until the last year, if I left an ED position, it was my decision. I have been terminated four times since then, but let me elaborate. I was terminated after 4 years at a hospital in Houston when a new CEO was named. I was quite vocal about lack of equipment. We did not even have an oto-opthalamoscope in every room. The nurses were incompetent and had no clinical experience. The medical staff never came into the hospital at night when one of their patients would crash and burn. I came back to Houston at the end of a one week vacation in March and found that I was not scheduled for April. That is how much notice I received.

It isn't rocket science when an ED physician starts at a new facility, that there is a learning curve, because every hospital runs their department differently. A two week grace period to adjust was more or less accepted. The introduction of computerized medical records changed all of that.

I have been exposed to four different ED computer programs. The learning curve for each ED physician is variable. However, these programs take away valuable patient time. The expectation in my experience (and I was actually told this) is to shot gun lab and radiology. How do you know what to look for if you haven't done a thorough history and physical? The following is an example of one of my short-lived jobs: the ED director sat outside the exam room while I was working up a new patient, and timed me. My maximum time allowed was four minutes. That is a physical impossibility.

My last few jobs have lasted 4 days, 3 days, and 3 days respectively.

Can any ED physician come into a new department and reach maximum efficiency within one or two days. So much for fairness and due process. That would never happen to a staff physician. In fact, it takes an act of God to get an incompetent staff physician off staff.

I am still at the top of my game. ED physicians used to leave the profession because of burn out from shift work. Now I expect that our specialty will reach critical mass because respect by the hospital staff has reached an all-time low.

For me, the handwriting is on the wall. I can only take so many punches. If AAEM does not take a leadership role in ending a very disturbing double standard, the public will be seeing unqualified primary physicians when they are critically ill.

— Evan B. Tow, DO FAAEM

Dear Dr. Tow:

Thank you for writing. It takes courage to tell a story like yours. Unfortunately, your story is not unique — it isn't even unusual. I promise you that AAEM is doing everything possible to assure that emergency physicians have the same due process and peer review protections as all other members of the hospital medical staff. Our progress has been slow, however, largely because so many with deep pockets want to be able to get rid of emergency physicians without any inconvenience — and because the Academy is fighting this battle with little or no help from other professional societies in emergency medicine.

Please hang in there and keep trying. You might consider an academic job or even look into nontraditional ways to practice emergency medicine, such as critical access hospitals; VA, military, or American Indian reservation hospitals; overseas practice settings; or locum tenens. There are lots of hospitals out there that are desperate for board-certified specialists in emergency medicine, and there are still hospitals and EDs that care more about quality, patient welfare, and doing the right thing than about speed and metrics.

— The Editor

Continued on next page

Letter in Response to September/October 2016 "From the Editor's Desk" article titled "Crossing the Line"

Dear Dr. Walker,

Reading your editorial in the September/October issue, you discussed CMG travelling docs (special ops, the hit team, the strike team, etc.) and you discussed how they make it easier for a CMG to attack and take over emergency departments. Often those "special ops" guys and gals are the ones that make it easier for a CMG to steal a contract from a long-standing independent and democratic group or from another CMG. This is a fact.

There is something else, however, that you didn't touch on: special ops physicians make it so much easier for a CMG or hospital administration to deny physicians due process.

I know because I used to be a special ops physician for a CMG long before the term "special ops" was even invented. Early in my career, I worked for a medium sized CMG (that is now a large CMG). It was a frequent occurrence that I would get a call that a certain ED needed someone urgently and that they would pay me an extra amount to go cover a shift or group of shifts.

I usually would get to that hospital and realize that someone had been "taken off of the schedule." As a young and slightly arrogant physician, I would be proud that I was called in to cover for the "less than adequate" physician.

Nowadays, I regret that I was ever used that way and I regret that I was part of the process. I now realize that almost all of the physicians that I replaced at the last minute were denied due process. I am ashamed of that.

Due process is important. It is important that we stand up for each other. If you are reading this letter and you are a special ops physician, think about it.

Sincerely,

— Terence J. Alost, MD MBA FAAEM

Thank you for writing. You make an excellent and important point, one I had not considered. I hope our colleagues who now fill your former role will think long and hard about the ethics of what they are doing and how it effects our specialty.

— The Editor ■

Response to an Article? Write to Us!

We encourage all readers of *Common Sense* to respond to articles you find interesting, entertaining, educational, or provocative. Help us stimulate a conversation among AAEM members.

www.aaem.org/publications/common-sense

Republicans Eye Plan to Repeal ACA in January; Delay Replacement Efforts

Williams and Jensen, PLLC

The Republican-controlled House and Senate will begin the process of repealing the Affordable Care Act (ACA) with Senate Majority Leader Mitch McConnell (R-KY) saying repeal will begin January 3. Congressional Republican leaders and the Administration are coalescing behind a strategy to quickly repeal major elements of the law using a budget reconciliation process that allows it to pass with a simple majority in the House and Senate and then delay the effective date while they craft a replacement.

There is not yet public agreement on the amount of time Congress should give itself to replace the law. Republicans acknowledge that they will not undo the law in its entirety, specifically President Trump and key Members of Congress have said they will keep the ACA's provisions allowing young adults to stay on their parents' health insurance until the age of 26 and making insurance attainable for those with pre-existing conditions. A number of senior policymakers are making the case that a period of at least two years is needed to give time for replacement legislation. Meanwhile, others say that a quicker transition period is needed and Congress should finish a replacement in months, not years.

It is clear that reaching an agreement and securing the votes for replacement legislation will be a major challenge for the new Congress and Administration. While a procedural budget maneuver will be used to repeal major parts of the ACA with just 51 votes in the Senate (thus requiring no Democratic votes if at least 51 of the chamber's 52 Republicans support it), it is likely that substantive replacement legislation will require 60 votes to advance in the Senate. This means that any such plan must be able to attract the support of at least 8 Democrats, while still being palatable to the House, which typically has demanded more conservative policy in recent years.

Each party will fault the other if repeal occurs without replacement. Millions of newly insured Americans could lose their coverage under that scenario, so there is a high degree of political risk for Republicans if they are viewed as failing to secure a tenable replacement, or Democrats if they are viewed as blocking these reforms without offering a viable alternative. Incoming Senate Minority Leader Chuck Schumer (D-NY) and Senator Dick Durbin (D-IL) have suggested Democrats could play a role in replacement legislation, but have indicated that they feel no obligation to go along with a "half-baked solution."

Republicans have proposed an array of measures to replace the ACA in recent years. Many feature provisions allowing insurance companies to sell plans across state lines or promote and expand the use of health savings accounts (HSAs). Other plans have included a tax credit for individuals to purchase health insurance coverage. Additional reforms that could be sought through these proposals range from medical liability reform as a means to reduce cost in the health care system, to entitlement reforms that would allow future Medicare enrollees to opt out and apply these payments to a private health insurance option. House Speaker Paul Ryan (R-WI) has been a major proponent of entitlement reforms including this Medicare "premium support" model and giving states additional flexibility to spend Medicaid dollars.

Regardless of the amount of time Congress and the Administration will have to replace the law, both sides know that the political stakes are very high once the ACA is repealed. Republican policymakers will be working in 2017 to come up with a plan that they hope can gain public support and pass Congress. Meanwhile, Democrats will be weighing the pros and cons of their participation and possible support for replacement legislation.

Dr. Tom Price to be Nominated for HHS Secretary; Seema Verma Picked for CMS

Congressman Tom Price (R-GA) is President-Elect Donald Trump's pick to serve as Secretary of the Department of Health and Human Services (HHS). Prior to his election to Congress, Dr. Price worked in private practice as an orthopaedic surgeon. He received his MD from the University of Michigan, and completed his residency at Emory University. He served as Medical Director of the Orthopaedic Clinic at Atlanta's Grady Memorial Hospital.

If confirmed, Price would become the first doctor to lead HHS in over 20 years. His selection received praise from the American Medical Association, citing his experience as a physician and as a public servant.

As Chairman of the Budget Committee and a member of the Congressional Doctors Caucus, Price was a top critic of the ACA. His staunch opposition to the law makes it unlikely that Price will attract much support from Senate Democrats for confirmation. However, if Senate Majority Leader McConnell continues a precedent on non-judicial nominations set by his predecessor, then Price could be confirmed with only a simple majority of Republican support.

If Trump's plan to repeal the ACA succeeds in January, HHS would play a key role in ensuring the health care system continues to function while policymakers work on a replacement law that can pass both chambers of Congress. With the prospect that this replacement could take over a year, HHS may have a very active year ahead with rulemakings and other actions.

One of the biggest questions will be how to deal with individuals who have gained access to health care through the ACA's Medicaid expansion. Seema Verma, the incoming Administration's selection to head the Centers for Medicare and Medicaid Services (CMS), has extensive

Continued on next page

experience with the Medicaid program. Verma worked with Indiana lawmakers on a major overhaul of that state's program, while also consulting with a number of other states that opted against Medicaid expansion.

Meanwhile, physicians will closely watch to see what incoming HHS and CMS leadership plans to do with the new physician payment system designed after the passage of MACRA. CMS released the final rule in October 2016, and the first data reported by physicians under the Merit-based Incentive Payment System (MIPS) is set to be collected in 2017. In response to various concerns raised by physician groups, CMS agreed to treat 2017 as a transition year, providing doctors the option to report any amount of data in 2017 to avoid future negative payment adjustments.

Prior to the election, Price said he was "deeply concerned" about MACRA's impact on the relationship between patients and doctors. The incoming Trump Administration has not yet announced how they plan to deal with MACRA, but expectations are building some modifications will be sought. ■

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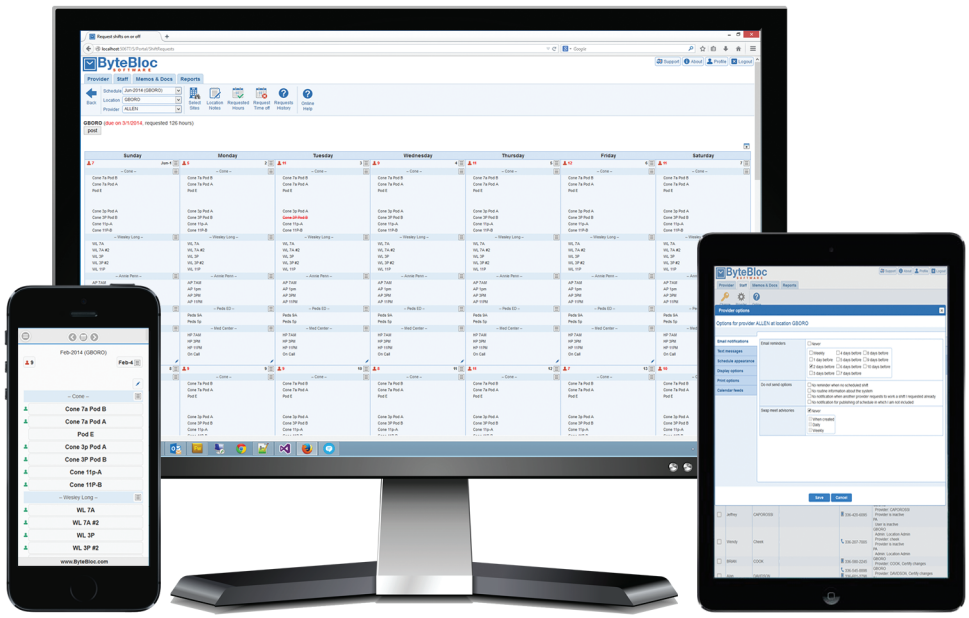

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Recognition Given to Foundation Donors

Levels of recognition to those who donate to the AAEM Foundation have been established. The information below includes a list of the different levels of contributions. The Foundation would like to thank the individuals below who contributed from 1-1-2016 to 11-29-2016.

