

COMMON SENSE

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Do You Work at a CMG? AAEM Needs You!

Page 3

From the Editor's Desk:
The Tribe

5

The Members Speak
Continued

15

Recap:
ED Management
Solutions —
Principles and
Practice

18

Tattered Tarp or
New Roof:
Who Gets
Included
in Disaster
Recovery?

22

AAEM/RSA
President's
Message:
Phones in
Medicine

32



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Table of Contents

Regular Features

President's Message: Do You Work at a CMG? AAEM Needs You!	3
From the Editor's Desk: The Tribe	5
Letter to the Editor	7
Foundation Donations	8
PAC Donations	9
LEAD-EM Donations	10
Upcoming Conferences	11
Dollars & Sense: Rich Grandpa, Poor Grandpa	14
Young Physicians Section News: There's an App for That: How and Why to Integrate Apps on Your Next Shift	31
AAEM/RSA President's Message: Phones in Medicine	32
AAEM/RSA Editor: Residency Match – In Hindsight	33
Resident Journal Review: Intravenous Fluid Therapy in the ED and Critical Care Setting	34
Medical Student Council President's Message: 'Tis the Season	38
Job Bank	39

Special Articles

Blast from the Past	13
The Members Speak Continued	15
Immunotherapy Complications in the ED: Be on the Lookout for the Checkpoints!	19
Tattered Tarp or New Roof: Who Gets Included in Disaster Recovery?	22
Complications of Flakka: More than Just Agitated Delirium	26

Updates and Announcements

Update from the Sickle Cell Disease Coalition Meeting	16
Recap: ED Management Solutions — Principles and Practice	18
Be Alert to Potential Loperamide Abuse and Resulting Cardiotoxicity	25
ABEM Subspecialists No Longer Required to Maintain EM Certification	28
Physician Wellness is Both an Ideal and a Problem	29

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 quality 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)

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President's Message

Do You Work at a CMG? AAEM Needs You!

David A. Farcy, MD FAAEM FCCM
President, AAEM



By now, the kids are back in school, academic centers are getting swamped with rotating medical students, and everyone else is planning and preparing for the holidays. This will be my last article for 2018, so let me take this time to wish everyone a safe and happy holiday season. The idea for this article came to me while I was traveling. An emergency physician

asked me "Why does AAEM really hate Contract Management Groups (CMGs)?" I replied that "hate" is a strong word and that AAEM opposes lay corporate CMGs, as laws in 38 states restrict or prohibit lay ownership of medical practices. We had a nice conversation about AAEM's positions regarding CMGs. I also noted some parts of AAEM's mission statement:

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).

The personal and professional welfare of the individual specialist in emergency medicine is a primary concern to the AAEM.

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.

Then, I heard the real question behind this: "Does AAEM not like doctors that work for a CMG?" To this, I had to laugh, and my reply was simple — "I work for a CMG." (Note: I hold no CMG leadership position other than at my local hospital, and I do not have any ownership/stock/options, bonuses, or anything of that nature other than my hourly rate and my chairman stipend).

AAEM is the only organization that fights for the physician, the "pit doc." AAEM wants every board certified emergency physician to become a member. In fact, our most recent membership survey showed that more than 23% of respondents work for a CMG or locum tenens company. I believe it is extremely important for all physicians to join AAEM, but especially physicians who work for a CMG. AAEM not only welcomes you with open arms, but AAEM's mission is to fight for your rights on all levels. When we changed and rebranded our logo, the shield represents the idea of advocacy, with AAEM as the defender of emergency medicine. The torch represents our role as a leader, lighting the path toward physician autonomy.

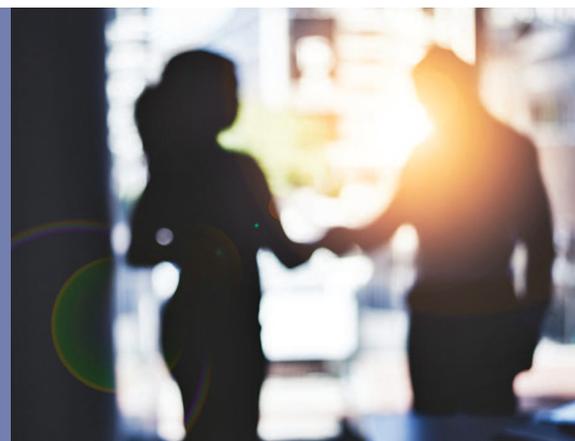
AAEM stands up for the emergency physician, and not the multibillion dollar CMG that profits on the backs of the physician.

Now, this is not an article about CMGs, but about the importance of physicians working for CMGs realizing that they must be involved in their future and not only think in the short-term. Unfortunately, many emergency physicians focus on what appears to be an attractive job in the short-term, and do not fully consider their long-term career. Every month, AAEM is contacted by several emergency physicians asking for our help with a practice rights issue (such as termination without due process). The vast majority are working for large national CMGs, and often signed contracts that they did not properly understand.

Emergency medicine is not in its infancy anymore, we are now a well established specialty. Emergency medicine residencies are increasing. Between 2000 and 2010, the numbers of emergency physicians increased by 44.6%, more than any other specialty.¹ As of 2018, there are more than 230 ACGME accredited emergency medicine residency programs.

However, as the emergency physician supply has increased, and emergency department patient volumes have leveled off nationwide, this has

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put large employers of emergency physicians, particularly the largest CMGs, in the driver's seat. In my county (Miami-Dade) of 2.8 million people, there is not a single independent emergency physician group left, as all EDs are controlled by CMGs, except for the public hospital. The number of allopathic emergency medicine residencies in South Florida has increased from one to four in just three years. Incredibly, all of these new emergency medicine residencies are operated by different CMGs, except for one operated by the public hospital. Currently, the job market for emergency physicians is favorable. However, this may quickly change in a number of years, as the number of residents graduating per year in Miami Dade county has increased from five to 47 over the course of several years.

So, if you are an emergency physician working for a CMG you need to join AAEM — the organization that represents the emergency physician.

AAEM will fight for your rights at the state and federal level, as well as offer our excellent, free Scientific Assembly, and so much more, for the price of your last steak dinner with several of your friends. You would never consider driving your car without car insurance, but so many physicians continue to practice without considering about the potential minefields in their career. We not only want you, but we need you. Together, we can shape the future of emergency medicine. ●

Reference

1. Reiter M, Wen LS, Allen BW. The Emergency Medicine Workforce: Profile and Projections. *Journal of Emergency Medicine*. 2016;50(4):690-693. doi:10.1016/j.jemermed.2015.09.022
2. Hall MK, Burns K, Carius M, Erickson M, Hall J, Venkatesh A. State of the National Emergency Department Workforce: Who Provides Care Where? *Annals of Emergency Medicine*. 2018;72(3):302-307. doi:10.1016/j.annemergmed.2018.03.032

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2019 AAEM Election Cast Your Vote Online



- **Review the candidate statements:** Now available online or printed in the upcoming January/February issue of *Common Sense*.
- **Join the Candidates' Forum** at the 25th Annual Scientific Assembly in Las Vegas, NV. Monday, March 11, 2019 from 2:40pm-3:25pm.
- **Cast your vote:** Vote online at www.aaem.org/elections or electronically onsite at Scientific Assembly or from home. To learn more visit the AAEM elections website.

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www.aaem.org/elections

From the Editor's Desk

The Tribe

Andy Mayer, MD FAAEM
Editor, *Common Sense*



"We have a strong instinct to belong to small groups defined by clear purpose and understanding — 'tribes.' This tribal connection has been largely lost in modern society, but regaining it may be the key to our psychological survival."

— From *Tribe: On Homecoming and Belonging* by Sebastian Junger

In my last article, I discussed the sadly common feeling of despair in our specialty related to the sense that we are no longer in control of our jobs or specialty. The character of Howard Beale from the movie, *Network*, is representative to me of this feeling and I hope you spent a few minutes looking at the movie scene I mentioned in my last article. What is important to me is how we deal with this sense of anger and frustration. Turning this anger inwardly is certainly self destructive and each of us needs to learn our own constructive way to direct the negative aspects of emergency medicine towards a constructive path which can help us cope and prosper in our professional lives.

The sense of belonging to something bigger than oneself can lead to fulfillment and satisfaction even while dealing with difficult patients, administrators, or consultants. Certainly, this sense of belonging, which I am speaking about, can be felt on multiple levels and they are all important and have different levels of meaning to each of us. Some of us have developed this sense of purpose and meaning from organized religion, family, friends, hobbies, social organization, activities, etc. All of us need to focus on whichever combination of these works to make us feel whole and in which we feel like you belong to a group whether that is to a faith, country, family, group, or professional society. For some people, one of these is paramount and seemingly is enough to move us up Maslow's triangle (remember that) towards self-actualization, but for most of us we need a combination of strategies. The level of importance of each of these will change depending on time and situation.

However, I think what we are increasingly lacking in emergency medicine is the sense of a "tribe" or belonging to something special or important. Speaking to emergency physicians across the country I do not often sense the level of pride in our specialty, which I believe it deserves. This is not to me reflected in emergency physicians' thoughts and feelings related to the actual clinical practice of emergency medicine. Emergency medicine has made huge strides within the medical community in the past thirty years. Our specialty is now sought after by residency applicants and these residency slots are filling even as the number of residencies continues to grow. What disheartens many of us is that we feel alone while working in our emergency department. We have a need to feel that even if times are dark whether related to stroke alerts, patient satisfaction scores, chronic pain patients, your current CMG boss or whatever we are facing, that each of us as board certified emergency physicians are special and members of something that is important and that the "tribe" cares for you.



"The sense of belonging to a profession (the tribe of emergency medicine) is something we all need to work on to be able to help the individual practitioner with their sense of well-being no matter in what practice environment in which one is practicing."

The book mentioned above, *Tribe — On Homecoming and Belonging*, is short and I certainly suggest that you read it. The

author stresses the importance of belonging. Maybe this stems from our hunter-gather origins, but we all have a need to feel like we are a member of something, which is unique and special. The book uses many military examples but stresses the sensation of safety, which is derived simply by being in and with your clan. He gives an example of the utter sense of safety and security one can feel as long as others surround you who are fighting the same fight and who have your back and you have theirs. This blanket of safety can make you feel secure no matter how tired, hungry, or dirty you are and it does not matter how desperate the situation can feel. Why don't we feel this way related to emergency medicine? Don't you feel at times that you are involved in trench warfare while working an extremely busy shift? Do you feel that your fellow emergency physicians, hospitals, leaders, or professional societies have your back and if not why not and more specifically what are you going to do to feel safe and become a member of a "tribe?" This is the component, which we need to work on together.

I am troubled by the increasing loss of the control we have over our careers but more importantly the sense that we do not need to be in control. While flipping through emergency medicine journals and magazines look at the ads for jobs. Are you looking at the advertisements of the smiling young doctor carrying the surfboard? Many young emergency physicians now never even consider the type of practice environment in which to work and just look for a place they want to live and how much money they will earn. This sense that the business aspect of our profession is beyond their control and should be left to others can lead to mere servitude. Many of these younger physicians have never developed or have quickly lost

Continued on next page

"Please find an organization, cause or committee through which you can express your sense of what it means to be a doctor. Please reflect on what is important to you and what you think you need to be part of a "tribe" and act on it."



any interest in the business and collegial side of their practice. The hired gun mentality or the sense that you are trapped working for whichever CMG is currently holding the contract this year leads to a compartmentalization of our "job" from our professional life. Of course, many of us have no choice except to work in clinical jobs where we have no control due to the seeming geographic domination by CMG's. Working towards the right balance between family, friends, etc. can lead us to compromising on the type of job we accept. It would be great if each of us could chose between several democratic groups where your opinion mattered and was sought in making decisions related to "your" practice. This is not the reality today and our settling for less than desirable practice conditions does not make us bad people.

The sense of belonging to a profession (the tribe of emergency medicine) is something we all need to work on to be able to help the individual practitioner with their sense of well-being no matter in what practice environment in which one is practicing. There are many paths to this and we each need to find one, which works, for us as individuals. I ask each of you to think about this no matter your practice situation. This does not matter if you work for a corporate management group, government agency, military, academic, independent group or whatever your practice environment. I think you need something in your professional life, which makes you feel like a doctor and not a "provider." This may mean taking a leadership role in your group, joining a hospital committee, seeking

medical staff leadership at your hospital, teaching residents, becoming active in organized emergency medicine via AAEM or ACEP or whatever, find something which makes you think you are the professional which you trained to become. You are not an extender or provider. Remember that you are the emergency physician who will be trusted caring for the most injured and sickest members of our community.