AAEM established its Foundation for the purposes of (1) studying and providing education relating to the access and availability of emergency medical care and (2) defending the rights of patients to receive such care and emergency physicians to provide such care. The latter purpose may include providing financial support for litigation to further these objectives. The Foundation will limit financial support to cases involving physician practice rights and cases involving a broad public interest. Contributions to the Foundation are tax deductible.

Benefactor

Contributions $2,500-$4,999

Robert M. McNamara, MD MAAEM FAAEM

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AAEM CONFERENCES

March 16-20, 2017
- 23rd Annual AAEM Scientific Assembly – AAEM17
  Orlando, FL
  www.aaem.org/AAEM17

  Pre-Conference Courses

  Thursday, March 16, 2017
  - Resuscitation for Emergency Physicians — 1.5 day course
  - Ultrasound: Beginner
  - EM Talk: Communicating Serious News (Organized by the AAEM Palliative Care Interest Group)
  - Simulation — Obstetrics & Pediatrics
  - So You Think You Can Interpret an EKG? (FREE for AAEM/RSA Resident Members!)

  Friday, March 17, 2017
  - 2016 LLSA Review Course (FREE for AAEM Members and AAEM/RSA Resident Members!)
  - Advanced Ultrasound
  - Active Shooter: Are You Ready? (Jointly Provided with USAAEM)

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April 19, 2017
- DVAAEM's Residents' Day and Annual Meeting
  Philadelphia, PA
  www.aaem.org/membership/chapter-divisions/dv-residents-day

April 21-22, 2017
- FLAAEM's 6th Annual Scientific Assembly
  Miami, FL
  www.flaaem.org/events/scientific-assembly

September 6-10, 2017
- MEMC-GREAT 2017 Joint Congresses
  Corinthia Hotel Lisbon
  Lisbon, Portugal
  www.emcongress.org

AAEM RECOMMENDED CONFERENCES

January 12-13, 2017
- 2017 Oncological Emergency Medicine Conference
  Houston, TX
  www.mdanderson.org/education-training/professional-education/cme-conference-management/conferences/oncologic-emergency-medicine-conference.html

April 21-23, 2017
- The Difficult Airway Course: Emergency
  Boston, Massachusetts
  www.theairwaysite.com

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- Myanmar Emergency Medicine Updates Symposium
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May 19-21, 2017
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Retirement Accounts — Protecting You from You

Joel M. Schofer, MD MBA CPE FAAEM
Commander, U.S. Navy Medical Corps

A few years ago I became very annoyed with my Individual Retirement Accounts (IRAs). My wife is self-employed as an independent contractor with the government/military, and we never know exactly how much she'll earn in a year, what her expenses will be, or how much we can contribute to her Simplified Employee Pension IRA (SEP-IRA). In addition, just when the Navy will release its fiscal year pay guidance and I'll receive my medical special pays is unpredictable. This unpredictability led to several years in a row where I had to reverse or re-characterize IRA contributions, because we had contributed too much money. A good problem to have, I suppose. Because we contributed to a traditional IRA and then immediately rolled that money into a "back door" Roth IRA, it made the reverse engineering and math seem even more complicated. In reality, it wasn't complicated at all because Vanguard took care of it for me. I had to fill out a two-page form and send it in. That's all there was to it. That said, the fact that our tax system is so complicated that a physician with an MBA can't figure it out really irritated me. I thought I might stop contributing to our IRAs. The tax advantages of the accounts didn't seem to outweigh the hassle and forms. I could only put in 10,000 or so dollars anyway, which didn't seem like that much money, and once the money was in there I couldn't touch it until I was 59½ without having more tax hassles and forms to fill out. And since I plan on retiring before age 59½, I may need that money. Overall, the whole thing just didn't seem worth it.

I made what was probably the correct decision, sucked it up, accepted the risk of miscalculating and having to re-characterize/reverse contributions, and kept contributing to the IRAs. Now, here I am a few years later. The tax and other advantages were worth it. And one advantage that I didn't anticipate has helped me over the last few months. In fact, this advantage was one of the main disadvantages I was complaining about back in the day: I can't touch the money until I'm 59½ years old.

Of all the columns I've written so far, the one that generated the most feedback was the one about my $121,500+ guest room. As I lamented in that article, I recently found myself making the classic mistake many physicians make and spending too much money. As my net worth rises and retirement calculators tell me I'm well ahead of where I need to be, it is all too easy to get sloppy and spend a little more than I should. So, I read a Mr. Money Mustache blog post every day to remind myself that spending money does not create happiness, and I continue to contribute to all my retirement accounts, my military 403b, and those IRAs with all their tax troubles.

"There are a lot of benefits to contributing to tax-advantaged retirement accounts, but one I never thought I'd need is the one I'm benefiting the most from now."

There are a lot of benefits to contributing to tax-advantaged retirement accounts, but one I never thought I'd need is the one I'm benefiting the most from now. Because I can't easily touch the money until I'm 59½, the accounts I was cursing just a few years ago are now protecting me from me. ■

AAEM/RSA Congressional Elective: Be the Exception and Make the Rules

Ashely Alker, MD MS in Public Health
University of California, San Diego Emergency Medicine PGY2

Returning to Washington, D.C. at the end of my intern year, I am fortunate to be in a city filled with the familiar faces of old classmates. Sitting around the rooftop dinner table with old friends who were medical school classmates just a year ago, I realize how much has changed. What hasn't changed is how quickly time flies when we are together.

At our table of residents are an orthopedic surgeon, an OB/GYN, a pediatrician, a urologist, an anesthesiologist, and myself — an emergency physician. After attending medical school at George Washington University we pursued different specialties, but with the same goal: to serve patients.

Discussing the challenges of our intern year, we seem to have similar concerns about residency. We talk about the threat of repealing work hour restrictions, medical school debt burden, the amount of paperwork vs. resident educational time, and the lack of maternity rights for medical residents. We talk about how these policies affect us and affect patient care.

We have yet to encounter the political battles of attending physicians, such as the struggle against burdensome and expensive maintenance of certification requirements, the lack of due process and peer review for emergency physicians, post-employment restrictive covenants, tort reform, etc.

But even in our first year as physicians, we understand the importance of health care policies that affect us all. I recently had the opportunity to work directly on these policies as the Health Care Policy Fellow for the American Academy of Emergency Medicine Resident/Student Association (AAEM/RSA).

As the AAEM/RSA Health Care Policy Fellow, I spent one month on the team of fellow emergency physician and Congressman Raul Ruiz, MD working in the Congressman's Washington, D.C. office as a health care policy researcher. The experience was an enlightening introduction to public policy, and was reminiscent of the controlled chaos of an emergency department.

As emergency medicine residents we are taught to multitask. We can address a myocardial infarction, appendicitis, and a stroke — all while writing 20 notes and deffusing the tension created by the lively patient in the hall. In one day as a policy fellow I attended a briefing, a bill mark-up, wrote a memo, and met with a lobbyist who also happened to be a lively hallway conversationalist.

As the AAEM/RSA fellow, I was quickly assimilated into a highly educated and collaborative team. I was given research tasks related to health care events that day. I attended political briefings by the National Institutes of Health (NIH) and Centers for Disease Control (CDC), on current issues such as the Zika virus and opioid abuse. I also attended meetings with lobbyists and researched health policy topics to present directly to Congressman Ruiz.

Medical school usually doesn't include an introduction to the government policies that create our health care infrastructure. This increases the frustration when a patient can't get medication prescribed because Medicare part D does not cover it, or has to be hospitalized for three full days in order to qualify for in-patient coverage.

> "Since a typical medical education suffers from a deficit in health care policy studies, we must acquire that individually. The AAEM/RSA congressional elective is an invaluable opportunity to gain insight into health care policy."

Since a typical medical education suffers from a deficit in health care policy studies, we must acquire that individually. The AAEM/RSA congressional elective is an invaluable opportunity to gain insight into health care policy. It is also a unique opportunity to support the patients we serve. Health care policies are usually created by people who have never worked in patient care, and both physicians and patients suffer for it. Rep. Raul Ruiz, MD, is an exception to that rule, and through the AAEM/RSA congressional elective, you can be an exception too. ■

Upcoming Seventh Inter-American Emergency Medicine Congress

Gary Gaddis, MD PhD FAAEM, Scientific Co-Chair

As you read this, especially if you live in one of America's more northerly latitudes, you may be looking out the window into a winter wonderland. The outdoors may look nice, but the cold weather just might have you thinking about warmer times and places.

While you are having such thoughts, I hope you consider attending the Seventh Inter-American Emergency Medicine Congress in San Jose, Costa Rica. The Congress will be held Wednesday 24 May to Friday 26 May 2017, at the Real Inter-American Hotel, and is sponsored by the Costa Rican Emergency Physician Association (Asociación Costarricense de Médicos Emergenciólogos - ASOCOME).

This Congress continues the tradition of your Academy being the most internationally prominent American organization in emergency medical education. AAEM has long worked with our Latin American neighbors, beginning in 2010 with the First Inter-American Emergency Medicine Congress in Buenos Aires, held in cooperation with the Sociedad Argentina de Emergencias. Our Argentine friends accepted our suggestion to move the 2016 Congress away from Buenos Aires, the site of the first three Congresses, in an attempt to broaden participation in the meeting. This goal was realized, as the most recent Congress was held in Mendoza, Argentina — one of the Americas' most famous wine-growing regions — and attracted attendees from an unprecedented number of countries.

To make the meeting more inclusive of **all** of the Americas, the next Congress takes an even bigger step. It will be held in San Jose, Costa Rica. We hope that many AAEM members will choose to attend the Congress.

The Congress will feature two tracks with concurrent English-Spanish or Spanish-English translation, so all attendees can benefit from the educational offerings. Spanish and English are the official languages of the Congress.

A flight to Costa Rica is much shorter and much less expensive than a flight to the southern cone of South America. Attendees can connect via a relatively short flight from numerous U.S. airports, such as Dallas-Fort Worth, Miami, Charlotte, Houston, Atlanta, and Los Angeles. The nation is a jewel of our hemisphere, with many eco-tourism opportunities on its beautiful coasts or in its rich rain forest interior, and your dollar has a lot of purchasing power in Costa Rica.

If you have never attended an international congress, you owe it to yourself to see what you have been missing. Whether or not you attend the Scientific Assembly in Orlando, I hope you consider taking advantage of this wonderful educational, cultural, and tourist opportunity. The speakers and topics covered will rival the Scientific Assembly, and the venue is unprecedented. ■

Delaware Valley Chapter Division (DVAAEM)

Residents' Day and Meeting

Wednesday, April 19, 2017
7:30am-4:00pm
4th Floor Auditorium, Student & Faculty Center
Temple University, Philadelphia

DVAAEM
Delaware Valley Chapter Division of the American Academy of Emergency Medicine

Free registration for DVAAEM members
www.aaem.org/membership/chapter-divisions/dv-residents-day

SAVE THE DATE
April 22-23, 2017

Free to FLAAEM members
http://www.flaaem.org/member-benefits/join-flaaem

Registration opens January 2017
Poster submission opens February 6, 2017
Poster deadline March 13, 2017

PRE-CONFERENCE COURSES

THURSDAY, MARCH 16, 2017

Morning Sessions

7:30am-11:20am	Resuscitation for Emergency Physicians — Day 1 1.5 day course
8:00am-12:15pm	Ultrasound: Beginner, Part 1 — Classroom Session
8:00am-12:00pm	EM Talk: Communicating Serious News Organized by the AAEM Palliative Care Interest Group

Afternoon Sessions

12:00pm-4:45pm	Simulation — Obstetrics & Pediatrics
1:00pm-3:45pm	Ultrasound: Beginner, Part 2 — Hands-On Lab
1:00pm-5:00pm	Resuscitation for Emergency Physicians — Day 1, cont. 1.5 day course
1:00pm-5:00pm	So You Think You Can Interpret an EKG? FREE for AAEM/RSA Resident Members!

FRIDAY, MARCH 17, 2017

Morning Sessions

7:30am-11:00am	Resuscitation for Emergency Physicians — Day 2 1.5 day course
8:00am-12:00pm	2016 LLSA Review Course FREE for AAEM Members! FREE for AAEM/RSA Resident Members!
8:00am-12:30pm	Ultrasound: Advanced — Hands-On Lab
8:00am-12:15pm	Active Shooter: Are You Ready? Jointly Provided with USAAEM
12:45pm	AAEM17 Scientific Assembly Begins

RESUSCITATION FOR EMERGENCY PHYSICIANS

In recent years, it has become all too common for critically ill patients to remain in the emergency department for exceedingly long periods of time. It is during these early hours of illness that many detrimental processes begin to take hold. It is during these early hours of illness that lives can be saved ... or lost! In order to prevent unnecessary morbidity and mortality, the emergency physician must be an expert at resuscitating the critically ill patient.

Resuscitation for Emergency Physicians (REP) is an outstanding resuscitation course for the emergency physician that encompasses a broad spectrum of topics including undifferentiated shock, the critical airway, anaphylaxis, cardiac arrest, cardiogenic shock, emergency transfusions, toxicology disasters, sepsis, CNS catastrophes, and pediatric resuscitation. REP is the first integrated resuscitation course developed by an emergency medicine professional society that is tailored to the needs of emergency physicians. Emergency physicians who want to take a single resuscitation course taught at an advanced level, rather than taking ACLS, PALS and ATLS, will find REP to be an outstanding experience. Quite simply, this course will help you save lives!

- AAEM Member: Early Bird $500 | Late: (after February 15, 2017) $600
- Non-AAEM Member: Early Bird $850 | Late: (after February 15, 2017) $950

ULTRASOUND — BEGINNER

This year's AAEM pre-conference ultrasound course has been fully updated with participants' wishes to design the ultimate ultrasound course. Each year after reviewing participant comments we construct a new course to address their needs.

Beginner participants have wanted more imaging of the heart and central line placement. This year, didactic lectures will provide state of the art audiovisual presentation by a veteran faculty, followed by small groups of a maximum four participants / one instructor allowing each individual participant ample time with their hand on the probe.

Ultrasound — Beginner Course ONLY

- AAEM Member: Early Bird $500 | Late: (after February 15, 2017) $600
- Non-AAEM Member: Early Bird $650 | Late: (after February 15, 2017) $750

Special Discount if taking both Ultrasound — Beginner and Advanced

- AAEM Member: Early Bird $500 | Late: (after February 15, 2017) $600
- Non-AAEM Member: Early Bird: $650 | Late: (after February 15, 2017) $750

EMTALK: COMMUNICATING SERIOUS NEWS

Communicating with seriously ill emergency department patients and their families is a stressful, high-risk "procedure" that an individual provider performs thousands of times over a career. Unfortunately, few clinicians receive formal training about evidence based best practices for delivering serious news or talking about goals of care. The EMTalk course provides clinicians with specific frameworks and tools for communicating with patients and families during difficult life-altering events in the clinical arena.

EMTalk is based on the VitalTalk coaching method for improving physician and advanced practice provider communication skills. Years of research and practice have resulted in an evidence-based teaching method that uses a combination of small group training sessions using deliberate skills practice, just-in-time feedback, and simulated patients who create a real-world experience. Training results in immediate, significant and lasting improvement to the medical practitioner's ability to communicate and address patient and family needs during medical crisis.

- AAEM Member: Early Bird $200 | Late: (after February 15, 2017) $300
- Non-AAEM Member: Early Bird $350 | Late: (after February 15, 2017) $450

American Academy of Emergency Medicine

23RD ANNUAL SCIENTIFIC ASSEMBLY

Hyatt Regency Orlando

SIMULATION — OBSTETRICS & PEDIATRICS

The combined simulation course for obstetric and pediatric emergencies is designed to allow physicians the opportunity to manage critically ill patients in a safe environment. The course utilizes a variety of educational tools ranging from task trainers to high fidelity simulators and will allow participants the opportunity to become proficient in managing high stakes – low frequency events, using cutting edge technology delivered by physicians who are experts in their field.

The course is an immersive experience that is hands-on and highly interactive. This highly-specialized training will prove to be beneficial for the most novice learner to those with credible simulation experience. This course is designed to serve as a refresher for those who may not have the opportunity to encounter these patients in their daily practice and also as an introduction for those providers that have not been exposed to this style of learning in their previous training.

Participants will rotate between four stations, two with a primary focus on obstetric emergencies and two which focus on pediatric emergencies. The first obstetrics case will focus on the resuscitation of a critically injured obstetric patient and eventual resuscitation of the newborn. The second obstetrics station will be a hands-on encounter which simulates high-risk deliveries. The pediatric emergencies will focus on the resuscitation of a patient with multi-system trauma. The second pediatric encounter will be an immersive experience managing a neonate in septic shock.

Critical actions will be reviewed and the simulation faculty will allow the learners to debrief the various simulated patient encounters. A post-training assessment will gauge the level of understanding of the content. During the final session, a summary lead by the course faculty will reiterate the best practices to further reinforce the courses' goals and objectives.

- AAEM Member: Early Bird $400 | Late: (after February 15, 2017) $550
- Non-AAEM Member: Early Bird $500 | Late: (after February 15, 2017) $650

SO YOU THINK YOU CAN INTERPRET AN EKG?

This Advanced EKG interpretation course is designed for emergency physicians seeking more experience in critical EKG analysis for acute care settings. The course will encourage systematic review of EKGs with emphasis of important differentials, including prolonged QRS, ST-segment elevation, and T-wave inversion.

The course will present an approach to difficult and challenging EKG assessment. Topics to be covered include a review of basic interpretation, ischemia and infarction, as well as various important EKG diagnoses. A series of challenging EKGs will be provided for discussion.

- AAEM Member: Early Bird $300 | Late: (after February 15, 2017) $400
- Non-AAEM Member: Early Bird $450 | Late: (after February 15, 2017) $550
- AAEM/RSA Resident Member: Free

2016 LLSA REVIEW COURSE

This course is designed to provide the experienced emergency physician with an evidence-based review course for all of the required readings for the 2016 LLSA Review. Course content will be discussed both via PowerPoint® and through small group discussion on key topics for each mandated journal article.

- FREE to AAEM Members
- FREE for AAEM/RSA Resident Members
- Non-AAEM Member: Early Bird $325 | Late: (after February 15, 2017) $425

ULTRASOUND — ADVANCED

This year's AAEM pre-conference ultrasound course has been fully updated with participants' wishes to design the ultimate ultrasound course. Each year after reviewing participant comments we construct a new course to address their needs.

Participants loved last year's course and we have added more modules. Didactic lectures will take place on-line at your convenience. The lectures will be available one month prior and one month following the advanced US course. There will be a maximum four participants / one instructor allowing each individual participant ample time with their hand on the probe.

Ultrasound — Advanced Course ONLY

- AAEM Member: Early Bird $375 | Late: (after February 15, 2017) $475
- Non-AAEM Member: Early Bird: $525 | Late: (after February 15, 2017) $625

Special Discount if taking both Ultrasound — Beginner and Advanced

- AAEM Member: Early Bird $500 | Late: (after February 15, 2017) $600
- Non-AAEM Member: Early Bird: $650 | Late: (after February 15, 2017) $750

ACTIVE SHOOTER: ARE YOU READY?

Jointly Provided by USAAEM

A comprehensive discussion of active shooter events, including the epidemiology of the shooter and injury patterns of the victims, the evolution of the first responder response and how this might affect immediate care in the emergency department. Is your hospital ready for an active shooter — either in the community and/or in the hospital itself? Best practices from experienced providers on how to prepare to provide an integrated response should this tragedy befall your community will be shared.

- $25 Students and Residents*
- $50 Physicians and Allied Health Professionals*

*The registration fee is refunded within 30 days after the conference for USAAEM members who attend the course.

HOW ARE YOUR AAEM COLLEAGUES INTEGRATING PALLIATIVE CARE INTO THEIR PRACTICE?

Mari Siegel, MD FAAEM, Co-Chair Palliative Care Interest Group
David Wang, MD FAAEM, Co-Chair Palliative Care Interest Group

The Palliative Care Interest Group sent out a survey to all AAEM members, to assess interest in and knowledge of palliative care skills in the emergency department.

450 emergency physicians were excited to share their experience. They were evenly distributed across practice environments, years of clinical experience, and geographic location.

"At this year's Scientific Assembly in Orlando, you will have several opportunities to sharpen your skills and learn how to practice palliative care in a time-crunched environment."

As expected, more than half of us feel comfortable managing acutely ill patients and having difficult discussions, but less than half of us feel very comfortable consulting hospice or withdrawing life-prolonging care in the ED. Fewer than one third feel confident in our management of refractory symptoms in the terminally ill, such as pain, dyspnea, agitation, and nausea. Less than one-third of us are able to prognosticate life expectance and assist patients in planning for future care needs.

Thinking about how to increase palliative care capacity in the ED: while over 90% expressed interest in palliative care, the two greatest barriers to increased implementation of that were lack of time during a busy shift and the absence of a strong connection with a palliative care consult service.

At this year's Scientific Assembly in Orlando, you will have several opportunities to sharpen your skills and learn how to practice palliative care in a time-crunched environment.

We are offering a **pre-conference EMTalk workshop on difficult communication**, which will cover goals of care and breaking bad news. Registration is now open for this half day course.

More information: www.aaem.org/aaem17/program/precons/emtalk

To register: www.aaem.org/aaem17/register

Additionally, the main conference this year will once host a palliative care session or track. Conference lecture topics include:

- "Just the Facts: The ABCs of Palliative Care in the ED"
- "Don't Bring Them Here Again! Hospice Care in the ED"
- "Not Why, But How: Next Steps for Palliative Care in the ED"

Curious to learn more or considering branching out in your career? Please attend our second annual Palliative Care Interest Group meeting (time and location to be determined). Stop by to hear about career options, resources, and to network with other emergency physicians interested in palliative care.

We look forward to seeing you in Orlando!