Organized medicine hopefully will become part of your plan to thrive in your career in emergency medicine. In this regard you have many choices including county, state, and national organizations. This leads me to discussing the different approaches of AAEM and ACEP. Each has advantages and many emergency physicians become proud members of both organizations. AAEM's new motto is the "champion of the emergency physician." This simply and clearly emphasizes the commitment of AAEM to the individual doctor. I personally need to feel that I am represented professionally by an organization, which shares my values and concerns. Please find an organization, cause or committee through which you can express your sense of what it means to be a doctor. Please reflect on what is important to you and what you think you need to be part of a "tribe" and act on it. Don't be the guy in the ad carrying the surfboard. No matter what the CMG may want you to believe you do need to care about your practice and feel that you are a proud member of the "tribe" of emergency medicine and not a just filling a hole in a schedule.

Last, it is disturbing to hear that some emergency physicians who work for CMG's think that they should not join AAEM because they feel that they have already sold their soul to the devil. This is simply not the case and exactly the opposite of what AAEM wants for these physicians. AAEM wants them to know that the organization still cares for their individual well-being and wants to do what it can to make their practice life better and more fulfilling. We all make choices in life and have to compromise. The key is making the most of the situation and working to improve it. Certainly, many of us work in settings, which do not make us feel like a true professional. Our opinions are neither sought nor heard. Corporate overlords can dictate from on high and make you feel belittled and simply labor and not the professional. You have struggled and worked until you were thirty years old to reach your impressive level of expertise and training so please do what it takes to make the most of your professional life. Become active in something in organized medicine! ●

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The **ACCME Subcommittee**, a branch of the Education Committee that maintains AAEM's CME Program, is actively recruiting members.

Subcommittee activities include reviewing applications, faculty disclosures, presentations, and content for all the direct and jointly provided activities to ensure all guidelines are met that are set by the ACCME (Accreditation Council for Continuing Medical Education).

To learn more about the responsibilities of all of our committees and to complete an application, visit: www.aem.org/about-aaem/leadership/committees

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What stood out to you from this issue of *Common Sense*? Have a question, idea, or opinion? Andy Mayer, MD FAAEM, editor of *Common Sense*, welcomes your comments and suggestions. Submit a letter to the editor and continue the conversation.

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Letter in response to July/August 2018 "From the Editor's Desk" article titled: *Pilgrimage*



Dear Dr. Mayer,

Thank you for sharing your perspective of the Scientific Assembly as a pilgrimage. Scientific Assembly 2018 truly was a world class learning experience and my hat is off to everyone that made it a resounding success.

The Wellness Committee has a vision of the Scientific Assembly as a motivational retreat that our colleagues would leave with a renewed passion for or specialty similar to your concept of pilgrimage. We view Scientific Assembly as a potential intervention for burnout. The renewed engagement for our specialty and refreshed stamina from some time away from our work environment are good for our well-being.

For Scientific Assembly to be most effective requires us to be intentional about viewing the event as a time we can recharge our batteries. It requires engagement around resiliency programming by the wellness committee and connecting with colleagues new and old.

Scientific Assembly has become an event that I look forward to every year. It is good for my professional development, good for the care of my patients and good for my well-being. Certainly many of our colleagues share your view that this world class event is more than getting CME, it is one of the best benefits of being a member of AAEM.

Respectfully,

Robert Lam, MD FAAEM
 Chair AAEM Wellness Committee

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The Kevin G. Rodgers Fund and the Institute will LEAD-EM just like Dr. Rodgers did. The funds will support important projects such as development of leadership qualities, and clinical and operational knowledge of emergency physicians with a view toward improving and advancing the quality of medical care in emergency medicine, and public health, safety and well-being overall. LEAD-EM would like to thank the individuals below who contributed from 1-1-2018 to 10-31-2018 .

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AAEM Conferences

March 7-8, 2019

AAEM Written Board Review Bootcamp
Caesars Palace, Las Vegas, NV
www.aaem.org/education/events/wbr-bootcamp

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AAEM19 Pre-Conference Courses

- Resuscitation for Emergency Physicians (Two Day Course)
- Medication Assisted Treatment Waiver Training - Jointly provided by the American Academy of Addiction Psychiatry
- Ultrasound — Beginner
- Bleeding to Death? What's New in Military Hemorrhage Control - Jointly Provided by USAAEM

www.aaem.org/AAEM19/program/precons

March 10, 2019

AAEM19 Pre-Conference Courses

- Resuscitation for Emergency Physicians Cont'd (Two Day Course)
- ECG in the Emergency Department: Acute Coronary Syndrome and Dysrhythmia
- 2019 Medical Student Track
- 2018 LLSA Review Course
- Ultrasound — Advanced

www.aaem.org/AAEM19/program/precons

March 9-13, 2019

25th Annual Scientific Assembly – AAEM19
Caesars Palace, Las Vegas, NV
www.aaem.org/AAEM19/

AAEM Jointly Provided Conferences

March 9, 2019

TeachingEM – Jointly Provided with The Teaching CoOp
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AAEM Recommended Conferences

December 11-12, 2018

ACMT 2018 Seminar in Forensic Toxicology, "Opioids, Toxicology, and the Law: Medical-Legal Aspects of the Opioid Epidemic"
Chemical Heritage Foundation - Philadelphia, PA
http://www.acmt.net/2018_ACMT_Seminar_in_Forensic_Toxicology.html

January 17-18, 2019

The University of Texas MD Anderson Cancer Center 2019 Oncologic Emergency Medicine Conference
Houston, TX
<https://www.mdanderson.org/education-training/professional-education/cme-conference-management/conferences/oncologic-emergency-medicine-conference.html>

January 21-25, 2019

PuertoRicoFEST 2019
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<https://www.puertoricofest2019.com/>

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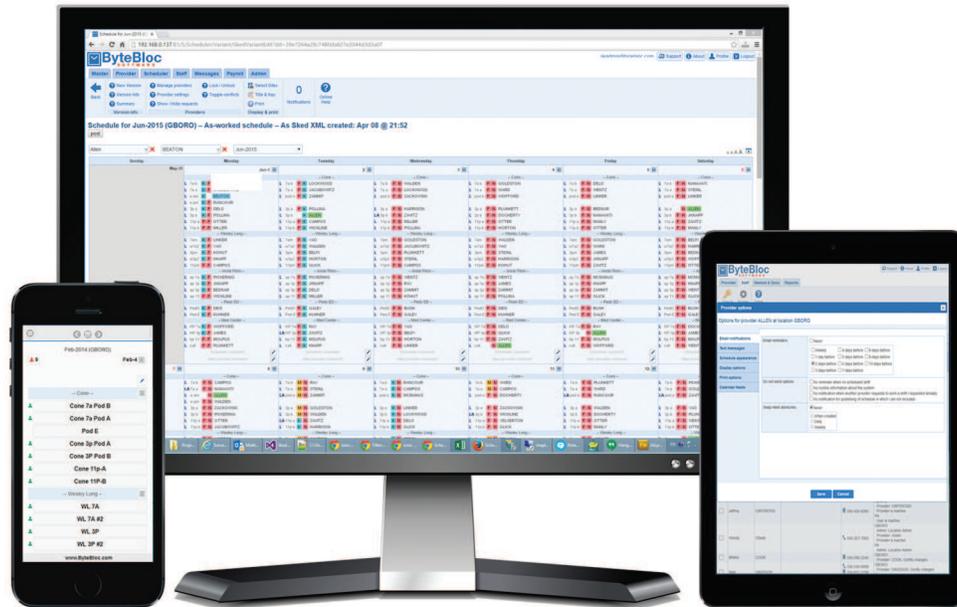
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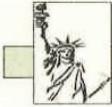
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As AAEM celebrates its 25th anniversary year, enjoy this "Blast from the Past" issue of *Common Sense* from 1993.



EDITORIAL COMMENTARY

"Popularity Contest"

by Christopher J. Minas, MD
Board of Directors

American Academy of Emergency Medicine

In my wildest dreams, I would never have imagined that a physician's professional abilities would be judged as a "popularity contest!" Let me explain.

Many hospitals are employing lay people to phone patients who have been seen in the Emergency Department to ask how they "liked" their doctor. They often use a questionnaire similar to what one would expect from a restaurant chain soliciting comments about the service. "Was your food served promptly? Was the waiter courteous? Did your waiter identify him/herself? Did you enjoy your food?"

The physician is being evaluated as a "waiter" emphasizing the philosophy that "the customer is always right," overlooking the critically more important "doctor-patient" relationship, with its inherent primary obligation to the patient's well-being. Physicians are being rated primarily on the basis of their popularity, often completely disregarding their level of medical expertise. This philosophy should not be employed in such a manner because a patient's desires may, at times, directly oppose

the provision of quality medical care. For example, if a patient presents to the Emergency Department seeking narcotics, the physician may feel the request is inappropriate and should then refuse it. Is the patient satisfied? Substance abusers and patients with psychiatric disorders may complain (sometimes with little or no merit) about their treatment, but the physician should exercise his medical judgment. Circumstances may dictate that the Emergency Physician cannot devote his full attention to any one patient at a given moment. A patient may feel neglected, while the physician is doing his best to differentiate true emergencies from non-emergent and minor cases and treat them accordingly. Simply put, the average patient is not unbiased as relates to medical treatment and understanding of the Emergency Department and is not qualified to review the appropriateness of medical care.

And yet, this "popularity contest" is used by some hospitals to help evaluate the physicians practicing in the Emergency Department. Many hospital administrators are inappropriately using customer relations questionnaires to monitor and supervise Emergency Physicians, and are thereby interfering with the practice of medicine. This business practice undermines the autonomy of the physician and intrudes upon the doctor-patient relationship.

A physician's primary concern must be to

provide the highest degree of medical care and to do what is best for the patient. "Satisfying the customer" is an important goal, but a physician's primary obligation is to treat and protect the patient and to relieve pain and suffering. This is what society expects of us; this is the oath we have sworn to uphold. Primary emphasis on "popularity" and "customer relations", over the physician's more important obligations to the patient is sophomoric, unprofessional, and dispiriting, and undermines the honored traditions of medicine. I maintain that only physicians are qualified to evaluate their peers and to determine how medicine is best delivered to the public. Complaints specific to medical care should be evaluated in a peer review setting by the Emergency Department medical staff.

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Dollars & Sense

Rich Grandpa, Poor Grandpa

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



Unlike Robert Kiyosaki, I only have one Dad. I did have two grandfathers though, and one died a few months ago. The other died a few years ago.

One was rich, and one was poor. Well, he might not have been poor, but he was poorer than the one that died most recently. What did they teach me?

My Poor(er) Grandpa

My poor(er) grandpa worked odd jobs his whole life. He never owned a business that I was aware of. I don't think investing was his thing because he never had all that much money. He had a portfolio in the low six figures and Social Security.

Frankly, all he wanted to do was bowl, and he had a perfect 300 game once, which I think was his crowning achievement in life.

Despite his lack of financial acumen or success, he never really wanted for anything. After his wife (my grandmother) developed dementia and moved into a nursing home, he lived independently right up until the end of his life in a small apartment that was near his children and the bowling alley.

He drove a perfectly fine car.

He went out for meals when he wanted, his favorite meal being well done steak at any local diner.

He had Medicare for his health insurance.

What's the lesson here?

Poor Grandpa Lesson #1 — A modest lifestyle and low spending will make up for a less than impressive nest egg.

He lived into his nineties despite having severe heart and vascular disease, prostate cancer, and smoking nearly his whole life. He stayed mentally intact the entire time, and was bowling right up until the end. What was his secret? As he told me many times...

Poor Grandpa Lesson #2 — "Never drink anything but beer or coffee. Water will rust your insides."

My Rich Grandpa

He died a few months ago, and there are many things you can learn from his financial life.

He lived in a small town in Pennsylvania that had a population of 2,069 in the 2010 census. In that town, he ran a small business selling furniture and running a funeral parlor. As he once told me, the furniture makers made the coffins, so the businesses were linked in the old days. He and

his brother worked for his father, who ran the business before them.

Running this small business allowed him to build a significant net worth by anyone's definition.

Rich Grandpa Lesson #1 — The easiest way to become wealthy is to own a business.

He never owned more than one car while I knew him, although his business owned delivery trucks he could use.



He lived in the same house the entire time, which was a modest brick house on Main Street of his town. It was 2,300 square feet, four bedrooms, two baths, and sold for \$185,000 in 2015 when he moved into a nursing home. According to Zillow it is now worth \$197,639.

He had the same spouse, my grandmother, and never divorced.

Rich Grandpa Lesson #2 — The path to wealth = one spouse, one house.