Mari Siegel, MD FAAEM (Mari.siegel@tuhs.templ.edu) and David Wang, MD FAAEM (Dave.Wang@ucsf.edu), co-chairs Palliative Care Interest Group

USAAEM
Uniformed Services Chapter Division of the American Academy of Emergency Medicine

UNIFORMED SERVICES CHAPTER DIVISION OF AAEM UPDATE

David Bruner, MD FAAEM

The Uniformed Services Chapter Division of AAEM (USAAEM) is pleased to announce that it is offering another excellent pre-conference course on Friday, March 17, 2017, as part of the 23rd Annual AAEM Scientific Assembly in Orlando. The USAAEM pre-conference course, *Active Shooter: Are You Ready?*, will focus on responding to an active shooter emergency, and we will have discussions with nationally recognized civilian and military experts on how to be prepared for and manage an active shooter event.

USAAEM encourages AAEM members to join our chapter division. We offer a monthly subscription to *West*JEM, and our pre-conference course is free for all USAAEM members via a refundable deposit. Our chapter continues to grow, with 125 current members. USAAEM annual membership is quite reasonable: $50 for board certified-emergency physicians, $30 for board-eligible emergency physicians, and free for residents and students.

Please consider joining USAAEM and attending our pre-conference course, *Active Shooter: Are You Ready?*, this March in Orlando.

WELLNESS AT AAEM17

RETREAT TO RESILIENCE

Robert Lam, MD FAAEM
Assistant Clinical Professor
University of Colorado School of Medicine
Chair, Wellness and Burnout Prevention Committee

We all need time to get away from our stressful lives. Sometimes the best thing we can do for ourselves and our patients is step out of our normal routine and embark on a journey to refresh our passion for work. I invite you to make the Scientific Assembly a retreat from your routine and a place to rejuvenate your passion for our profession.

The Scientific Assembly abounds with opportunities to refresh yourself. The best national speakers will bring the latest scientific advances for our minds. There are workshops to learn the latest skills and techniques for our hands. And take advantage of the new Wellness Track to learn about burn-out and resiliency practices, to help you become a more resilient physician when you return home. Join us for Yoga for Early Risers, to start your day with a mindfulness practice. Get some exercise and challenge yourself with the Fun Run. One of the most rejuvenating aspects of this retreat is the opportunity to reconnect with your colleagues and enjoy the camaraderie of fellow emergency physicians, who understand the challenges and joys you experience every day.

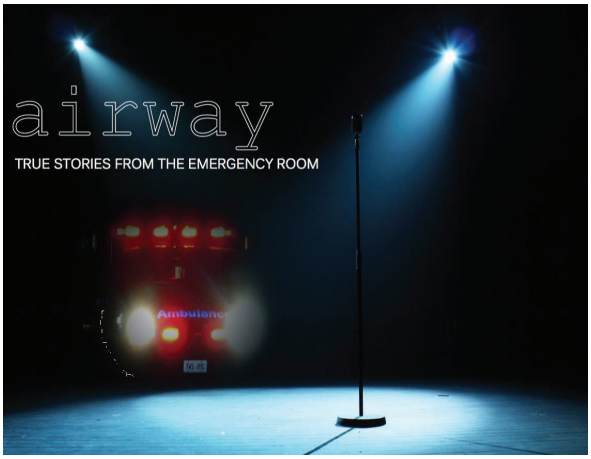
Numerous studies proclaim the benefits of retreats. Taking time to refresh, reflect, and rejuvenate is invaluable and can often only be accomplished when you get away from your usual day-to-day problems. When you return home you will have new tools, meaningful experiences, and a rejuvenated sense of purpose for the challenges and rewards of the work we engage in every day. ■

The AAEM and RSA Wellness Committees proudly presents: Airway @AAEM

Airway: True Stories from the Emergency Room

Saturday, March 18th, 2017
7:30pm-9:30pm

Hyatt Regency - Orchid Room
Orlando, FL
Cash Bar Available



We all have stories to tell.

They are sometimes funny or inappropriate or heartbreaking. Others affirm our decision to become doctors in the first place.

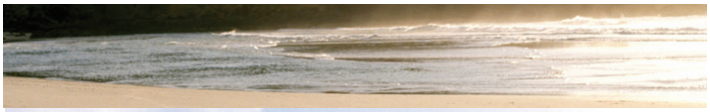
This night promises to showcase the great range of human experience — to enlighten minds, expose vulnerabilities, and quietly suggest ways to overcome the challenges we all face each day.

We are actively RECRUITING STORYTELLERS for the event. All types of stories about ANY TOPIC related to your experience as an emergency physician are welcome.

If you have a great tale to tell, please email us an audio recording of your complete story to airway.contact@gmail.com.

▸ ▸ ▸ ▸ ▸ Find out more about Airway @AAEM at: **www.aaem.org/aaem17/wellness-events**

WELLNESS AT AAEM17



early risers yoga

Saturday, March 18, 2017
6:30am-7:30am
Hyatt Regency - Orlando
Brought to you by the AAEM Wellness Committee
Learn more: www.aaem.org/aaem17/wellness-events

AAEM17 5K FUN RUN

Join the AAEM Wellness Committee in promoting EM physician resiliency by participating in the first AAEM17 **5K Fun Run/Walk!**

Sunday, March 19, 2017
6:30am-7:30am
Hyatt Regency-Orlando

REGISTER NOW!
http://www.aaem.org/aaem17/attendees/funrun

2018 EM LLSA Reading List

American Board of Emergency Medicine

LLSA readings are designed as study tools and should be read critically. They are not intended to be all-inclusive and are not meant to define the standard of care for the clinical practice of EM. ABEM does not endorse a specific research finding or treatment modality — including off label use of medications — by virtue of its being the subject of a selected LLSA reading. Likewise, ABEM is mindful of the potential for real or perceived conflicts of interest in professional literature and makes a conscious effort to account for this in its LLSA reading selections.

Central Venous Catheterization

- Parienti JJ, Mongardon N, Mégarbane B, Mira JP, Kalfon P, Gros A, et al; 3SITES Study Group. Intravascular complications of central venous catheterization by insertion site. N Engl J Med 2015 Sep;373(13):1220-9.

Chest Pain

- Mahler SA, Riley RF, Hiestand BC, Russell GB, Hoekstra JW, Lefebvre CW, et al. The HEART Pathway randomized trial: identifying emergency department patients with acute chest pain for early discharge. Cir Cardiovasc Qual Outcomes 2015 Mar;8(2):195-203. *Pair with associated editorial:* Atzema CL, Schull MJ. Finding the holy grail is not a short-term project. Cir Cardiovasc Qual Outcomes 2015 Mar;8(2):135-7.

Elder Abuse

- Lachs MS, Pillemer KA. Elder abuse. N Engl J Med 2015 Nov;373(20):1947-56.

Fever in Pediatric Patient

- American College of Emergency Physicians Clinical Policies Subcommittee (Writing Committee) on Pediatric Fever, Mace SE, Gemme SR, Valente JH, Eskin B, Bakes K, et al. Clinical policy for well-appearing infants and children younger than 2 years of age presenting to the emergency department with fever. Ann Emerg Med 2016 May;67(5):625-39.

Imaging Foreign Bodies

- Tseng HJ, Hanna TN, Shuaib W, Aized M, Khosa F, Linnau KF. Imaging foreign bodies: ingested, aspirated, and inserted. Ann Emerg Med 2015 Dec;66(6):570-82.

Management of Suicidal Patients

- Betz ME, Boudreaux ED. Managing suicidal patients in the emergency department. Ann Emerg Med 2016 Feb;67(2):276-82.

Multitasking

- Skaugset LM, Farrell S, Carney M, Wolff M, Santen SA, Perry M, et al. Can you multitask? Evidence and limitations of task switching and multitasking in emergency medicine. Ann Emerg Med 2015 Nov; doi: 10.1016/j.annemergmed.2015.10.003. [Epub ahead of print]

Pelvic Inflammatory Disease

- Brunham RC, Gottlieb SL, Paavonen J. Pelvic inflammatory disease. N Engl J Med 2015 May;372(21):2039-48.

Shared Decision-Making

- Hess EP, Grudzen CR, Thomson R, Raja AS, Carpenter CR. Shared decision-making in the emergency department: respecting patient autonomy when seconds count. Acad Emerg Med 2015 Jul;22(7):856-64.

Spontaneous Intracerebral Hemorrhage

- American Heart Association Stroke Council; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology. Guidelines for the management of spontaneous intracerebral hemorrhage: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke 2015 Jul;46(7):2032-60.

Venous Thromboembolism in Pregnancy

- Greer IA. Clinical Practice. Pregnancy complicated by venous thrombosis. N Engl J Med 2015 Aug;373(6):540-7. ■

Handling the "Handsy" Co-Worker

Vicki Norton, MD FAAEM
Affiliate Faculty, Florida Atlantic University, Boca Raton, FL
Vice President of FLAAEM, the Florida Chapter Division of AAEM

I once worked with a nurse who had a fetish. He loved to touch earlobes. It was mostly weird but also quite funny — until he started touching my ears. Not only was this an awkward invasion of my personal space, it felt unprofessional. I am happily married and I didn't want to give people the impression that I was flirting at work. And what a terrible way to flirt! What is proper workplace etiquette? What is considered harmless and what is harmful? Are we all just being too uptight? Who doesn't like a free back rub?

I do want to make the distinction between physical harassment and physical contact in the workplace. When do friendly touches at work become harassment? The answer is not always clear-cut. Everyone has different personal boundaries and comfort levels with physical contact. While sexual harassment can include unwanted physical contact, not everyone who is touched at work is being sexually harassed. Harassment becomes apparent when the physical contact is perceived as sexual in nature, unwelcome, and leads to a "hostile work environment." A few isolated shoulder massages may not be considered harassing, but would be awkward if not wanted.

In a recent report in *JAMA*, 30% of female physicians and 4% of male physicians reported being sexually harassed, which included unwanted sexual comments, attention or advances by a superior or colleague.[1] Almost half the women in the study said their sexual harassment experiences had also negatively affected their career advancement. Most of us have had some training regarding sexual harassment in the workplace, in some cases even mandated by a complaint filed by a co-worker. Sexual harassment is defined under law as follows: "*It is unlawful to harass a person (an applicant or employee) because of that person's sex. Harassment can include "sexual harassment" or unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of a sexual nature."*[2] We are professionals and we should have a code of conduct for how we behave at work. In 2006 AAEM, in conjunction with the Emergency Nurses Association, submitted a position paper regarding a professional code of conduct.[3] The paper describes a work environment free of verbal, physical, or sexual harassment and free from retaliation for reporting such offenses. Harassment should not be tolerated. If you are being harassed, you should stand up for yourself. Be aware of the resources that are available to you, including your human resources department, ED director, and hospital administrators.

Sometimes touching at work is welcomed, like that shoulder rub my male colleagues always seem to get from a female nurse. But it can appear unprofessional. Even when you are comfortable with the level of contact, misconceptions and rumors abound in the workplace. Would your wife/husband like to see someone massaging you at work? Probably not. And will co-workers start making assumptions about your married life if they see that same co-worker giving you a rubdown every shift? Most definitely.

If the physical contact you are receiving from a co-worker is making you feel awkward, there are a few strategies you can use to address the situation.[4] The first would be to make a joke. You can say, "Well this has been really creepy, let's not do it again (forced smile)." This may not make the unwanted touching stop. So next up, be honest. Tell the person touching you (in a direct, but polite way) that it is unwelcome and making you feel uncomfortable. This does not mean yell and make a scene. Just pull them aside and let them know. People have different perceptions of what they are doing and may not even realize they are making you feel awkward. Still being touched? Be rude. Say something to make the toucher uncomfortable with what they are doing, "Ewww, don't touch me, you molester." Warning: this may damage your work relationship with the person. If all else fails, report it. Go to your ER director, nurse manager, or human resources and file a complaint about the behavior. This isn't necessary if you can just talk it out. However, if talking is ineffective or if the person touching you is your superior, you may need to take it to this level.

If you are the one doing the touching, here are some good rules of thumb (no pun intended).[4]

1. Don't touch people at work. Think of your co-workers as strangers. Until you get to know them and their personal space requirements really well, just keep your hands to yourself.
2. Be aware of other people's reactions. If your co-worker cringes every time you pull them into a hug or high five, it's time to rethink your greeting strategy.
3. Germs, people. Stop spreading disease with touching.

In summary, if touching, reel it in. If being touched, don't be afraid to speak your mind. And if you're being harassed, don't tolerate it!

References

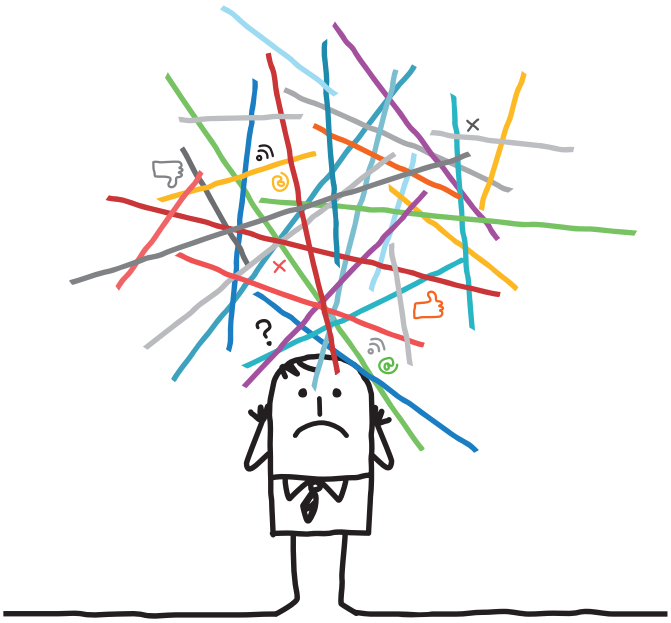
1. Sexual Harassment and Discrimination Experiences of Academic Medical Faculty. Reshma Jagsi, MD, DPhil; Kent A. Griffith, MS; Rochelle Jones, MS; Chithra R. Perumalswami, MD; Peter Ubel, MD; Abigail Stewart, PhD. *JAMA*. 2016; 315(19): 2120-2121.
2. US Equal Employment Opportunity Commission. https://www.eeoc.gov/laws/types/sexual_harassment.cfm
3. Nancy Bonalumi, RN, MS, CEN; ENA President and Tom Scaletta, MD FAAEM; AAEM President. Emergency Nurses Association and American Academy of Emergency Medicine: *Joint Position on a Code of Professional Conduct*. Web. May, 2006.
4. Zupek, Rachel. Career builder.com *Physical contact at work – what are the boundaries?* http://www.cnn.com/2010/LIVING/worklife/02/08/cb.getting.physical.at.work/ February 2010.

Digital Detox

Sam Ko, MD FAAEM
Social Media Committee

Looking at my iPhone, I realized I have been cycling through Twitter, LinkedIn, Facebook, and Instagram for the past hour. What's bad isn't the fact that I am doing this in bed, or even that it's the first thing I did upon waking. What's bad is the fact that I will do this several more times during my day.

You may be catching yourself in a similar pattern. Updating your accounts while waiting in line, or refreshing your email while your significant other prepares to go out.



Thanks to social media, we now have the ability to connect with others constantly both personally and professionally. I love social media and have benefited greatly from its creation. I am all for #FOAMed. However, I do have a concern.

My concern is less about the amount or type of information we put up about our lives, than about the amount of attention we give to social media. Social media is designed to be "sticky," to keep eyes on it for a long time. And the most finite thing we have in life is time. When we are so focused on social media, emails, and the latest news it takes away our precious time – time that could be used for creative endeavors, personal development, or connecting with others in person. It's much easier to dive deeply into Twitter than to brainstorm the next Facebook. Social media is a great tool but a terrible master. Slowly but surely, I had become a slave.

So, last week I decided to do an experiment. The experiment was to free myself from social media apps for one week. I deleted all social media accounts from my iPhone. This meant no more of the latest updates from friends, blogs, and EM-related links.

Initially, this was hard – very hard. I found myself going into withdrawal and wanting to check something, anything, on my phone. But my phone was now rendered useless to entertain me while I waited in line. I was no longer able to catch-up with the latest updates from my friends first thing in the morning.

After a washout period of 72 hours, it became a little bit easier. I found myself leaving my phone on the table more frequently and less in my pocket. On average, I had been spending two to four hours per day on social media, including email, rather than reading a great novel (already have two under my belt) or brainstorming a disruptive medical business (researching the viability of two of these ideas this weekend).

My phone now is used for calling friends and catching up with them, texting my wife to let her know I am running late, or taking a photo of the receipt I don't want to lose. No longer am I a slave to social media. What had initially felt difficult and awkward, now feels a little freer. ■

Becoming Resilient

Loice Swisher, MD FAAEM
Wellness and Burnout Prevention Committee

There is wellness, and there is resilience. For me, resilience has always been more important. Whether in the emergency department or in life, tough stuff is going to be thrown at us — a divorce, a lawsuit, a car full of teenagers arriving in critical condition after skidding off the road late at night, a mother losing her memory with advancing dementia. We all take hits. How we bounce makes the difference.

By now many people know parts of my story. In the late 1990s two events crushed the life I thought I was going to have. First the Medical College of Pennsylvania went bankrupt, and suddenly I was working nights in a small community hospital. The other shoe dropped when my daughter was diagnosed with a malignant brain tumor. Surgery saved her life but gave her back to me blind, mute, and completely paralyzed. Everything was slipping away. I lost my academic career. The daughter I knew was gone. My marriage provided no solace. I considered suicide if the unimaginable became unendurable.

During our last chemotherapy admission, about a year after starting the cancer journey, Tori and I were playing soccer in the hallway and laughing as we tried to get the ball past each other. Another mother stared blankly at us from a doorway. I smiled at her and nodded. She burst into tears and cried out, "How do you do this?"

Looking into her eyes I could see her plea. She wanted the secret to getting through the fear and loss and pain, and being able to laugh again. I struggled to form a coherent answer. Despite having just crossed that chasm, I didn't have any wise words to share. I had stumbled blindly into the light from the darkness that was overwhelming her that day.

I wish I had known Charney and Southwick's work back then. These two researchers studied those who "mastered life's greatest challenges." They found common themes among individuals who bent without breaking when facing adversity. More importantly, they found these could be learned and developed with practice.

The ten traits, skills, or activities that promote resilience:

1. Positive attitude.
2. Cognitive flexibility through cognitive reappraisal.
3. A personal moral compass.
4. Find a resilient role model.
5. Face your fears.
6. Develop active coping skills.
7. Establish and nurture a supportive social network.
8. Attend to your own physical well-being.
9. Train regularly and rigorously in multiple areas.
10. Recognize, utilize, and foster your signature strengths.

If I had been more conscious of my journey, I would have told that mother that many things helped me along the way. I definitely didn't do it alone. I found people who had travelled the same terrain, who understood both the big and the little things. I tried to follow in the footsteps of those I admired. Attitudes are contagious, and I protected mine with gratitude. I tried to help someone every day. I would have told her that her path out of darkness didn't have to be exactly the same as mine. She could make her own way to resilience.

"Create a personal prescription for resilience. It may just cushion a fall enough to keep you from going down a path of distorted perspective that ends in self-destruction."

I would also have told her about recognizing F.E.A.R. In my brain tumor community, that means False Evidence Appearing Real. When I fell through the looking glass, I was certain that I knew our terrible future — but I was completely wrong. At the 2016 Scientific Assembly in Las Vegas, my daughter discovered she loved Long Island iced tea and I found my first position as chair. Life wasn't over at all. It had just taken a different route.

Whether it is a slow descent or a free fall, all of us will have downward spirals in our personal and professional lives. Lingering at the fork in my road, the way to end the pain was so clear. Death is not a stranger to an emergency physician. Negotiating the passage through guilt, angst, and hopelessness is much more foreign. Survival sometimes seemed unmanageable. The thought of actually thriving was like the peak of a mountain shrouded in clouds — impossible to see and maybe even hard to believe in.

I recommend developing many different techniques to bounce instead of shatter. Create a personal prescription for resilience. It may just cushion a fall enough to keep you from going down a path of distorted perspective that ends in self-destruction. A friend told me, "Resilience is the skill set to weather the storms of life." All of us need to learn these skills.

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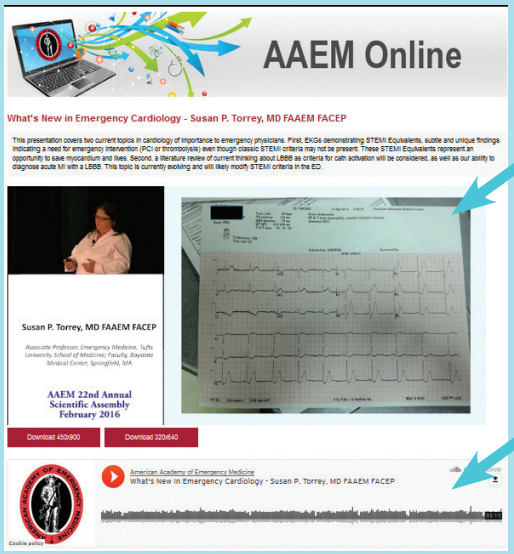

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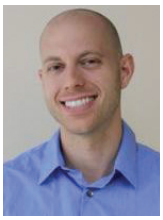
Five Tips for Teaching When Time is Limited

Michael Gottlieb, MD
Young Physicians Section Board of Directors



Balancing patient care and teaching can be a challenge, particularly with ever-increasing ED volumes. Efficiency in teaching is important, specifically given the high acuity of patients and frequency of interruptions. This article provides five practical tips for effective and efficient bedside teaching for the busy clinician.

Step 1: Identify Learner Needs

It is impossible to address the wide breadth of knowledge required in emergency medicine in one shift. By first identifying the learner's needs, you can focus on teaching to those needs, thereby saving time by not teaching what the learner already knows or is not yet ready to learn. Initially, it can be helpful to have learners set a goal for each shift. Ask them to identify a specific skill or topic they would like to improve upon, then together seek out opportunities to focus teaching on this topic. For example, if the learner is struggling with evaluation and disposition of the patient with dizziness, the teacher can direct them toward patients with dizziness and use hypotheticals to cover atypical scenarios for the learner. As you have more interactions with the learner, you can further assist them by identifying deficits in their knowledge that they may not have been aware of and focusing on these components.

Step 2: Use Existing Teaching Frameworks

Several well-described teaching models exist to assist with performing rapid learner assessment and targeted teaching. Three of the most well-known are outlined briefly below.