During his life, he made periodic investments by purchasing stock in a local bank. Over the years and after twenty or so bank mergers, that local bank was now a subsidiary of a large international bank. Along came the 2008-2009 financial crisis ... and that investment was worth only a small fraction of what it once was. A very small fraction.

Rich Grandpa Lesson #3 — Diversify to reduce your risk. Don't put all your financial eggs in one basket.

There is one final lesson that I learned from my rich grandfather that I'll never forget.

Rich Grandpa Lesson #4 — If you are a young boy and you want to see nudity for the first time, go on a furniture delivery with your grandpa who owns a furniture store. There just might be a Playboy calendar hanging above the kitchen table.

If you'd like to contact me, please email me at jschofer@gmail.com or check out the two blogs I write for, MCCareer.org and MilitaryMillions.com.

The views expressed in this article are those of the author and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense or the United States Government.

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The Members Speak, Continued

AAEM recently completed a membership survey trying to understand what our members want from their organization. Hundreds of members also wrote in responses to questions and the board thought many of the responses might be of interest to our members. Below are some of the member responses to one of the questions.

Please read these and see if they resonate with you. Are these the issues which you are about? Do you have ideas about any of these or suggestions to your organization? Please let us know! Send an email info@aaem.org.

Here are responses from our membership concerning how AAEM might better assist the membership's needs:

- We need to go on offense.
- Keep the fight going!
- Hospital administrators, large CMG's, and the politically charged and highly vocal nurse practitioners are our biggest threats. Focus your attention on them.
- Please continue with important work typified by AAEM-PG, and please continue to advocate for fairness and against corporate practice.
- Make the case for the value of AAEM for the community practicing physician.
- Do not give ground to apologists within our ranks who want ACEP and AAEM to move closer (as long as ACEP thinks non-ABEM/AOBEM doctors can practice, and due process is not honored).
- Work closer with CORD and SAEM.
- Sue large groups on predatory behavior.
- Begin offering a considerable alternative to ACEP and its committees. We are allowing the CMG's and their physician cronies to control our specialty.
- Be more aware of issues faced by docs not practicing in democratic groups.
- I think AAEM should release a stronger statement about the uncertainty of the effectiveness of tPA in ischemic stroke.
- Keep advocating for the EM docs and don't let corporate interests sway doing what is best for EM and our patients.
- Corporate management groups are only getting bigger and stronger PA/NP are starting to dominate in the specialty, soon MDs will be in the minority because MLPs will be too good financially to pass up. Useless MLP's in urgent cares just maximize billing then dump the pts to the ER. MIPS, MOC, merit badge ... what is getting better?
- Very much appreciate the merit badge work that AAEM is partnering with others to help address the growing concern with scope of practice for NP and PA providers is concerning and I hope that AAEM continues to address.
- I just heard about the NP movement to become legally equated to physicians, and this needs to be stopped. ●



Sickle Cell Disease Coalition Meeting

Leslie Zun, MD MBA FAAEM



AAEM is a member of the Sickle Cell Disease Coalition (SCDC). The SCDC was formed to amplify the voice of the sickle cell disease (SCD) stakeholder community and to improve outcomes for individuals with SCD. There are over two dozen organizations in the coalition includes public health, research, and provider organizations, patient groups, faith-based organizations, federal agencies, industry

representatives, and foundations. The goal of the coalition is to ensure that patients with sickle cell disease receive state-of-the-art care by involving the stakeholder community and to use multi-disciplinary and co-ordinated efforts to produce the greatest impact. The goal of the coalition is to advance faster, more economical and more efficient care to patients suffering from this debilitating disease in the United States and around the world. I recently attended their meeting as the AAEM representative.

The organization has four current goals:

1. **Access to Care in the U.S.** — SCDC believes that individuals with sickle cell disease should be able to access quality care regardless of age, location, and socioeconomic status.
2. **Training and Professional Education** — SCDC set its sights on improved standards of care and greater availability of providers with SCD expertise.

3. **Research and Clinical Trials** — SCDC are advocates for the development of clinical trial networks, increased pain research, and the exploration of curative therapies.
4. **Global Issues** — One of the greatest priorities of SCDC is designing, testing, and implementing sustainable care and pain management approaches for countries with limited resources.

One of the member organizations of the collaboration, the Emergency Department Sickle Cell Care Collaborative funded by ACEP, presented a report on the role of the EDs at meeting. They recommend that EPs be educated on the full spectrum of SCD complications and change the perception of SCD as drug seeking. They also recommend the development of easy-to-use tools for ED, programs to bridge the continuum of care and the integrating the importance of the patient voice in their care.

AAEM continues to contribute not only to the coalition but also push to be involved in the Emergency Department Sickle Cell Care Collaborative. Although AAEM was not part of this meeting, I did emphasize the need for all EM groups including AAEM be involved in this collaborative. Please let me know if you wish any more information about the coalition. Contact info@aaem.org. ●



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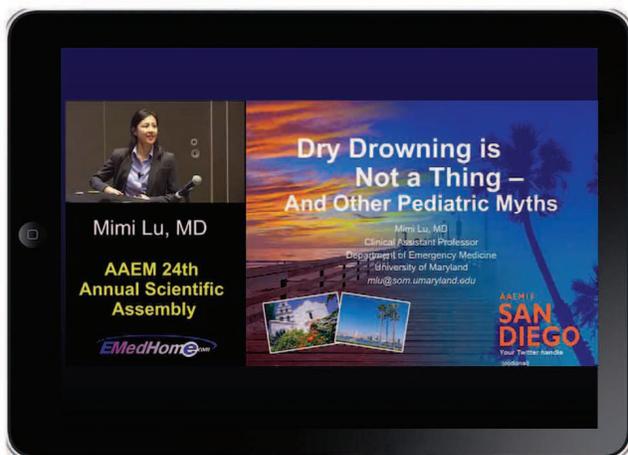


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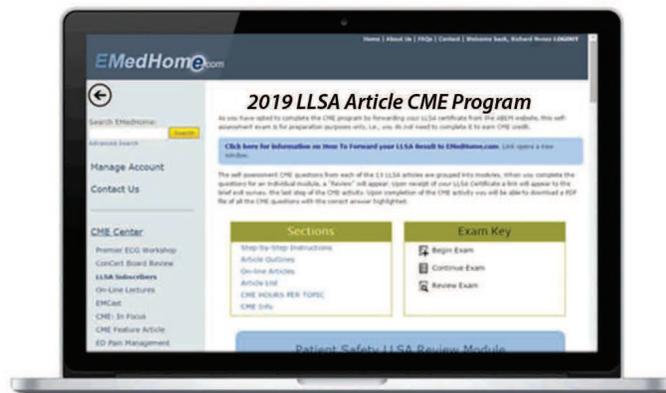


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Operations Management Committee

Recap — ED Management Solutions: Principles and Practice

Jason Hine, MD FAAEM



AAEM completed the first iteration of its new course, ED Management Solutions: Principles and Practice. The simplicity of that statement minimizes the effort, planning, and perseverance it took to bring this course to fruition. The idea for a management course with AAEM flare was first conceptualized by the Operations Management Committee in 2012. Now six years later, that course has become reality.

On September 6th and 7th the Operations Management Committee gathered 52 attendees in Austin, Texas for the inaugural go-live. The course was proud to call the following speakers among its faculty: Dr. Joseph Twanmoh, Dr. Joseph Guarisco, Dr. Benjamin White, Dr. Jonathan Sonis, Dr. Tom Scaletta, Dr. Howard Blumstein, and Jim Blakeman.

Over the two-day experience, learners heard presentations on topics ranging from patient data visualization to throughput solutions. They participated in small group discussions on solving change manage-

ment problems and heard panel dialogue on topics like ideal physician compensation models. The energy and engagement of the course participants was extraordinary and deeply appreciated by the planning committee.

Obviously, a course on administrative topics would be incomplete without networking opportunities, and we must thank the AAEM Physician Group for sponsoring a networking event for our attendees.

- “Really enjoyed perspectives of faculty and colleagues and innovative ideas and problem solving.”
- “Outstanding presentation [on patient experience]; concise and great ideas that I will utilize at my facility.”
- “It was great to get input from other participants on creative ways to solve our throughput issues. I appreciated the dialog with the presenters and other medical directors.”

We on the planning committee could not be happier with how the course turned out. From attendance to participant energy, education offered to networks created, we believe it was a great success. As we return to our planning committee’s drawing board, we intend to use this momentum to bolster the course’s strengths as well as identify and fix its weaknesses for future iterations.

“The AAEM ED Management Solutions conference was so high yield! A lot of valuable information, for both those new to operations and seasoned operational veterans was presented in only two days. There was also a great opportunity to network, and I found the conference attendees were just as valuable a source of information and advice as the speakers. I would highly recommend this to anyone involved in ED operations!” ●

Watch for more information coming soon about the 2019 course!



Critical Care Medicine Section

Immunotherapy Complications in the Emergency Department: Be on the Lookout for the Checkpoints!

Adarsh Srivastava, MD FAAEM

Cancer remains one of the largest health care burdens within the United States. According to the National Cancer Institute, approximately 1.7 million new cases of cancer will be diagnosed within the United States and approximately 600,000 people will die from the disease. The most common cancers are breast, lung/bronchus, prostate, colon/rectal, and melanoma.¹ Not only is cancer ever present in our society, it remains a force to be reckoned with, both in terms of mortality and financial aspects. Cancer is among the leading causes of death worldwide with 8.2 million cancer related deaths worldwide in 2012.¹ The Agency for Healthcare Research and Quality (AHRQ) estimates that the direct medical costs of cancer in the U.S. in 2015 were \$80.2 billion.² The National Cancer Institute estimated that national expenditures for cancer care in the United States in 2017 were \$147.3 billion dollars.¹

A major burden of costs for cancer is directed at cancer targeted therapies, whether it be curative or palliative. In the earliest history of cancer therapy, many saw surgical removal as the only hope. In the 19th century, Surgeons Biloath, Handley, and Halsted were performing and leading the surgical management of cancers.³ In the 20th century, radiation and chemotherapy became two more pillars of treatment for cancer as our understanding of cancer growth and science advanced with the utilization of radiation therapy as well as developing new drugs to halt or terminate cell growth (chemotherapy).

As time has progressed, many physicians and scientists continue to embark on finding new therapies to help ease or possibly eradicate the burden that cancer has placed on society today. More recently, immunotherapy has made a remarkable presence in the treatment of cancers. This is predicated that the body can possess natural defenses, the immune system, to combat cancer. The immune system can be tightly regulated with many checkpoints. Without checkpoints or “brakes,” the immune system would run rampant causing an array of dysfunctions. This can be seen with non-skeletal manifestations of rheumatological disorders. It is also known that cancer cells can escape the surveillance of the immune system. Dr. Allison of the MD Anderson Cancer Institute was able to identify a certain brake on the immune system that could target cancer cells. By turning off the brake of the immune system, the immune system is allowed to attack cancer cells. This led to the development of ipilimumab. Ipilimumab was found to extend the survival of patients afflicted with late stage melanoma.⁴ This has led to the development of other immunotherapy medications aimed at targeting late stage lung, kidney, bladder, head and neck cancers, melanoma, and Hodgkin’s Lymphoma. In addition to ipilimumab, nivolumab, pembrolizumab, atezolizumab, avelumab, and durvalumab have been developed.

As with any other cancer therapies, the emergency physician must be able to identify and treat the toxicities and/or adverse events associated with cancer therapies. It can be assumed that most emergency providers assume patients undergoing oncological treatments are considered

immunocompromised. However, with immunotherapy, patients can have an active immune system that can cause inflammatory side effects as well as organ dysfunction. Therefore, it is paramount that the emergency physician must be aware of the adverse events associated with immunotherapy as well as its workup and treatment modalities.

The most common organ system that is involved with immunotherapy medications is the dermis. Approximately 34% of the patients have some form of dermatological manifestations.⁵ Severity can range from mild to severe. Mild forms of dermatological complications from immunotherapy include an itchy macular or maculopapular rash. These mild forms are treated with topical corticosteroids. However, there have been cases where patients have progressed to meet the diagnostic criterion for Stevens-Johnson syndrome and Toxic Epidermal Necrolysis.^{6,7,8} In these patients, prompt consultation with ICU as well as dermatologist and oncologist is warranted. Given that patient’s immune system is hyperactive, administration of corticosteroids may be warranted to help suppress the immune system in addition to cessation of offending agent as well as aggressive supportive care.