A. The "One-Minute Preceptor" Model

The "One-minute Preceptor" is one of the most researched and widely-cited teaching methods.[1-3] This approach involves identifying the needs of the learner, targeting those needs, and providing feedback using the following five-step approach:

1. Get a commitment about what the learner believes is going on with the patient
2. Probe for supporting evidence or alternative explanations
3. Teach a general principle
4. Provide positive feedback to reinforce what the learner did right
5. Correct any errors and provide strategies for future encounters

B. The "Aunt Minnie" Model

The "Aunt Minnie" model was designed to promote rapid pattern recognition.[4] The name derives from the idea that if you see a woman across the street who walks and dresses like your Aunt Minnie, then she is probably your Aunt Minnie, even if you can't yet see her face. For this model, the learner and teacher must examine the patient independently. The learner then presents the patient to the teacher using only a one-line description (e.g., this is a 40-year-old male with past medical history of prostate cancer and prior deep venous thromboses presenting with sudden onset, pleuritic chest pain) along with his or her presumptive diagnosis with supporting evidence. The teacher then reviews the case and discusses the supporting findings and potential errors. The teacher ends by providing pearls and pitfalls for future cases.

C. The SNAPPS model

The SNAPPS (Summarize, Narrow Down, Analyze, Probe, Plan, Select) model is a learner-centered model best suited for the advanced learner.[5,6] Following this approach, the learner should:

1. Summarize (briefly) the history and findings
2. Narrow down the differential to two or three possibilities
3. Analyze the differential by comparing and contrasting the above possibilities
4. Probe the teacher regarding learner uncertainties or alternate approaches
5. Plan the management for the patient
6. Select a case-related problem for further self-directed learning

Step 3: Be Selective in Your Teaching Topics

It is important to select topics that can be covered in short intervals and that are amenable to interruption. For example, while all EM learners should understand the evaluation and management of patients with likely acute coronary syndrome (ACS), proper coverage of this topic is usually not feasible during a busy ED shift. Attempting to cover this entire topic while on shift would lead to superficial or incomplete coverage. However, a subsection of ACS such as Wellens' syndrome or the HEART score, chosen based on the learner's needs, can easily be taught in several minutes. Targeted topics are even amenable to interruption as the learner can research a specific focused question if you need to step away.

Step 4: Use Existing FOAM Resources

With the increasing availability of Free Open Access Medical Education (FOAM or #FOAMed), resources to supplement teaching abound. Utilize existing blogs (e.g., www.lifeinthefastlane.com, www.aliem.com,

Continued on next page

www.rebelem.com) to provide additional resources while on shift. There are also a large number of open access image archives (e.g., www.dermis.net, www.orthobullets.com, www.wikimedia.org) to provide images and teaching cases. Additionally, one can utilize the *New England Journal of Medicine* video series or YouTube™ to allow the learner to review a procedure prior to assisting with or performing it on the patient. However, be cognizant that not all resources are high quality and it is important to review the resources prior to the learner to ensure that only accurate and high quality resources are provided.

Step 5: Give Homework

This doesn't mean homework in the traditional sense. Rather, have a set of articles or FOAM resources which you can provide the learner on any given topic. This may be verbally provided at the end of the shift or later via email. While many experienced educators have a set of "teaching papers" or "files," this is not required. Finding a high-quality resource can be relatively quick and keeping a list of resources will save the teacher from duplicating work. Additionally, *Academic Life in Emergency Medicine* has been developing a series called Approved Instructional Resources (AIR series) to assist with identifying high-quality resources which may be of value (https://www.aliem.com/aliem-approved-instructional-resources-air-series/).

Hopefully, these simple strategies will make teaching in the busy ED more efficient, effective, and enjoyable. For more information, please review the above websites and references. Additionally, RSA/YPS will be hosting an education session on bedside teaching at the 2017 AAEM Scientific Assembly and all are encouraged to attend.

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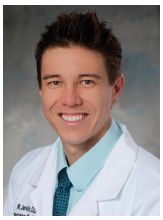
Hypertension Management in Stroke Patients: A Quick Update

Myles Jen Kin, DO FAAEM
Young Physicians Section Board of Directors



Stroke is a common disease seen by emergency physicians with over 800,000 new cases in the U.S. each year (Mozaffarian, 2016). Both ischemic (embolic or thrombotic) and hemorrhagic stroke patients frequently have derangement of their blood pressure, in addition to the fact that 70% of stroke patients have hypertension as a chronic condition (Miller, 2014). Acute hypertension management has long been a vital component of the medical management of stroke patients. However, guidelines are frequently changing and recent literature has demonstrated that large fluctuations in systolic pressure, whether up or down, lead to adverse outcomes (Anderson, 2013). In this brief review, I want to lay out a framework for dealing with hypertension in stroke patients, based on recent literature and guidelines from the American Stroke Association (ASA).

Hemorrhagic Stroke

Hypertension in hemorrhagic stroke patients is typically more severe than in ischemic stroke patients. Elevated blood pressure is correlated with increased hematoma volume and expansion, which are associated with negative outcomes (Miller, 2014). Thus, the last 30 years have seen most guidelines recommend aggressive blood pressure management for hemorrhagic stroke. Two recent large, randomized controlled trials have changed that. The INTERACT2 trial had 2,839 patients with spontaneous intracerebral hemorrhage (ICH) with hypertension and assigned them to either the experimental group (with a target systolic pressure <180mmHg) or the control group (with blood pressure management consistent with current guidelines and a target systolic pressure <140mmHg). With a primary outcome of death or disability at 90 days, the study found no statistically significant difference between the two groups (Anderson, 2013). Similarly, the authors of the ATACHII trial conducted a study with 1000 patients and found obtaining a target systolic blood pressure of 110 to 139mmHg did not result in a more favorable outcome (lower rate of death) compared to the control group with a target systolic blood pressure (SBP) of 140 to 170mmHg (Qureshi P. e., 2016).

Current ICH management guidelines from the ASA, however, state that ICH patients with systolic blood pressure (SBP) between 150-220 should receive anti-hypertensive therapy with a goal SBP of 140mmHg, based on Class I-Level A evidence (Hemphill, 2015). This guideline was published in 2015, before the ATACHII trial was published.

Subarachnoid Stroke

Subarachnoid strokes need to be differentiated from ICH, especially in terms of hypertension management. These bleeds are often secondary to aneurysm rupture and carry high morbidity and a mortality rate of up to 20% (Nieuwkamp, 2009). One of the most important sequela that needs to be controlled is rebleeding of the aneurysm, so blood pressure management is critical (Naidech, 2005). The ASA recommends using a titratable agent to control hypertension and prevent re-bleeding, with a Class I-Level A recommendation. They further recommend SBP be lowered to 160 mm Hg regardless of the initial systolic pressure, but this is a Class IIb-Level B recommendation (Connolly, 2012). In their guidelines, the ASA does recognize the risk of reducing cerebral perfusion pressure with aggressive hypertension control, but believes this is outweighed by the benefit of preventing hypertension-induced aneurysmal rebleeding (Connolly, 2012).

Ischemic Stroke

Similar to blood pressure control in hemorrhagic stroke, there has been a movement to treat hypertension less aggressively in ischemic stroke patients (Willmot, 2004). Prior rationales for aggressive hypertension control included a reduction in cerebral edema, prevention of hemorrhagic conversion, and prevention of recurrent of stroke — with decreased mortality in a number of early studies (Bee, 2002). However, this relationship was not determined to be causal and the mechanism behind hypertension is complicated. During ischemic states (embolic or thrombotic) cerebral vascular autoregulation is dysfunctional, so cerebral blood flow is dependent on cardiac output and intracranial pressure.

Thrombolytic vs. Non-thrombolytic Candidates

With respect to patients who are not thrombolytic candidates, the ASA guidelines follow the evidence-based trend of permissive hypertension and recommend blood pressure control when SBP is above 220mmHg, diastolic above 120mmHg, or there is evidence of end organ damage. The goal is to maintain cerebral perfusion and minimize the enlargement of the ischemic penumbra in patients who are not thrombolytic candidates.

The guidelines recommend aggressive but controlled reduction of SBP to under 185mmHg in thrombolytic candidates (Jauch, 2013). The authors believe the benefits of thrombolytics outweigh the risks of rapidly lowering blood pressure. The ASA recommends a titratable IV agent for hypertension control and, though there is no consensus on which anti-hypertensive agent to use, below is basic information on the most common agents used in the United States.

Agent	Class of Drug	Dosing	Onset	t1/2
Labetalol	α/β antagonist	10-20mg q 15 min (max 300mg)	5-10 min	4 hrs
Nicardipine	CCB	5mg/hr, ↑ by 2.5mg q 5-10min	5-10 min	2 hrs
Nitroprusside	Nitrate	0.2-10 µg/kg/min	1 min	3 min
Nitroglycerin	Nitrate	10-400 µg/kg	1 min	3 min
Clevidipine	CCB	1-2 mg/hr, double rate q 90 sec (max 21 mg/hr)	2-4 min	10 min

Conclusion

Hypertension control is just one part of the complex management of a stroke patient. Multiple studies over the last 15 years have demonstrated

Continued on next page

the benefits of permissive hypertension in ICH and ischemic stroke patients, and therefore aggressive anti-hypertensive therapy for all stroke patients is no longer favored. However, current ASA guidelines still recommend tight hypertensive management in ICH, subarachnoid, and thrombolytic candidate ischemic stroke patients. With the release of the ATACHII trial, these guidelines may change.

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AAEM/RSA President's Message

Group Therapy

Mary Haas, MD
AAEM/RSA President

It was Monday night, and Halloween. It was the perfect storm of an ever-expanding waiting room and a revolving-door resuscitation bay occupied by sick patient after sick patient. Following an emotionally exhausting shift, I sat with some fellow residents at The Pizza House, a local late-night joint where we grab food after a shift, tell stories, and debrief in Ann Arbor. We often jokingly refer to these sessions as "group therapy." The mood that night was more somber than usual, despite the roar of intoxicated college students at nearby tables dressed up like Pokémon trainers and Game of Thrones characters.

My co-resident shared the story of two young males who suffered cardiac arrest by drowning, after jumping into a cold lake to rescue their friends who, unknown to them, had already made it to shore after a boating accident. Another resident shared the story of a teenage boy who died after being struck by a car while crossing the street on his way to school. Another shared the story of caring for a mom who presented with pre-eclampsia, a few days after her infant was unsuccessfully resuscitated by another of our colleagues and died from SIDS. I had just cared for a man who suffered a massive intracranial bleed while going to open the door for a few trick-or-treaters. I looked his teenage son in the eye and tried not to well up with tears as I translated the findings of the CT within five minutes of meeting him. Suddenly, it made sense that we had been so eager to sit, relax, and have a beer together. We had certainly earned it, based on the events of the last week. All of us needed to talk to someone who would understand.

We often think of PTSD as a disease that affects war veterans, assault victims, and survivors of motor vehicle accidents. We do not often think of it as something to which we emergency physicians are vulnerable. How many truly horrific scenarios have we witnessed without ever really coming to terms with the impact these moments have on us, not just as emergency providers, but as human beings? How often have we felt alone when dealing with a sudden death, an act of lethal violence, a wife losing her husband, a parent losing a child, or a resuscitation that is ultimately unsuccessful despite our blood, sweat, and tears?

PTSD is a mental health disorder that can develop after exposure to a traumatic event. Individuals with PTSD generally have symptoms that meet criteria in four different categories: reliving the event through nightmares and bad memories, avoidance of situations that bring up memories of the event, an increase in negative beliefs and feelings because of the trauma, and hyperarousal.

According to the DSM V, the PTSD prevalence rate for Americans is 6.8%. A systematic review and meta-analysis published in 2012 found that emergency and rescue workers have a prevalence of PTSD that is much higher than that of the general population. The worldwide prevalence in rescue workers was 10% — 1 in 10 people who work in emergency medical settings. Another 2003 survey, looking at PTSD In emergency medicine residents in non-mass casualty settings, found that many EM residents reported symptoms of PTSD, and symptoms of PTSD significantly increased as resident level of training increased. In that study, 12% of residents met criteria for PTSD, and 30% had one or more symptoms in each category. In addition to experiencing trauma, the cumulative stress of practice may cause PTSD.

> "When I reflect on what has helped me cope with the horrific things I have already witnessed in my brief career as an emergency physician, the nights at Pizza House come to mind. As much as we joke about these post-shift gatherings as "group therapy," that is exactly what they are."

Even though the majority of us may never meet the DSM V criteria for PTSD, all of us will continue to experience the cumulative effects of traumatic and stressful scenarios on a daily basis — scenarios that leave scars and haunt us long after the event has transpired.

When I reflect on what has helped me cope with the horrific things I have already witnessed in my brief career as an emergency physician, the nights at Pizza House come to mind. As much as we joke about these post-shift gatherings as "group therapy," that is exactly what they are. We need to talk about our experiences, reflect on them, and allow ourselves to process the emotional response. We need to know that we are not alone. Hearing the stories of our colleagues and sharing our experiences fosters a sense of community and combats a sense of isolation.

I recently learned about an initiative of the New York City residency programs called "Airway: A City Wide Night of Storytelling from the ER." This event was led by several physicians, including Tyler Beals, Arlene Chung,

Continued on next page

Mert Erogul, and Josh Schiller. At this intimate gathering of residents and attendings from across the NYC region, stories are shared among emergency physicians — some inappropriate, some hilarious, and some heartbreaking. Individuals meeting each other for the first time develop a bond and sense of closeness. There is a therapeutic aspect of sharing common experiences, combating the isolation of medical training and the imposter syndrome that plagues many residents.

Although the exposure to constant trauma and stress is one of the most emotionally, mentally, and physically challenging aspects of our profession, some may argue it is also one of the most rewarding. As emergency physicians, we have the opportunity to be the best part of someone's worst day. We are there for our patients in their time of greatest need. Although difficult, it is a great privilege and honor to be able to guide another through the most taxing time of his or her life, and to do it within minutes of meeting that person for the first time. Nevertheless, we must remember to care for ourselves so that we maintain our empathy, humanity, and well-being.

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AAEM17 is the ideal conference for residents and students to attend. With specialized sessions and content tailored to you, there are valuable opportunities to take advantage of every day of the assembly.

The AAEM Resident and Student Association is an accessible, collaborative organization that fosters innovation, education and advocacy for residents and students in emergency medicine.

Highlights for Students

Be a Student Ambassador!

Become more involved with AAEM17 as a Student Ambassador. This is a great opportunity to network with residents and attendings at the meeting, plus you will be paired with an AAEM faculty mentor to enhance your experience during the conference. Learn more about the volunteer opportunity and what's involved.

Request for Volunteers - Be an Ultrasound Model, Earn Money!

AAEM is looking for 10 individuals to assist with the Ultrasound Courses as models. **Each model would receive $100** after the meeting as a thank you, and is required to complete a W-9 to receive payment. Learn more and apply today.

2017 Medical Student Session

Monday, March 20, 2017, 7:30am-12:05pm

The medical student session will provide you with invaluable advice for how to shine on your clerkships and successfully apply to an emergency medicine residency. There will also be a residency program director panel. Registration is free for student members (refundable deposit required), so take advantage of the opportunity to learn more about the specialty and meet other students and physicians practicing emergency medicine. We hope to see you there!

Registration for the session is free for student members, so take advantage of the opportunity to learn more about the specialty and meet other students and physicians practicing emergency medicine. Be sure to register for this session when you register for the general assembly. (Refundable deposit required to attend the general assembly).

Highlights for Residents

EKG Pre-Conference Course

Thursday, March 16, 2017, 1:00pm-5:00pm
FREE for AAEM/RSA Resident Members!

We invite all residents to join us for the "So You Think You Can Interpret an EKG?" pre-conference course with Susan Torrey, MD FAAEM, FREE of charge! All attendees must register for this course to reserve a spot. Residents interested in attending additional educational sessions must also register for the General Assembly. Registration is free for members with refundable deposit.

2016 LLSA Review Course

Friday, March 17, 2017, 8:00am-12:00pm
FREE for AAEM/RSA Resident Members – Registration Required

This course is designed to provide the experienced emergency physician with an evidence-based review course for all of the required readings for the 2016 LLSA Review. Course content will be discussed both via PowerPoint® and through small group discussion on key topics for each mandated journal article.

Highlights for Both

AAEM/*JEM* Resident and Student Research Competition

Friday, March 17, 2017, 4:00pm-6:00pm

This competition is designed to recognize outstanding research achievements by residents and students in emergency medicine. Come and see projects by your peers!

Open Mic Competition

Saturday, March 18, 2017, 7:45am-5:20pm

AAEM will again feature the Open Mic Session, which is a unique opportunity for attendees who have always wanted to speak at a national meeting. Throughout the day, 16 speakers will present on a topic of their choosing. Eight of the slots will feature residents and young physicians - stop by to hear new voices in EM!

AAEM/RSA & *Western Journal of Emergency Medicine* Population Health Research Competition

Saturday, March 18, 2017, 10:15am-12:05pm

The Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health (*West*JEM) is proud to sponsor the AAEM/RSA *West*JEM Population Health Research Competition. This is designed to showcase resident and medical student research specifically in areas that affect the health of populations of patients in and around the ED.

RSA/YPS Session

Sunday, March 19, 2017, 10:15am-3:20pm

Be sure to attend the joint AAEM/RSA (Resident & Student Association) and YPS (Young Physician Sections) session for specialized talks — full details on page 34.

AAEM/RSA Editor's Message

Residency Work Hour Restrictions: Is the Pendulum Swinging Back?

Mike Wilk, MD
PGY-1, Brown EM

"I walked into the hospital on my first day of residency and didn't walk out until 36 hours later. Those were the darkest days of my life, but I am the doctor that I am today because I went through that" I still distinctly remember these words from one of my more senior physician mentors when our discussion turned to work hour restrictions.

As I wondered how it was possible to physically stay awake for so long, there was no doubt in his mind that work hour restrictions were dampening the training experience of newly minted residents.

First instituted in 2003 and revised again in 2011, interns now "enjoy" an 80-hour work week restriction with a maximum shift length of 16 hours (PGY-2s and above are still allowed to work up to 28 consecutive hours). However, the pendulum may be swinging back on strict work hour restrictions as new research on the topic becomes available.

The event that led to work hour restrictions was the death of Libby Zion in 1984. An overworked medical intern on a 36-hour shift prescribed meperidine to the 18-year-old patient, who was on an antidepressant, the MAO inhibitor phenelzine. This drug combination is thought to have caused the serotonin syndrome, leading to Zion's death.

A study recently published in the *New England Journal of Medicine* compared the 16-hour maximum shift with a more flexible policy allowing longer shifts, with some extending over 24 hours (commonly known as the FIRST trial). It found no difference in patient safety and outcomes.

Many EM residents took part in this study, although only on off-service rotations. This study has not been without controversy, as residents never agreed to take part. Depending on their site, they were assigned to one group or the other without any choice.

Interestingly, in discussing the experience with residents who trained at sites with the flexible policy, most preferred the longer shifts. The biggest benefit was that it allowed them more full days off. For example, two interns instead of four are needed to cover Saturday and Sunday shifts. However, they admitted it felt dangerous at times for them to work while completely exhausted.

The rationale behind work hour restrictions seems simple: exhausted and overworked residents are more likely to make mistakes. However, shorter shifts mean more hand-offs between providers. For example, "Was I signed out to pull the right or the left chest tube?"

Most recently, the ACGME Task Force has proposed lifting the 16-hour cap on shifts for interns, to decrease the number of hand-offs and improve continuity of care. These changes could be implemented as soon as the 2017-2018 academic year.

> "No simple answer yet exists on how to give residents the best training experience while at the same time protecting the safety of patients."

For most EM residents, the impact would likely only be felt on off-service rotations that require longer shifts, such as ICU rotations. Currently, emergency department shifts are limited to 12 hours and the work week to 60 hours. There are no proposed changes to these policies at this time.

Ever since the implementation of work hour restrictions, fierce controversy and debate has reigned supreme. No simple answer yet exists on how to give residents the best training experience while at the same time protecting the safety of patients. It remains unclear exactly what changes will occur over the next few years, but it seems the pendulum is swinging back towards fewer restrictions and longer work hours for residents.

From the Editor:

If you are unfamiliar with Libby Zion's case, you should look it up and draw your own conclusions. No matter what you think about house staff work regulations, in my opinion the aftermath of Libby Zion's death is a graphic example of the damage that can be done by an investigation and error analysis based on speed and emotion rather than evidence and thorough deliberation. To this day her cause of death remains uncertain, but I think it had nothing at all to do with house staff fatigue. If academic medicine's training system bears any responsibility for Zion's death, the fault was a lack of attending supervision. It was clear to me at the time, however, that Zion's parents took some comfort in their grief by waging their successful campaign to restrict resident work hours. While their actions are understandable, such policies should be based on real data produced by rigorous research, not the passions of grieving parents. Now, more than 30 years later, we might be discovering that there is more to resident fatigue and patient safety than just hours worked per day or per week. The moral of this story: whenever possible, important decisions and policies should be based on evidence.

— Andy Walker, MD FAAEM
Editor, Common Sense ■

Resident Journal Review

Advancing the Need to Reduce Unnecessary Antibiotic Treatment by Using the Biomarker Procalcitonin

Raymond Beyda, MD; Jackie Shibata, MD; Lee Grodin, MD; and Theodore Segarra, MD
Editors: Kelly Maurelus, MD FAAEM and Michael C. Bond, MD FAAEM

ED physicians frequently treat and admit patients for infectious diseases. Judicious use of antimicrobial therapy is important in order to avoiding the development of antimicrobial resistance and adverse drug effects. Procalcitonin (PCT) is one of several biomarkers which may be useful in decreasing unnecessary antibiotic therapy. Specifically, PCT levels should be low for viral, as opposed to bacterial, infections. Procalcitonin has been studied as both a diagnostic and prognostic marker in various types of systemic and organ-specific infections. The potential for PCT to reduce unnecessary antimicrobial therapy has been shown in several observational and randomized controlled trials performed in outpatient, inpatient, and ICU environments. The most robust evidence is in sepsis and pulmonary infections. Here we review some of the evidence behind the use of PCT in acute infectious disease management.

Bouadma L et al. Use of procalcitonin to reduce patients' exposure to antibiotics in intensive care units (PRORATA trial): a multicentre randomised controlled trial. *Lancet.* 2010, 375:463-474.