Another organ system that can be affected by immunotherapy is the endocrine system; particularly the pancreas, thyroid, and adrenal glands can be affected. With respect to the pancreas, there have been case reports where immunotherapy drugs have caused autoimmune type 1 diabetes.⁹ These patients can present with a similar picture to those afflicted with congenital type 1 diabetes complicated by diabetic ketoacidosis. It is prudent to know that patients who have no prior history of diabetes can develop complications associated with autoimmune type 1 diabetes. Like with any other hyperglycemic complications of diabetes, initiation of insulin therapy with careful monitoring in addition to attaining euolemia and pain control are the basic foundations to treatment. Unlike with dermis complications, administration of steroids has no role in the treatment of autoimmune Type 1 diabetes.⁹ In addition to the pancreas, the thyroid can be disrupted as well. Cases of hyper- and hypothyroidism have been seen and present with vague symptoms such as fatigue or agitation. Hypothyroidism was reported in up to 10% of patients receiving monotherapy but could be more frequent (up to 25%) in sequential or combined ipilimumab, nivolumab, and pembrolizumab therapy. Hyperthyroidism is less frequent but was reported in up to 5%, and in up to 9.9% of cases receiving combined ipilimumab and nivolumab therapy.¹⁰ Destructive thyroiditis has been well documented in the literature as a complication of immunotherapy. Patients may develop symptoms of thyrotoxicosis as early as 4 days after treatment followed by a quick progression into hypothyroidism.¹² Therefore, it has been

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recommended that patients have thyroid function tests be monitored routinely when undergoing immunotherapy. Finally, adrenal insufficiency is a rare endocrine complication of immunotherapy that can present with vague symptoms. Immunotherapy can lend itself to causing inflammation of the pituitary gland causing inability for the pituitary gland to secrete its hormones. This can lend itself to causing primary adrenal insufficiency. Even worse, adrenal crisis can occur. Therefore, it is important that the emergency physician be aware of such complications as adrenal crisis as it can mimic sepsis. Furthermore, those undergoing immunotherapy can have unrelated acute problems such as sepsis or trauma that may require stress dose corticosteroid supplementation.⁵ Therefore, Dexamethasone administration is warranted if one is dealing with potential fatal adrenal complications of immunotherapy.

The most common gastrointestinal complaint is diarrhea. Most studies report at least 30% of diarrheic events, which commonly present after five weeks of treatment and are mild in nature. Diarrhea results from infiltration of the intestinal mucosa by immune cells following immune activation by the checkpoint inhibitor. Colitis is the severe consequence of diarrhea and there have been reports of bowel perforation and deaths.¹¹ When dealing with the abdominal complaint in those patients undergoing immunotherapy, the emergency physician must be aware that other complications such as *Clostridium Difficile* colitis, bacterial/viral gastroenteritis, as well as ischemic colitis can occur.

In addition to the gastrointestinal system, the hepatic system can be affected as well. Albeit rare, it can lend itself to major complications if not diagnosed and treated appropriately. There have been case reports of autoimmune hepatitis that have been successfully treated with corticosteroids. Fulminant hepatic failure is extremely rare.¹³

Approximately 5% of cancer patients treated with immunotherapy will be afflicted with pneumonitis.¹³ The patient may present him or herself with respiratory complaints such as cough, and fever. Typical evaluation for cough and fever in an oncological patient would warrant chest X-ray. Chest X-ray may reveal consolidative processes occurring in the lung fields that one may assume would be pneumonia and not consider the diagnosis of autoimmune pneumonitis. It is imperative that the differential diagnosis include autoimmune pneumonitis as this can lead to severe acute respiratory failure and possible acute respiratory distress syndrome (ARDS). If chest X-ray is negative for any lung field processes and there is still concern for a pulmonary process, a CT chest should be strongly considered in oncological patients undergoing immunotherapy as this can delineate more information regarding the lung parenchyma. Not only should pneumonia warrant attention but one should also consider the diagnosis of autoimmune pneumonitis and treat with steroids.

Fulminant myocarditis has also been reported to be an adverse reaction to immunotherapy. Johnson et al., at Vanderbilt University found that 101 patients developed myocarditis when treated with dual agent immunotherapy. The rates of myocarditis was low in patients who received single agent immunotherapy.¹⁴ It is not clear which patients are most at risk, although the authors of a separate analysis, published in the *Journal of the American College of Cardiology*, found a significant association between diabetes and risk of myocarditis following immune checkpoint inhibition therapy for cancer.¹⁵ Patients may present with chest pain, dyspnea at

rest and/or on exertion as well as signs and symptoms consistent with the clinical diagnosis of heart failure. Therefore, diagnostic testing should include electrocardiogram, chest X-ray, as well as troponin levels and continuous telemetry. Given that point of care ultrasound has gained momentum within the emergency medicine settings, one could perform a bedside transthoracic echocardiography to determine degree of cardiac suppression. In these settings, discontinuation of the immunotherapy and steroid administration are the first steps in treatment as well as aggressive supportive care.

Neurological side effects of immunotherapy may present itself such as blurred vision. Patients who complain of blurred vision may warrant concern for uveitis. There is thought that uveitis may be a surrogate marker for response in melanoma as there has been case reports with pembrolizumab induced uveitis associated with complete or partial tumor response.¹⁶ Kao and colleagues reported results of a single institution retrospective data analysis describing the frequency of neurological complications in patients with metastatic melanoma or solid tumors treated with one of the two immune checkpoint inhibitors, nivolumab and pembrolizumab. In their cohort of 347 patients, only 10 had treatment associated neurological conditions that had a diverse range of severity. The most common neuromuscular syndrome was neuropathy followed by myopathy.¹⁷ Kelly Wu et al., reported a patient who was diagnosed with Guillain Barre syndrome by electromyography. This patient recovered after treatment with intravenous immunoglobulin and aggressive supportive care.¹⁸

In conclusion, the emergency physician must be aware that immunotherapy is an evolving and growing field of hematology and oncology. Newer drugs will be developed with broader indications. Given that immunotherapy is flourishing, the provider must be aware of the subtle complaints that the patient undergoing immunotherapy may present to the emergency department. These subtle complaints can lead to catastrophic events if not treated early. Therefore, patients undergoing immunotherapy must undergo a thorough history and physical along with laboratory and radiological examination pertinent to the patient's symptoms. ●

Bibliography

1. National Cancer Institute. Cancer Statistics. <https://www.cancer.gov/about-cancer/understanding/statistics>. Accessed August 14, 2018.
2. American Cancer Society. Economic Impact of Cancer. <https://www.cancer.org/cancer/cancer-basics/economic-impact-of-cancer.html>. Accessed August 14, 2018.
3. Sudhakar A. History of Cancer Ancient and Modern Treatment Methods. *J Cancer Sci Ther*. 2009 Dec 1; 1(2): 1–4.
4. Hurst J. Cancer Immunotherapy innovator James Allison receives the 2015 Lasker-DeBakey Clinical Medical Research Award. *J Clin Invest*. 2015 Oct 1;125(10): 3732-3736.
5. Pallin DJ, Baugh CW, Postow MA, Caterino JM, Erickson TB, Lyman GH. Immune-Related Adverse Effects in Cancer Patients. *Acad Emerg Med*. 2018 Jul;25(7):819-827
6. Saw S, Lee HY, Ng QS. Pembrolizumab-induced Stevens-Johnson Syndrome in non-melanoma patients. *Eur J Cancer*. 2017 Aug;81:237-239.
7. Salati M et al. Stevens-Johnson syndrome during nivolumab treatment of NSCLC. *Ann Oncol*. 2018 Jan 1;29(1):283-284.

Continued on next page

8. Griffin LL et al. Toxic Epidermal Necrolysis (TEN) associated with use of Nivolumab (PD-1 inhibitor) for lymphoma. *JAAD Case Rep.* 2018 Feb 23; ;4(3):229-231.
9. Godwin JL et al. Nivolumab-induced autoimmune diabetes mellitus presenting as diabetic ketoacidosis in a patient with metastatic lung cancer. *J Immunother Cancer.* 2017 May 16;5:40.
10. Illouz F et al. Endocrine toxicity of immune checkpoint inhibitors: essential crosstalk between endocrinologists and oncologists. *Cancer Med.* 2017 Aug;6(8):1923-1929.
11. Linardou H, Gogas H. Toxicity management of immunotherapy for patients with metastatic melanoma. *Ann Transl Med.* 2016 Jul;4(14):272.
12. Iyer PC, Cabanillas M, Waguespack SG et al. Immune Checkpoint Inhibitor mediated Thyroiditis. *Thyroid.* 2018 Aug 22.
13. Haanen JBAG et al. Management of toxicities from immunotherapy: ESMO Clinical Practice Guidelines for diagnosis, treatment, and follow up. *Ann Oncol.* 2018 Jun 15.
14. Johnson DB, Balko JM, Compton ML, et al. Fulminant myocarditis with combination immune checkpoint blockade. *N Engl J Med.* 2016;375:1749-55.
15. Mahmood SS, Fradley MG, Cohen JV, et al. Myocarditis in patients treated with immune checkpoint inhibitors. *J Am Coll Cardiol.* 2018 Apr 24;71(16):1755-1764
16. Diem S, Keller F, Ruesch R et al. Pembrolizumab-triggered Uveitis: An Additional Surrogate Marker for Responders in Melanoma Immunotherapy?. *J Immunother.* 2016 Nov/Dec;39(9):379-382.
17. Kao JC, Liao B, Markovic SN et al. Neurological Complications Associated With Anti-Programmed Death 1 (PD-1) Antibodies. *JAMA Neurol.* 2017 Oct 1;74(10):1216-1222.
18. Kelly Wu W, Broman KK, Brownie ER et al. Ipilimumab-induced Guillain-Barré Syndrome Presenting as Dysautonomia: An Unusual Presentation of a Rare Complication of Immunotherapy. *J Immunother.* 2017 Jun;40(5):196-199

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Diversity and Inclusion Committee

Tattered Tarp or New Roof: Who Gets Included in Disaster Recovery?

Heather Star Krause, MD MPH(c), 2019 EM Residency Candidate
AAEM Diversity and Inclusion Committee



In the bend of the south Texas coast, a community comes together to reflect on a year gone by since many lost everything. We danced in the streets, honored one another's hardships and congratulated each other's resilience, and I reflect on my own experience.

The last move my husband and I made before evacuating with our toddler and seven-month-old was to throw an anchor from our sailboat, sitting on its trailer, in the front yard, a hundred feet from the water's edge. "Maybe that will keep her from surfing into the neighbor's second story living room," my husband half-heartedly joked as he climbed into our small RV, wet from the first bands of the storm blowing ashore. At 5:30am, we left our home, driving in 20-minute shifts, exhausted from a day and a night of increasingly frantic preparation. Less than 12 hours later, the eye-wall of Hurricane Harvey made landfall directly on our small hometown of Rockport, Texas.

We returned to "The Charm of the Texas Coast" two days after the storm. Half of the structures were damaged beyond repair, the electrical grid was a tangle of wires and snapped poles, there was no running water, and overnight there was a new homeless population. The nearest hospital was destroyed and the majority of doctors' offices closed due to damage. Rockport (Aransas County), Texas, was already designated a Medically Underserved Area. Like so many coastal communities, it is a glaring example of wealth inequality and social stratification; vacation homes and trailer homes. The storm's destruction exacerbated an already failing safety net of health care and left our vulnerable population struggling with added mental and physical stress, financial devastation, and decreased access to primary care resources. It was obvious that the community needed a local medical response. After a short and self-guided course on legal protections for volunteer medical professionals in

"A study published in August concludes that wealth inequality increases along the lines of race, education, and homeownership in counties badly hit by natural disasters."

disaster zones, approval from the city Emergency Manager, and crucial support, both on the ground and remote, from a small group of graduates of the Latin American School of Medicine, I founded the Rockport Strong Mobile Medical Unit (RSMMU). For four months, RSMMU served as a pop-up urgent care clinic, staffed with volunteer physicians, nurses, and community health workers, operating out of the same RV in which my family had evacuated. Working alongside Emergency Management and FEMA, we provided free medical attention to over 400 patients.

Our team conducted a survey analysis to determine some characteristics of the population seeking our services. Some of the more important questions we asked our patients were if they had a primary care provider (61.5% reported they did not) and if they had health insurance (68% said no). And to the question, "Do you use the ED as your primary care provider?" 34% said they did. Of note, 74% of patients reported negative effects of the storm on their physical and/or mental health. The stories of

"The scientific community warns us that our warming planet will make high-magnitude weather events like hurricanes Katrina, Harvey, and Maria more frequent over the coming years. What does this mean for the health of communities of color exposed to these forces of destruction?"

the people represented in these figures were just as disconcerting: "I lost everything. I didn't qualify for assistance. I don't have a spare dollar to my name. My house is molding. I can't afford my prescriptions."

A year later, tattered blue tarps fail to cover the holes in roofs spaced throughout the community. Whose roof, though? Well, this is a diversity and inclusion column, so I bet you can guess. First, let's talk about disaster vulnerability and how social conditions and location lend to the potential for greater harm to some social groups during a disaster and in the immediate aftermath. Social class factors force the poor to live in substandard housing, often located in physically vulnerable areas such as flood zones and in proximity to industrial sites, and reduce the ability to undertake loss-reduction measures (boarding windows, stockpiling supplies). In the U.S., race and ethnicity are strongly correlated with social class and are also associated with increased vulnerability to disaster.¹

In the intermediate phase of disaster recovery, the same differential presents itself. Research conducted in the months following Hurricane Harvey found that the population affected differs by geography, race/ethnicity, and income, the largest impact felt by Blacks, Hispanics, and those with a self-reported income <100% FPL.² Loss of income and employment disruption had a larger effect on Hispanic, Black, and lower-income residents. Among those with home damage, low-income, Black and Hispanic residents were less likely to have had insurance. Blacks and low-income residents also reported in higher percentages that they were not getting the help they needed. Language barriers arose as a contributing factor to sluggish recovery. Three in ten individuals answering a survey in Spanish reported that it was very or somewhat difficult to find information in Spanish regarding recovery assistance. The study also

Continued on next page

conveyed that undocumented migrants are particularly vulnerable to the effects of natural disasters, in part out of fear of exposing themselves or family member's immigration status, and in another part due to ineligibility for benefits.

Now let's look at long-term recovery and what has recently come to light. A study published in August (2018) concludes that wealth inequality increases along the lines of race, education, and homeownership in counties badly hit by natural disasters.³ In areas with at least \$10 billion in damages, Black, Hispanic, and Asian communities saw their wealth decrease by an amount between \$10,000 and \$29,000, while white communities increased their wealth by an average of \$126,000. The study suggests that the money follows the higher levels of reinvestment via infrastructure improvements and low-interest loans after a disaster occurs, as more privileged residents gain access to new resources. Meanwhile, low-income and non-property owners are more likely to experience financial strain from losing one's job, moving, paying higher rents due to housing shortages, and depleting savings trying to compensate. Contrary to an often repeated myth, this data does not support the idea of disasters being "great equalizers." It does however bring attention to the fact that for some people the resources which flow into disaster zones can be a silver lining to a universally bad situation. I witnessed this in Rockport as it became a temporary boomtown for construction contractors, clean-up crews, and donation sites across town. The issue is that the silver doesn't seem to be making it into all folk's pockets, especially for people of color.



The rear window of the mobile medical unit.

What can we do? Disasters are great disruptors, and where there is disruption, there is room for innovation. After Hurricane Mitch slammed Honduras in 1998, Cuba responded by founding an international medical school, The Latin American School of Medicine (Escuela Latinoamericana de Medicina), designed to train doctors from lesser-developed countries, mostly people of color, who would return to their medically underserved area when they graduate so that these communities would be healthier and more prepared for disasters in the future. This plan obviously took a very long view of disaster response, as the first graduates would have returned home some seven years after Mitch made landfall. It's an example of a long-term disaster response that promotes inclusion and diversity in terms of both the medical profession and access to health care. The free mobile clinic in Rockport was a much



Mercedes Charles, MD, graduate of ELAM (Escuela Latinoamericana de Medicina) and Dr. Krause (standing) with her eight-month-old, Huck.

smaller and shorter-term response, but was still a successful innovation that brought resources to a medically underserved disaster zone. It is a model that can easily be recreated when the need presents.

The scientific community warns us that our warming planet will make high-magnitude weather events like hurricanes Katrina, Harvey, and Maria more frequent over the coming years. What does this mean for the health of communities of color exposed to these forces of destruction? Unfortunately, if disaster recovery maintains the pattern of reinforcing gaps in wealth along racial lines and the strong correlation between socio-economic status and individual health is also maintained, it's likely that the health of communities of color will disproportionately suffer. While the issues are systemic, there are roles that individual physicians can take to immediately address some of the social determinants of health at play in post-disaster communities. Here are three suggestions:

1. Set up a free clinic or volunteer to staff if one is already operating.
2. Consider in-kind donations of medical equipment.
3. Get involved with Emergency Management and advocate for the funding of programs that will improve access to health care (a community health center, for example).

Innovate. We need to change the trajectory of who gets to recovery from a disaster. The resilience and diversity of our communities depend on it. ●

References:

4. Tierney, Kathleen. (2006). Social inequality, hazards, and disasters. *On Risk and Disaster: Lessons from Hurricane Katrina*. 109-128.
5. Hamel, L. et al. (2017). An Early Assessment of Hurricane Harvey's Impact on Vulnerable Texans in the Gulf Coast Region: Their Voices and Priorities to Inform Rebuilding Efforts. Kaiser Family Foundation and Episcopal Health Foundation. http://www.episcopalhealth.org/files/7315/1240/4311/An_Early_Assessment_of_Hurricane_Harveys_Impact.pdf
6. Junia Howell, James R Elliott. (2018). Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States, *Social Problems*, *spy016*, <https://doi.org/10.1093/socpro/spy016>



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Be Alert to Potential Loperamide Abuse and Resulting Cardiotoxicity

This article was contributed by LoperamideSafety.org which is maintained by Consumer Healthcare Products Association (CHPA). They are an advocacy group for the consumer healthcare products industry (<https://www.chpa.org/About.aspx>).

Taking very high doses of loperamide can lead to serious cardiac events, such as torsades de pointes, ventricular arrhythmias, and death.

A small, but growing, number of people are intentionally misusing loperamide (also sold under the brand name Imodium®). Approved by the U.S. Food and Drug Administration (FDA) to relieve the symptoms of diarrhea. This over-the-counter (OTC) and prescription medication is safe and effective when used as directed. Some

individuals are consuming very high doses of loperamide to self-manage their opioid withdrawal or to achieve a euphoric high, putting them at risk for cardiotoxicity.

It is important to recognize the signs and symptoms associated with loperamide abuse and address them appropriately with patients who may be abusing or at risk for abusing loperamide.

Know the Signs of Loperamide Cardiotoxicity

Prior to 2014, the risk of cardiotoxicity secondary to loperamide use was not recognized, largely because it is not seen with therapeutic doses. Since then, there have been published case reports in medical literature that describe cardiotoxicity related to chronic loperamide abuse and misuse. The reports include cases of QRS widening, QT prolongation, ventricular arrhythmias, cardiac arrest, and death after loperamide abuse. Patients in these case reports also presented with syncope and unresponsiveness.^{1,2,3,4}

Loperamide will not appear in a standard urine or blood screening test for drugs of abuse. There is no urine test to screen for it; however, a blood test can be ordered. If you suspect a patient is abusing loperamide, ask the following questions:

- Have you been taking loperamide?
- How much loperamide do you take and how often?
- Are you aware of the severe heart risks associated with overuse, misuse, and abuse of loperamide?

Understand Loperamide and the Risk of Severe Cardiotoxicity

Loperamide inhibits intestinal peristalsis through mu-opioid receptor agonism, calcium channel blockade, calmodulin inhibition, and decreasing

paracellular permeability. Its low oral systemic bioavailability and minimal central nervous system penetration, which are due to its extrusion from the CNS by the P-glycoprotein efflux pump, limit abuse potential when taken at therapeutic doses.⁵ In fact, it was classified as “free of abuse potential”⁵ from the 1980s, when it was first made available as an OTC product, through 2007. However, at supratherapeutic doses or when combined with xenobiotics that inhibit P-glycoprotein, loperamide can cross the blood-brain barrier and exert opioid effects.

National Poison Data System data show that loperamide misuse and abuse have increased over the past several years in the United States. With this increase, unexpected cases of cardiotoxicity have emerged. The increased number of reports of severe cardiotoxicity resulted in an FDA Drug Safety Communication warning clinicians about the issue in 2016. In early 2018, the FDA suggested loperamide packaging changes to encourage safe use and is working with manufacturers on this initiative.

The exact incidence of loperamide abuse is difficult to measure due to low case counts and polypharmacy. Nevertheless, awareness of this type of abuse is important for healthcare providers to ensure appropriate treatment.

Report Loperamide Exposures

If patients report using more than the approved dose of loperamide, educate them about the risks and refer them to an appropriate source of treatment for substance use disorder. Report loperamide abuse or misuse to Poison Control at 1-800-222-1222 and to FDA’s MedWatch; <https://www.fda.gov/safety/medwatch/>. ●

For more information and resources on loperamide abuse and misuse, visit [LoperamideSafety.org](https://www.LoperamideSafety.org).

References

1. Marraffa JM, Holland MG, Sullivan RW, et al. Cardiac conduction disturbance after loperamide abuse. *Clin Toxicol*. 2014;52(9):952-957. doi:10.3109/15563650.2014.969371.
2. Bishop-Freeman SC, Feaster MS, Beal J, et al. Loperamide-related deaths in North Carolina. *J Anal Toxicol*. 2016;40(8):677-686. doi:10.1093/jat/bkw069.
3. Eggleston W, Clark KH, Marraffa JM. Loperamide abuse associated with cardiac dysrhythmia and death. *Ann Emerg Med*. 2017;69(1):83-86. doi:10.1016/j.annemergmed.2016.03.047.
4. Wu PE, Juurlink DN. Clinical review: Loperamide toxicity. *Ann Emerg Med*. 2017;70(2):245-252. doi:10.1016/j.annemergmed.2017.04.008.
5. Baker DE. Loperamide: A pharmacological review. *Rev Gastroenterol Disord*. 2007;7(suppl 3):S11-S18.

De Venenis — Toxicology Series

Complications of Flakka: More than Just Agitated Delirium

Tim Montrief, MD MPH; Jeff Scott, DO; Mehruba Anwar Parris, MD FAAEM

We have titled our new toxicology series “De venenis” as an ode to the medieval treatise on toxicology: Liber de venenis by Pietro d’Abano which is a compilation of knowledge of poisons from the 14th century. We hope to present interesting cases relevant to the emergency physician.

Case

A 28-year-old Afro-Caribbean American female with no significant known past medical history presented to a community emergency department after a low-speed motor vehicle accident in which she was the restrained driver with airbag deployment and no loss of consciousness. Two hours prior to the accident, she attended a party in which she endorsed using marijuana, alcohol, and flakka. The initial physical exam was unremarkable, with stable vital signs, Glasgow Coma Score of 15, and no neurologic deficits. Initial CT brain without contrast was unremarkable. While in the ED, she had left-sided weakness which was not reported by the patient or family, and a stroke alert was called seven hours after last known well time. On examination, mild dysarthria, slight left-sided facial droop, and both left upper and lower extremity weakness were noted. Other cranial nerves were intact. Additionally, she had mild left-sided sensory loss in her extremities. NIH Stroke Scale/Score (NIHSS) was 6. Tele-neurology was immediately consulted, and an MRI/MRA revealed diffusion restriction within a small portion of the right MCA subcortical territory and right M1 cutoff without collateral circulation on MR angiography. However, no tissue plasminogen activator (tPA) was given as she was outside the therapeutic window.

She was transferred to a quaternary care center and taken directly for angiography. At this time, her NIHSS was 3. Angiography found a right carotid web, as well as a right M1 occlusion. Given the patient’s young age, small lesion on diffusion-weighted imaging compared to right MCA territory with absent collateral flow, thrombectomy was performed. The two-hour post thrombectomy NIHSS was 0, and the patient was started on daily aspirin and rosuvastatin therapy. The patient’s risk factors for stroke included a family history of strokes, including her mother, who suffered a stroke at age 35. Her comprehensive workup did not indicate hypercoagulability or vasculitis. Transthoracic echocardiogram was performed and showed no evidence of right to left shunt by agitated saline challenge. Because of the acute CVA, infarct size, and successful thrombectomy, no further intervention was performed during this admission. The patient was discharged on daily aspirin and rosuvastatin therapy with close outpatient follow-up.

What do we know about flakka?