In this multicenter randomized, prospective, parallel-group, open-label clinical trial, critically ill patients were randomized into two groups. In one group, antibiotic administration was driven by a predefined algorithm using PCT cutoffs (n=307), while antibiotic management in the second group was driven by local and international guidelines (n=314). In the PCT group, the initial PCT level was used to guide whether or not antibiotics should be prescribed and for those receiving antibiotics, serial PCT values were used to guide the timing of discontinuation of antibiotics. In patients who did not meet PCT criteria for the initiation of antimicrobial therapy, clinical reassessments and serial PCT values were used to guide the decision to initiate treatment later in the course of care. The infectious etiologies varied, with the majority attributable to pulmonary infections (71% in the PCT group versus 74% in the control group). Most others sources of infection were the urinary tract (9% in the PCT group versus 6% in the control group) and intra-abdominal sites (5% in the PCT group versus 7% in the control group).

The primary endpoints were 28-day and 60-day mortality rates, as well as the number of days without antibiotics. During the 28 days following inclusion into the study, the PCT group had significantly more days without antibiotics compared to the control group (14.3 days versus 11.6 days). The between-group absolute difference revealed 2.7 fewer days of antibiotic use in the PCT group ($p<0.0001$). Yet, there was no statistical difference in 28-day and 60-day mortality between the two groups, as determined by non-inferiority analysis using a 10% margin of non-inferiority. The hazard ratio between the two groups in terms of survival over 60 days was 0.96 (90% CI 0.84-1.09). Of note, at 28 days from inclusion the sequential organ failure assessment (SOFA) score in the PCT group compared to the control group was 1.5 versus 0.9 with a between-group absolute difference of 0.6 (0.0 to 1.1 p=0.0370).

While this study demonstrated that the use of PCT may lead to fewer days of antibiotics, and that PCT is non-inferior to standard management, there are several important limitations. In the PCT group, 53% of the patients were not treated per the PCT-driven protocol because of either earlier discharge from the ICU or because of physician prescription of antibiotics despite what was recommended by the PCT cutoffs. In addition, while non-inferiority was demonstrated by a 10% margin in terms of mortality, the PCT group actually showed slightly increased 28 and 60 day mortality as well as slightly worse SOFA scores.

Wacker C et al. Procalcitonin as a diagnostic marker for sepsis: a systematic review and meta-analysis. *Lancet Infect Dis.* 2013;13:426-435.

In this meta-analysis, Wacker and colleagues aimed to determine the ability of PCT to diagnose sepsis in critically ill patients. Specifically, the authors examined the ability of PCT to differentiate patients with sepsis from those with a systemic inflammatory response syndrome (SIRS) of non-infectious origin. The authors only included studies that confirmed the presence of infection either microbiologically or based on high clinical suspicion, defined as the presence of at least one of four criteria: a) leukocytes in a normally sterile bodily fluid; b) presence of a perforated viscus; c) radiographic evidence of pneumonia and purulent sputum; or d) presence of a syndrome associated with high risk of infection (i.e., ascending cholangitis). The authors excluded studies on healthy patients, patients without infection, and children under 28 days old.

A total of 3,487 studies were identified, of which 30 met the inclusion criteria. These studies included a total of 3,244 patients, of which 1,863 (57%) had sepsis and 1,381 (43%) had SIRS of non-infectious origin. Of the 30 studies, 21 (total of 1,173 patients) detailed the severity of sepsis, identifying 499 (42%) with sepsis, 234 (20%) with severe sepsis, and 440 (38%) with septic shock. Most of the studies examined patients either in the ED or ICU. The cohort of studies varied in terms of patient population (pediatric versus adult; medical versus surgical), infection site (blood, urine, lung, abdomen), infection source (nosocomial versus community), and study location (America versus Europe).

The authors calculated that PCT had a pooled sensitivity of 77% (95% CI, 0.72-0.81) and a pooled specificity of 79% (95% CI, 0.74-0.84). After compiling a receiver operating characteristic (ROC) curve from the data points, they calculated the area under the curve (AUC) for all patients and for each sub-category. The pooled AUC was 0.85, but the sub-group analysis showed a trend, without significance testing, toward improved accuracy for surgical patients over medical patients (AUC 0.83 versus 0.79). However, there was no difference in accuracy between adult medical and pediatric patients (AUC 0.85 versus 0.85). Overall, the authors noted significant heterogeneity between the studies (overall I2 for

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bivariate model 96%, 95% CI 94-99), but they were unable to identify any other significant heterogeneity among the specific covariates.

The authors concluded that PCT is accurate in identifying sepsis, and they support its use in clinical practice. However, several limitations may impact the generalizability and practical application of these results. In comparison to prior meta-analyses on the use of PCT, this report focused on a higher acuity patient population. The majority of the patients were in an ED or ICU setting, and patients were only included if they met SIRS criteria. Although this may be an appropriate population to focus on given the difficulty of differentiating sepsis from SIRS in critically ill patients, the absence of healthy controls does limit the applicability of these findings to healthy patients in both the in-patient and out-patient setting.

In addition, the values of sensitivity and specificity varied greatly among the 30 studies. The confirmation of infection in each study was made using several different criteria, resulting in a heterogeneous approach to diagnosing sepsis. This introduces the potential for interpersonal variation, particularly for diagnoses made based on radiographic findings. As a result, some patients may have been falsely categorized into the sepsis or SIRS group, leading to the increased likelihood of false positive and false negative results.

Finally, there was a high degree of heterogeneity among the cohort of studies included in this meta-analysis. Despite sub analysis of the covariates, there remained a large degree of unexplained heterogeneity, indicating the possibility of additional unrecorded characteristics underlying the variation. Moreover, all of these reports varied greatly in the PCT cut-offs, making it difficult to determine a practical cutoff for use in the clinical setting. The authors suggest a cutoff range of 1-2ng/ml, but indicate that using multiple cutoffs with individual likelihood ratios may actually be superior to using a single cutoff.

Overall, this meta-analysis showed that PCT may be an effective and accurate marker for differentiating sepsis from SIRS. By including a broader range of patients, specifically pediatric patients, the authors further validated the general use of PCT.

Hoeboer SH, et al. The diagnostic accuracy of procalcitonin for bacteraemia: a systematic review and meta-analysis. Clin Microbiol Infect. 2015;21:474-481.

In this systematic review and meta-analysis, Hoeboer and colleagues use data from 58 studies of PCT levels in patients with bacteremia to determine its accuracy. The decision to include patients with bacteremia as opposed to sepsis was that this group is the most "robustly defined." The authors considered for inclusion both prospective and retrospective studies performed through June, 2014. In total 16,514 patient cases were reviewed of which 3,420 had bacteremia. Only patients with documented bacteremia and a PCT level measured within 24 hours of admission were included. The authors calculated the area under the summary ROC curve and pooled sensitivity and specificity. The authors chose a PCT cut-off of 0.5ng/mL based on manufacturer guidelines and recent research.

The overall area under the SROC curve was 0.79, and the authors calculated that with a cutoff of 0.5ng/mL, the sensitivity and specificity of PCT were 76% and 69%, respectively. The lowest AUC was found in

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immunocompromised patients (0.71), and the highest AUC was seen in ICU patients (0.88). The lowest sensitivity and specificity both followed the same pattern: lowest in immunocompromised patients (66% and 55%, respectively) and highest in ICU patients (89% and 78%, respectively). Despite the heterogeneity in the overall analysis and in most subgroups, there was no suggestion of a threshold-effect.

Hoeboer and colleagues conclude that low PCT levels can be used to rule out bacteremia. However, the study had a large amount of heterogeneity. While sensitivity in ICU patients was 89%, authors found a much lower sensitivity in immunocompromised patients (66%) making this test much less useful in this patient population. Lastly, this study focused on patients with bacteremia and cannot be used to draw conclusions regarding PCT levels in those with other severe infections.

Liu D et al. Prognostic Value of Procalcitonin in Adult Patients with Sepsis: A Systematic Review and Meta-Analysis. *PloS ONE* 10(6):e0129450. Doi:10.1371/journal.pone.0129450.

Liu and colleagues note that mortality rates from sepsis remain as high as 30-60% and that clinicians have few useful tools to risk stratify these patients. Noting that elevated PCT levels have been associated with all-cause mortality in septic patients, the authors performed a systematic review of all publications that assessed the prognostic value of PCT testing in adult patients with sepsis. All patients were age 18 or older. Ultimately, 23 studies from 2000 to 2014 fulfilled eligibility criteria and were included.

Sixteen studies with 3126 patients examined the correlation between a single PCT value and mortality. The authors calculated that the pooled relative risk (RR) of death for patients with an elevated PCT level was 2.6 (95% CI 2.05-3.30). Pooled sensitivity was 0.76 (95% CI, 0.67-0.82) and specificity was 0.64 (95% CI, 0.52-0.74). The positive likelihood ratio was 2.1 (95% CI, 1.6-2.8) and negative likelihood ratio was 0.38 (95% CI, 0.29-0.51). The overall area under the SROC curve was 0.73 (95% CI 0.69-0.77). Because of the large amount of heterogeneity, the authors concluded that while initial PCT levels are associated with mortality in septic patients this has little prognostic value.

Nine studies with 868 patients examined the association between PCT non-clearance and mortality. The pooled RR for mortality in patients with PCT non-clearance was 3.05 (95% CI, 2.35-3.95. Pooled sensitivity was 0.72 (95% CI, 0.58-0.82) and specificity was 0.77 (95% CI, 0.55-0.90). The positive likelihood ratio was 3.1 (95% CI, 1.5-6.3) and negative likelihood ratio was 0.37 (95% CI, 0.25-0.55). The area under the SROC curve was 0.79 (95% CI, 0.75-0.83). There was less heterogeneity between these studies (I^2 = 37.9%) than in the prior group. The authors conclude that PCT non-clearance can be a useful index to predict outcomes in sepsis. They also note that the area under the SROC curve (0.79) in this study is higher than values found in meta-analyses of both troponins and lactate clearance for prognostication in septic patients.

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The authors conclude that both single PCT levels and PCT non-clearance are strongly associated with all-cause mortality in septic patients and that PCT non-clearance can predict sepsis mortality. However, optimal cut-off values and timelines still need to be defined.

There were many limitations to this review, including substantial heterogeneity between the studies looking at single PCT levels (I^2=63.5%). Although most of the studies measured PCT levels within 24 hours of sepsis diagnosis, some of the included studies used levels drawn up to six days after diagnosis. While the PCT clearance studies had less heterogeneity, the sample size (868 patients) was much smaller. In addition, follow-up periods differed significantly, with some studies following patients out to one month, while others only assessed them during their length of stay in the hospital or ICU. Many of these studies were retrospective, and only three were blinded. Lastly, very few studies looked at ED patients, thus limiting the evidence available to support the use of this test as a prognostic marker in the ED. While PCT clearance may add to the overall assessment of septic patients, the exact cut-off values and mortality benefits have yet to be defined.

In conclusion, infectious diseases are common and antibiotic therapy remains a cornerstone of treatment. However, background selective pressures and inappropriate use of antimicrobial therapy are leading to the emergence of multidrug resistant organisms and the potential for patient harm. As a result, there is an increasing need for the identification of biomarkers that can identify bacterial infections and provide prognostic data. Accurate identification of conditions that would not benefit from antimicrobial therapies can decrease antibiotic use and improve patient outcomes. Although limitations exist and more research is needed, the current literature suggests that PCT directed antimicrobial stewardship may play a role in optimizing the care of critically ill patients. ■

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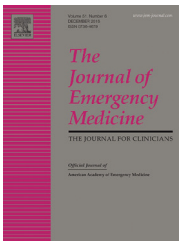

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