“Flakka” or α -Pyrrolidinopentiophenone (α -PVP) is one of the more recent synthetic drugs that have become popular in the United States,



particularly South Florida. It is chemically similar to MDPV, colloquially known as “bath salts,” which was implicated in a string of highly-publicized episodes of intoxication and agitation throughout the U.S. recently.¹

α -PVP is a synthetic cathinone. It stimulates the release of dopamine while inhibiting the reuptake of epinephrine, norepinephrine, and serotonin in the central nervous system. Cathinones are highly hydrophobic molecules, and easily cross cell membranes, as well as the blood brain barrier, thereby allowing them to saturate monoamine transporters in the synaptic cleft between neurons.^{2,3} It is well known that α -PVP intoxication causes an excessive influx of sympathetic activation, leading to nervous system hyperactivity and agitated delirium, which may present as an acute alteration in mental status, including strange behavior, anxiety, violent outbursts, confusion, myoclonus, and seizures.⁴⁻⁶ Likewise, as in our case, α -PVP ingestion has been implicated as a causative factor in impaired driving and subsequent trauma.⁷⁻⁹

While the effects of many of the synthetic drugs of abuse, including α -PVP, closely resemble those of amphetamine, methamphetamine, and MDMA, they are not reliably detected on routine urine immunoassays. This is due to the fact that antibody binding affinity (and thus cross-reactivity between substances) is based not only the concentration of the drugs in the specimen, but also the structural similarity. These synthetic drugs of abuse are typically developed through the modification of existing drug classes, losing the classic chemical structure tested by the immunoassay.¹⁰ However, commercial laboratories such as NMS and Quest diagnostics have developed urine, blood, and serum assays that can confirm the presence of α -PVP and other emerging synthetic drugs of abuse. These assays employ liquid chromatography (LC), mass spectrometry (MS), or a combination thereof.¹¹ If a clinician is interested in more information on these newer tests, the reference laboratory specialist or regional poison center would be able to guide the process.

Continued on next page

Could flakka have played a role in this patient developing a stroke?

Although the most likely reason for this patient's stroke was due to the carotid web, the patient's initial presentation lends itself to a wide differential diagnosis, and brings up an intriguing question: could flakka have played a role in this patient developing a stroke? A lesser known effect of cathinones and synthetic cathinones such as α -PVP is cerebrovascular and cardiovascular ischemic changes. There have been case reports in animals and humans describing sudden cardiac death in young patients after α -PVP ingestion, with post-mortem findings of advanced atherosclerotic disease, pulmonary edema, and cerebral infarctions.^{12,13} A 44-year-old man with a history of substance abuse injected α -PVP then stripped off all his clothes, jumped over a barbed-wire fence and smashed a window, during which time he suffered a cardiac arrest and was successfully resuscitated, but later found to have evidence of raised intracranial pressure, and died. Autopsy revealed cerebral infarctions with edema and tonsillar herniation, as well as evidence of α -PVP in blood samples.¹³ Likewise, a 41-year-old woman with no past medical history developed an ST-elevation MI after α -PVP use, and found to have diffuse atherosclerotic disease with multiple areas of 90% occlusion on cardiac catheterization.¹² Additionally, α -PVP ingestion can also present with limb ischemia, compartment syndrome, or acute renal failure requiring dialysis.¹³

Conclusion

As synthetic cathinones, particularly α -PVP, are becoming more widespread in Florida, more patients are presenting with sequelae of their abuse. While most providers already know the classic "agitated delirium" presentation of α -PVP, it is important for us to be aware of the other possible complications, including cerebrovascular and cardiovascular ischemia, as well as trauma, limb ischemia, compartment syndrome, and acute renal failure requiring dialysis. ●

References

1. Disalvo, D. The backstory you really need to know about flakka and other synthetic drugs. *Forbes Magazine*. 2015.
2. German CL, Fleckenstein AE, Hanson GR. Bath salts and synthetic cathinones: an emerging designer drug phenomenon. *Life Sci*. 2014; 97(1):2-8.
3. Felice, L et al. Synthetic Cathinones: Chemical Phylogeny, Physiology, and Neuropharmacology. *Life Sci*. 2014 Feb 24; 97(1): 20-26.
4. Prosser, JM et al. Toxicology of Bath Salts: A Review of Synthetic Cathinones. *J Med Toxicol*. (2012) 8:33-42
5. Chai, C. "What you need to know about flakka, the latest drug causing erratic behaviour," *Global News*. 2015.
6. Cavanaugh, A. Flakka—The Drug Wreaking Havoc in South Florida. *ADLS*. 2015.
7. Knoy JL, Peterson BL, Couper FJ. Suspected impaired driving case involving α -pyrrolidinovalerophenone, methylone and ethylone. *Journal of analytical toxicology*. 2014; 38(8):615-7.
8. Rojek S, Kula K, Maciow-Glab M, Klys M. 2016. New psychoactive substance α -PVP in a traffic accident case. *Forensic Toxicol*. 34:403–410
9. Wright TH, Harris C. Twenty-One Cases Involving Alpha-Pyrrolidinovalerophenone (α -PVP). *Journal of analytical toxicology*. 2016; 40(5):396-402. Darragh J. What are the difficulties in detecting bath salts, their effects and how do we test for them? *Forensic Magazine*. December 2014.
10. Katselou M, Papoutsis I, Nikolaou P, Spiliopoulou C, Athanaselis S. α -PVP ("flakka"): a new synthetic cathinone invades the drug arena *Forensic Toxicol*. 2015; 34(1):41-50.
11. Cherry SV, Rodriguez YF. Synthetic Stimulant Reaching Epidemic Proportions: Flakka-induced ST-elevation Myocardial Infarction with Intracardiac Thrombi. *J Cardiothorac Vasc Anesth*. 2017; 31(1):e13-e14.
12. Sellors K, Jones A, Chan B. Death due to intravenous use of α -pyrrolidinopentiophenone. *Med J Aust*. 2014; 201(10):601-3.
13. Zawilska JB, Wojcieszak J. α -Pyrrolidinophenones: a new wave of designer cathinones *Forensic Toxicol*. 2017; 35(2):201-216.

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News Release

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FOR IMMEDIATE RELEASE

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East Lansing, MI <October 2, 2018> Physicians certified by the American Board of Emergency Medicine (ABEM) who also hold an ABEM-issued subspecialty certificate are no longer required to maintain their core Emergency Medicine (EM) certification as long as they are participating in an ABEM-accepted Maintenance of Certification Program. ABEM believes that physicians who continue to practice Emergency Medicine in addition to their subspecialty should continue to maintain their EM certification. Acceptable MOC programs include:

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Physicians with questions are encouraged to contact ABEM at 517.332.4800, ext 387, or subspecialties@abem.org.

###

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Physician Wellness is Both an Ideal and a Problem

Susan Coppa

We recognize the systemic, economic, and individual benefits of wellness, yet it can be hard to define. Free from health issues? Time to exercise or spend with loved ones? A sense of well-being, optimism and fulfillment? Once defined, how do we measure baselines and progress? Moreover, if we can identify evidence-based interventions, will the system (and the individual) have the flexibility to incorporate them into practice?

In other words, to study physician wellness is to study psychology, anthropology, systems and organizational management, productivity, administration and many other fields at once. Meaningful solutions will require dedication to the field and years of careful study.

It is with this understanding that Stanford School of Medicine has created a new Emergency Medicine Physician Wellness Fellowship — one of the first of its kind in the nation.

“The program is designed to prepare fellows to be in charge of a physician well-being program and potentially to be a Chief Wellness Officer of a hospital system,” notes Rebecca Smith-Coggins, Associate Dean, Office of Medical Student Wellness at Stanford and Emergency Medicine Physician Wellness Fellowship Director.

It has been my personal observation that physicians have so much more to give to their patients and their careers when they are feeling fit, at



peace with themselves, and appreciated by their leadership in a culture of support. When one of these important elements disappears, work life can easily become arduous and weighty. In this setting, individuals lose the feeling of personal fulfillment.

The fellowship comes one year after Stanford Medicine became the first academic medical center in the country to create a position of chief wellness officer, and two years after the university established a WellMD Center to focus on peer support, stress reduction, and ways to cultivate resilience.

Fellows will study and master the ever-increasing body of literature devoted to physician well-being and professional fulfillment. While study after study show links between burnout and physician error, higher mortality and less compassionate care, there is often uncertainty as to how to remedy the problem.

“We strongly believe that the time has come to lend academic rigor, research training and an elevated professionalism to the field of physician wellness,” commented Cori Poffenberger, MD, Director of Faculty Development and Wellness at Stanford Department of Emergency Medicine. “In the field of emergency medicine we see extremely high burnout rates but we believe those rates are neither inevitable nor unavoidable, if we approach physician wellness as an academic pursuit.” ●

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There's an App for That: How and Why to Integrate Apps on Your Next Shift

Amy Ho, MD
Young Physicians Section Board of Directors



If it's one thing millennial doctors know well, it's apps. As millennial doctors are entering the specialty as young attendings, the use of apps on shift becomes more and more prevalent. Because emergency medicine is such a fast-paced specialty full of depth and breadth, easy-access smartphone applications have become a cornerstone of our practice so that we can mentally off-load facts we don't need to memorize and let technology help us.

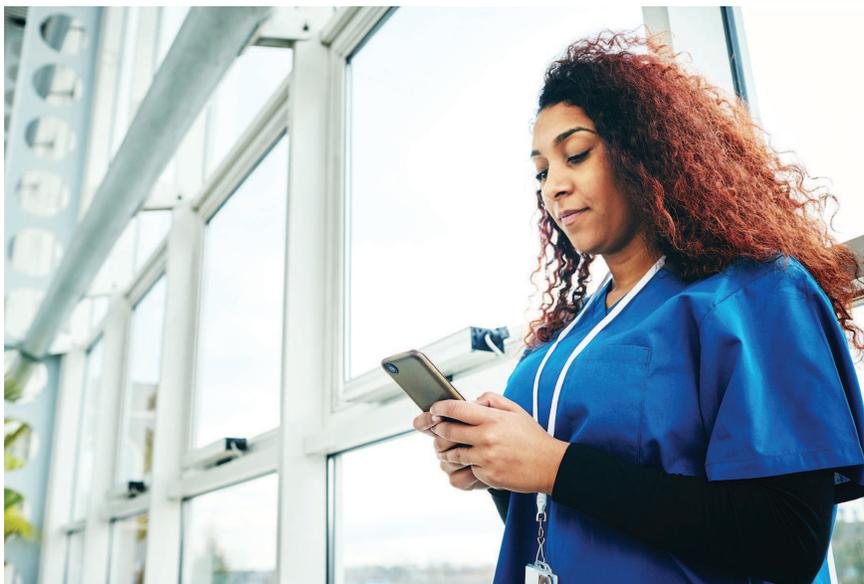
When it comes to any kind of technology, however, its effectiveness is only as good as the user. I suggest playing with any application you plan on using in practice well in advance and understanding its limitations and abilities and when and how to best integrate it into your workflow. Below, is a list of some of my personal favorites and then some suggestions.

My five personal favorite apps on shift:

1. **A digital cloud service (Dropbox, Google Drive or Box):**

Pick one, but a central repository for policies and procedures for the ED that anyone can access at any time is key, especially in an electronic searchable format. Forgot which service admits certainly pathology? Makes the discussion with consultants much easier when you have written policy already handy. Be wary of hospital firewalls that may block these apps or websites, and if so, just know you'll have to be on cell data service and not WiFi.

2. **MDCalc:** I used to save smartphrases in my electronic medical record for every major decision-making tool (HEART, PERC, Wells, Glasgow Blatchford Score, etc.) until I realized I could calculate those on the fly and more with the help of apps like MDCalc. I particularly like that it has lesser-used tools (i.e., LRINEC score) that our consultants may like but that we don't use regularly. In practice, I find that bedside use of MDCalc actually helps give patients an idea of their risk stratification and how I'm using that information. It is compelling to tell a chest pain patient you're worried about their coronaries, but even more compelling to tell them they have a 30-day MACE of 12-16.6%.



3. **Evernote:** This is functionally an electronic notebook where you can write notes, link photos/audio and sort into "notebooks". I use this in non-shift life as well, but it's an excellent place to keep live notes of things you want to remember on shift. In particular, I keep a note of basic things like bathroom codes, crash cart codes, my username for EPIC and PACS, etc for each ED I work in. I also



keep one note running with certain dosing or points I don't want to forget (i.e., new policy on ancef vs. ceftriaxone for open fractures), and one last note for patients or items to follow up with (i.e., MR of interesting patient, or point I wanted to read up on later). This saves the problem of carrying tons of paper notes home and/or potentially losing them. However, make sure that you keep your notes HIPAA compliant.

4. **PalmEM, WikiEM, UpToDate (\$):** These are all "generalist" apps with a lot of information. I'm particularly partial to PalmEM and then WikiEM for emergency medicine relevant topics. These are helpful when I want to brush up on a topic I don't see too often but only need to know the basics. Again, these apps are definitely only as good as you know what it contains and how evidence-based or peer-reviewed it is. UpToDate is sometimes purchased by hospital licenses and physicians can use their own account on that license. Obviously, this is less "bullet points" than apps like PalmEM or WikiEM, but provides quick access information of less-familiar topics.

5. **Epocrates:** This is a popular drug application that contains information on dosing, pictures of pills, approximate pricing, interactions and toxicity. It gives good basic information if you don't have easy access to a pharmacist or just want to verify your own dosing.

This is not an exhaustive list, just personal preference. I've included below lists of other applications and brief descriptions to explore and play with. Some of these applications, unfortunately, do not get updates with new iOS or androidOS releases, so make sure you don't become too reliant, or at least check for software updates! ●

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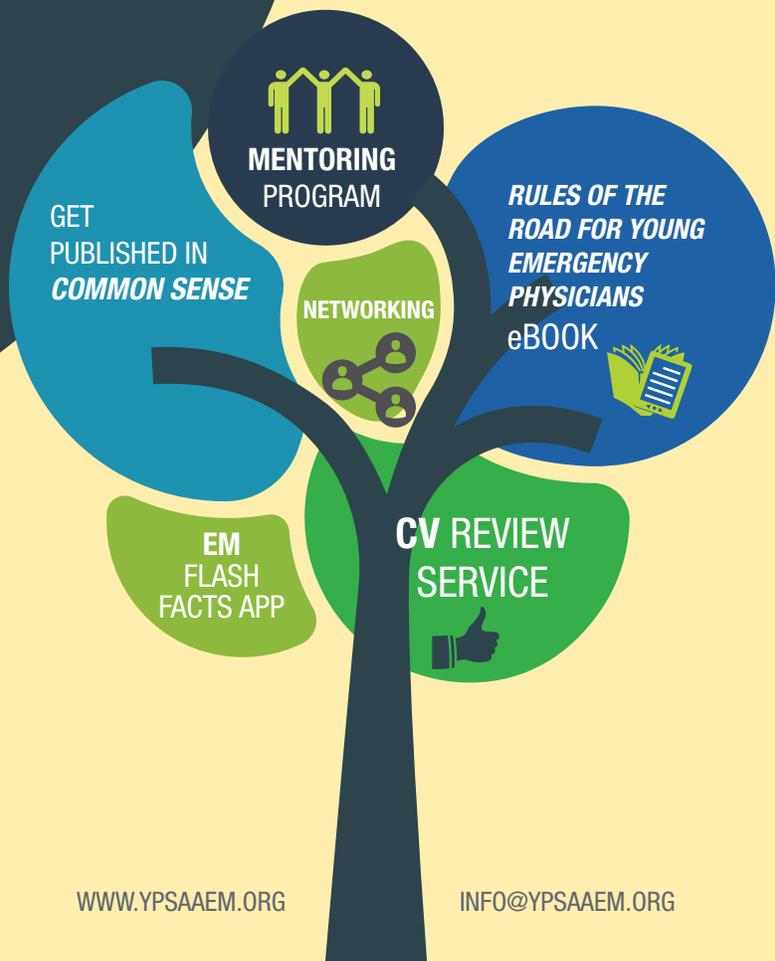
General or EM "Generalist" Apps	MDCalc ERRes 10SecEM PEPID UpToDate WikiEM PalmEM
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Phones In Medicine

MohammedMoiz Qureshi, MD
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List your most intimate relationship. Most of us will list a spouse, parent, sibling, relative, or friend. Most of us however will also forget our most intimate—our beloved phones.

They keep us company when we eat, they're the last things we see before sleep, and they're the first things we reach for when we're stressed. And according to some data, we check them, on average, over 60 times a day. For us in medicine, they serve as a great resource. They allow us to look up new cancer drugs we've never heard of, remind ourselves of rates when we forget how to start tube feeds, and of course they serve as the clock we check counting the hours till relief checks in.

But does our dependence on phones go too far? From what we've observed in modern day society most of us agree yes, but what about in medicine? Are we allowing ourselves to lower our previous demands to memorize certain algorithms and pathways that we learned from repetition and become dependent on our technology? Most importantly are we letting it affect patient care?

The cost benefit ratio can be argued endlessly. An article from 2013 concluded that "findings suggest there is very little research evidence that supports the use of mobile devices in the ED and more research is needed to better understand and optimize their use." So anecdotal support is currently all we really have. Holding state of the art technology with access to groundbreaking research in the palm of your hands for instantaneous access is invaluable; but how does it compare when there are comical memes pinging your notifications as you frantically search the mg/kilo dose of succinylcholine on a crashing pediatric patient? Many argue a total ban of phones in hospital settings, while others vehemently advocate its benefits like FOAMed and HippoEM. So where does the balance lie?

As a millennial myself, I'd say that a ban will almost always fail. I'll refer to our ancestors with the glaring success of alcohol prohibition as evidence. But I do think that there are ways we can make phone use more professional for our patients and ourselves. Finances and budgets aside, it would be ideal to have a separate work phone and personal phone. But seeing how the new iPhone Xs Max is well over a thousand dollars that may not be the most feasible idea. If we accept that having immediate access to resources as a definite benefit but having the easily accessible distraction of social media a definite negative, perhaps Apple and Android can create an alternate user operating system. Akin to the "Do Not Disturb" mode people use to sleep, or the new "Distraction-less Driving" feature on the iPhone, perhaps there can be a professional mode option that hides apps like Facebook and Instagram, but still allows functionality for apps like Pepid and Pedistat. Having this mode would allow us to toggle back and forth and hopefully prevent that awkward moment when you forgot to silence your phone and your Macarena ring tone goes off in a patient room.

So what do we do in the meantime while I pitch what I hope is a multi-million dollar idea to Apple? I would advocate that we ensure we are spending as much time as we can with our patients face to face and explaining our cell phone use when we do get those side glances and raised eyebrows. Often it may also be helpful to show them what we see on our screens in terms of drug databases and research articles. We can also go further as part of our patient education, and provide insight into helpful apps that we use like MDCalc to incorporate shared decision making. All in all, it falls back on that ever so important concept of communication that was harped on in our medical education. By ensuring we are explaining our cell phone use and how they are so helpful to us in caring for patients, creates a more positive atmosphere and helps foster the sense of trust and respect that we strive to achieve. ●



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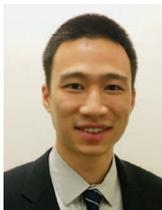
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Residency Match – In Hindsight

Jake Toy, DO
Modern Resident Blog Editor-in-Chief
Publications & Social Media Committee Chair



The February 2019 rank residency list deadline is fast approaching. For some, the process of ranking their chosen emergency medicine programs in order of preference was straightforward. For others, including myself, the process of picking a program that balanced superb training and happiness was stress inducing and anxiety provoking to say the least.

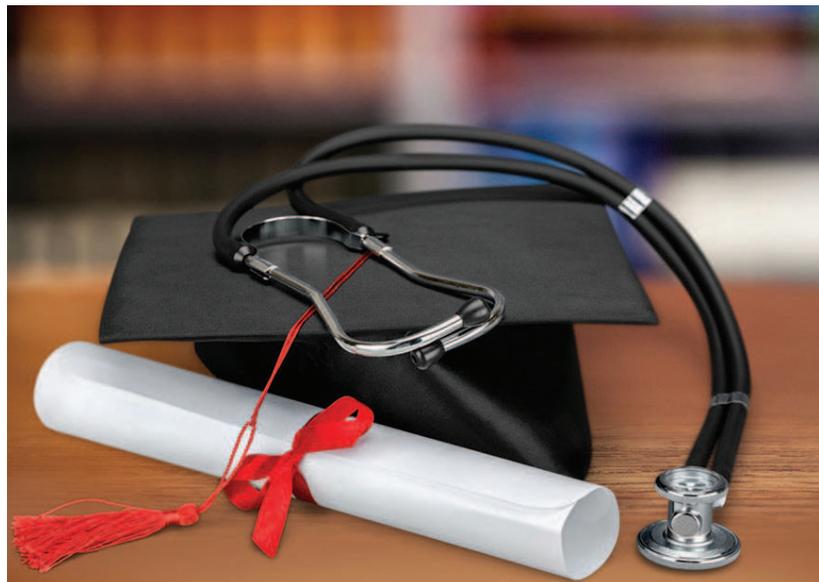
As I ranked my programs, I reached out for advice from faculty advisors, peers, and family, only to discover an endless sea of competing thoughts and ideas. Upon searching in the depths of internet blogs, this only further cast a large shadow of doubt and bias on my own rank list. With each person I spoke with and article I read, I found myself left with more questions than answers. At one point, a TV commercial advertising a hospital I was considering as a “World-Class Research Institution & Top Ranked Hospital” threatened to disrupt an initial draft of my program rank list altogether.

Amidst the mayhem, I came across a simple decision tool that was helpful toward finalizing my rank list. The beauty of this tool is that it is individualized. It enabled me to organize and prioritize what I was looking for in a residency without outside bias and appropriately evaluate the weight of each factor. For those fourth year students who are searching for a tangible resource to alleviate a few sleepless nights before the upcoming February submission date, this tool may provide new insight into your residency program rank list.

To start, list the programs you are considering across the top row. In the left vertical column, list the 10 most important factors to you in an emergency medicine residency. I realized this is easier said than done... Ideally, it should be the first ten factors that pop into your mind. And most importantly, only the applicant should determine these 10 factors in order to reduce outside bias. Finally, rate the importance of each factor to you with regard to each program on a scale from 1 to 10. Total values should be calculated in the bottom row. Ideally, this will amount to a numerical score and clear rank order.

Final Thoughts

I was chatting with a buddy from medical school recently and reflecting on our first months of intern year. In short, intern year is hard. Our initial ability to survive these first months, and hopefully till the end of residency, has been because of the locations we chose (including proximity to significant others, family, & friends) and our co-residents. Meeting your co-interns on the beach for volleyball, climbing with them after work, coming home to a place you share with your significant other, or visiting family on the weekends; I believe these aspects have been crucial to our success and happiness in residency thus far.



As an interviewing medical student submerged within a hunger-games-like struggle for an emergency medicine residency position, it was easy to lose sight of these simple keys to residency happiness. On the interview trail, my friend and I were both infatuated by reputation and prestige, research and fellowship opportunities, and the prospect of exploring a new city or state. All of these were very important aspects that I considered and there were times during the interview season when they were my top priorities. Yet once all the interviews were over, and I laid out my thoughts in this decision tool, it fostered equal evaluation of all elements. For me, I refocused on program location and resident community. I am grateful that I continued to prioritize these factors as I find them central to my current happiness as an intern.

For those entering the match in 2019, I hope you will be left with more answers than questions after reading this article. Good luck! ●

	Program #1	Program #2	Program #3
1. Location	1 to 10	1 to 10	1 to 10
2. Resident community	1 to 10	1 to 10	1 to 10
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total			

Figure: A simple decision tool for ranking residency programs

Resident Journal Review:

Intravenous Fluid Therapy in the Emergency Department and Critical Care Setting

Authors: Raymond Beyda, MD; Taylor Conrad, MD; Rithvik Balakrishnan, MD; Ted Segarra, MD; Taylor M. Douglas, MD;
 Editors: Kami Hu, MD FAAEM and Kelly Maurelus, MD FAAEM

Intravenous fluid (IVF) therapy is one of the most common therapies employed during the care and resuscitation of patients in the emergency, acute, and critical care settings. With several available IVF options such as balanced crystalloids, normal saline (NS), albumin, and other colloid solutions, it is clear that choosing the best solution, the optimal volume, and the appropriate rate of administration is an ever-present clinical challenge. In this review we attempt to address the following questions using recently published literature on the topic:

Does the use of balanced crystalloids (BC) in the resuscitation of patients confer a mortality/morbidity benefit when compared with NS?

Does the use of BC decrease the risk of acute kidney injury (AKI) in the acute setting?

D Annane, et al. Effects of Fluid Resuscitation With Colloids versus Crystalloids on Mortality in Critically Ill Patients Presenting With Hypovolemic Shock, The CRISTAL Randomized Trial. *JAMA*. 2013;310(17):1809-1817.

Crystalloids, including Lactated Ringers (LR), NS, and hypertonic saline, are thought to work based on the osmotic pressure of their contents. Colloids such as albumin, hydroxyethyl starch (HES), and gelatins, on the other hand, act on oncotic pressures to keep fluid in the intravascular space. The authors of the Colloids Versus Crystalloids for the Resuscitation of the Critically Ill (CRISTAL) trial sought to compare the efficacy of these two large classes of fluids in acute hypovolemic shock without making specific comments on the above subtypes.

The study was a multicenter, randomized, open label trial in five countries across three continents. Due to concerns of the inability to blind simultaneously at multiple centers, the authors instead conducted a blinded outcome assessment. Patients needed to have evidence of hypovolemia, defined as hypotension, evidence of low filling pressures and low cardiac index, and signs of tissue hypoperfusion or hypoxia. Exclusion criteria included pregnancy, DNR, brain death, burns >20% of body surface area, ESRD on dialysis, advanced chronic liver disease, known allergy, acute anaphylaxis, anesthesia related hypotension, and dehydration. Patients were categorized as having sepsis, trauma, or hypovolemic shock without sepsis or trauma. Exceptions to assigned fluid type included isotonic crystalloids for maintenance fluids in all patients and the administration of albumin to patients in the crystalloid group to treat hypoalbuminemia. The primary outcome was death at 28 days, with secondary outcomes of 90 day mortality, and days alive without mechanical ventilation or vasopressor therapy.

Across all the centers, 1,414 patients were enrolled in the colloid arm and 1,443 in the crystalloid arm over a nine year period to reach 90% power. There were no significant difference in baseline characteristics or the fluid type administered before enrollment. As expected, patients in the

colloid arm received significantly less fluids than those in the crystalloid arm (2 L vs 3 L, $p < 0.001$) over the same time period. A total of 16.5% of patients in the crystalloid arm received albumin, which was permitted for hypoalbuminemia. There was no significant difference in 28 day mortality (359 vs 390 deaths, RR 0.96, $p = 0.26$). They completed subgroup analysis by comparing fluid types one-on-one for all types of hypovolemia and for sepsis, with no significant difference in mortality. They did find significantly less deaths at 90 days in the colloid arm as compared to the crystalloid arm (434 vs. 493 deaths, RR 0.92, $p = 0.03$), as well as more days alive without mechanical ventilation at 28 days (14.6 vs. 13.5 days, $p = 0.01$) and without vasopressor therapy at 28 days (16.2 vs 15.2 days, $p = 0.03$) in the colloid arm. These results were unexpected by the authors, and the study therefore was not adequately powered to detect significant differences between them.

The authors were able to conclude that there was no difference in 28 day mortality, regardless of shock type. They did report that each center had a significantly different mortality rate, but that this difference was not associated with any treatment effect. Although they compared fluid types one-on-one, they did not make any conclusions on hyperoncotic vs. hypononcotic colloids, isotonic vs. hypertonic crystalloids, or buffered vs. non-buffered solutions. This was an expected consequence of their goal of involving a large number of patients across multiple centers, and not instituting strict requirements for the type of fluid administered within the broader categories of colloids and crystalloids. The main flaw in their analysis was the failure to address the 25.3% of patients in the colloid arm who received crystalloids incorrectly and the 6.5% of patients in the crystalloid arm who received colloids incorrectly. These patients are included in the intention to treat analysis without any separate subgroup analysis to determine if their results altered the primary outcome. So while their conclusion that colloids do not increase mortality as previously stated in other studies is an important one, it is difficult to evaluate in the context of this large crossover rate. The authors admit that the reduced 90 day mortality requires additional study, but their conclusion regarding no significant difference in 28 day mortality also requires re-evaluation.

P Young, et al. Effect of a Buffered Crystalloid Solution vs Saline on Acute Kidney Injury Among Patients in the Intensive Care Unit, The SPLIT Randomized Clinical Trial. *JAMA*. 2015;314(16):1701-1710.

The non-physiologic strong ion difference (SID) of NS is hypothesized to be behind its association with AKI when compared with balanced salt solutions. However, much of the evidence for the association between NS and AKI was derived from observational studies with perioperative subjects. The Saline vs Plasma-Lyte 148 for ICU fluid Therapy (SPLIT) trial was designed to assess whether there was such an association among

Continued on next page

patients admitted to the ICU. This was a double blinded, cluster, randomized, double crossover study comparing the effects of NS and plasma-lyte (PL) on renal function. It was performed in four tertiary care ICUs in New Zealand, three of which were mixed (adult and pediatric) medical and surgical ICUs, and the other with predominantly cardiothoracic and vascular surgical patients. The primary outcome was the proportion of patients with AKI (based on the RIFLE definition); secondary outcomes were the difference between baseline and peak serum creatinine, cumulative incidence of AKI based on RIFLE and KDIGO definitions, the use and indications for renal replacement therapy (RRT) in the ICU, and the requirement for RRT post discharge. Each participating ICU was assigned to use a blinded study fluid (either NS or PL) for alternating treatment blocks lasting seven weeks. After seven weeks passed, the blinded fluid was crossed over. As the study period lasted 28 weeks, each participating ICU used each study fluid twice. Fluids were contained in indistinguishable 1 L bags, either labeled “fluid A” or “fluid B” depending on the treatment block. Two ICUs initially used one fluid, and the other two initially used the alternative. Both investigators and clinicians were blinded to the fluid allocation for the study duration. The study was funded via a grant from the Baxter Healthcare Corporation.

There were 1,162 patients (10 opted out; 85 had missing primary outcome [no baseline and/or no ICU creatinine measured] data) in the PL group and 1,116 patients (6 opted out) in the NS group. Both groups had similar baseline characteristics and received similar volumes of IVF (median 2 L for NS [range 1–3.5 L] vs median 2 L for PL [range 1-3.25 L]). Patients who remained in the ICU for more than one treatment block were continued on their originally assigned fluid. Of note, both groups had large proportions of surgical (particularly elective) patients.

The primary outcome of AKI was seen in 9.2% (94/1025) of the NS group and in 9.6% (102/1067) of the PL group, (absolute risk 0.4% [95% CI -2.1% to 2.9%], relative risk 1.04 [95% CI 0.8 to 1.36, $p=0.77$], with a number needed to treat of 250. Similarly, there were no significant differences noted between the two study groups with respect to the secondary outcomes, duration of mechanical ventilation, duration of ICU stay, hospitalization, ICU mortality, or hospital mortality. Subgroup analysis suggested an association between ICU site, fluid choice, and the risk of developing AKI (composite $p=0.05$).

The trial had several key limitations. First, though patients were allocated to either Fluid A or Fluid B depending on their location and the treatment block, open label NS and balanced salt solution were available in situations with a specific indication for their use. Additionally, there were no restrictions on the use of other fluids or therapies beyond the use of fluid A or fluid B during the study period, and as study enrollment was defined as the time from first administration of study fluid, there was no control in place for fluid choice and administration prior to ICU admission/transfer (93% of the subjects from each group received IVF, mostly balanced salt solutions, prior to study enrollment). Finally, the relatively high p values and the authors' admission that they did not perform sample size calculation indicate that the trial was likely insufficiently powered to detect a significant difference between groups. As such, it is difficult to make any definitive conclusions regarding choice of IVF based on the SPLIT trial.

M Semler, et al. Balanced Crystalloids versus Saline in Critically Ill Adults. *N Engl J Med.* 2018; 378:829-839.

Some evidence in the critical care literature suggests that the use of NS solution is associated with AKI, hyperchloremic acidosis, and an increase in mortality. Therefore, there has been great interest in identifying whether or not the type of IVF composition truly has any effect on any or all of these outcomes. The Isotonic Solutions and Major Adverse Renal Events Trial (SMART) was a pragmatic, cluster-randomized, unblinded, multiple crossover trial that compared BC – either LR or PL to NS as the fluid of choice in critically ill adults in both surgical and medical intensive care units (ICUs). The trial was conducted across five ICUs at Vanderbilt University, a single large academic center in the U.S. The primary outcome was major adverse kidney events at 30 days (composite outcome, including all-cause mortality, need for RRT, and persistent renal dysfunction [final creatinine $\geq 200\%$ baseline]). Each month participating ICUs and the corresponding department that primarily admitted to them, ED or operating room, were randomized to either BC or NS.

There were 7,942 patients in the BC group compared to 7,860 patients in the NS group. The baseline characteristics between the two groups were similar. The median volume of IVFs administered in the BC group was 1 L with an interquartile range (IQR) of 0-3.21 L, while in the NS group it was 1.020 L (IQR 0-3.5 L). Since the type of fluid given depended on which IVF was randomly assigned that particular month, there was potential for receiving both BC and NS in patients who were in the ICU at the transition from one month to the next. However, only 5.4% and 4.4% of the patients in the BC and NS group, respectively, received a fluid from the other group as a result of this.

The composite primary outcome of major adverse kidney events within 30 days occurred in 14.3% of the BC group and in 15.4% of the NS group (marginal OR 0.91, 95% CI 0.84-0.99, conditional OR 0.90, 95% CI 0.82-0.99, $p=0.04$). Interestingly, in a prespecified subgroup of septic patients, the outcome of 30 day in-hospital mortality was 25.2% in the BC group compared to 29.4% in the NS group (adjusted OR 0.80, 95% CI 0.67-0.97, $p=0.02$), with a number needed to treat of 23. Serum chloride and bicarbonate concentrations were significantly higher in the NS group and lower in the BC group. The difference was proportional to the volume of IVF administered. There was no statistically significant difference between the individual components of the composite outcome across the two groups.

This trial adds further evidence to the idea that BC may reduce the likelihood of all cause death and AKI in the ICU, particularly in septic patients. While the trial only showed a small benefit in absolute risk reduction of the composite outcome, the authors argue that when this small benefit is applied to large numbers of ICU patients each year, there is the potential for significant benefit. The trial does have some limitations, including the fact that it is single center, possibly affecting its external validity and applicability to other settings. Importantly, the use of a composite primary outcome may overestimate any benefit. In addition, the trial was unblinded, and although the trial compared BC to NS, both PL and LR were included in the BC group, making direct comparisons between the two difficult.

Continued on next page

W Self, et al. Balanced Crystalloids versus Saline in Noncritically Ill Adults. *N Engl J Med.* 2018; 378:819-828.

In response to prior studies indicating the potential benefit of BC over NS, researchers at Vanderbilt decided to develop a sister study to the already up-and-running SMART trial to determine whether the difference in outcomes between patients receiving BC versus NS was affected by the underlying severity of illness in the patient. In addition to potentially expanding the general applicability of the findings in the SMART trial, the inclusion of a study (Saline Against Lactated Ringer's or Plasma-Lyte in The Emergency Department [SALT-ED]) that focused on non-critically ill patients piqued the interest of providers in the ED setting, where the majority of patients do not meet the definition of critically ill as defined in the earlier SMART trial.

Like its sister study, SALT-ED was a single-center (academic tertiary care center), prospective, doubly-unblinded, pragmatic, multiple-crossover trial comparing BC to NS. Patients were enrolled over a 16 month period but overlapped with that of the SMART Trial. Inclusion criteria required that subjects be ED patients greater than 18 years old, receive at least 500 mL of crystalloids, and be admitted to the hospital. The exclusion criteria were admission to the ICU or discharge home. A total of 13,347 patients met criteria for inclusion, with 6708 (50.3%) assigned to BC and 6639 (49.7%) assigned to NS. The study-designated crystalloid alternated each month, but the final decision of which fluid to administer was ultimately up to the clinician. During BC months, the clinicians could choose either LR or PL. In addition, the selection of fluids after transfer from the ED was not included in the final assessment.

The primary outcome was a composite of in-hospital death and hospital length of stay (LOS), and was defined as the number of days alive and out of the hospital between the index ED visit and 28 days later. The three secondary outcomes were 1) major AKI within 30 days (composite outcome, including death, new RRT, or persistent renal dysfunction [final creatinine $\geq 200\%$ baseline]); 2) AKI of stage 2 and higher (maximum creatinine $\geq 200\%$ baseline, creatinine ≥ 4 mg/dL with an absolute increase of ≥ 0.5 mg/dL, or initiation of new RRT before hospital discharge or within 30 days of the initial ED visit); and 3) all-cause in-hospital mortality. Of note, patients with no available baseline creatinine level were still included in the study, but they were assigned a calculated baseline creatinine based on an equation developed by the authors.

The authors concluded that despite differences in the levels of chloride and bicarbonate between the NS and BC groups, there were no significant differences in the number of hospital free days. However, they did argue for a difference in their secondary outcome, citing a lower incidence of 30-day major AKI in the BC group (4.7% vs. 5.6%; adjusted OR, 0.82; 95% CI, 0.70 to 0.95; $p=0.01$).

The trial was overall well designed but its results are inherently limited by all of the obvious biases associated with single-center, unblinded studies. Its findings are further mitigated by their nature, as composite outcomes are inherently less reliable than individual outcomes. In addition, despite the study's noble attempt to include non-critical patients, its broader applicability is still limited by its overall demographics, which were largely white

(77%), middle-aged (median age 54 years) patients (~1:1 male:female) who were primarily admitted to medical (~75%) services rather than surgical (~25%) services. In addition, the study population had little to no baseline renal dysfunction (baseline creatinine 1.32 [mean], 0.93 [median]; ~20% had baseline creatinine >1.5 ; ~10% had chronic kidney disease [CKD] \geq stage 2; ~2% had baseline end-stage renal disease. Thus, these results may not apply to non-white patients, surgical patients, or those with more advanced renal disease.

The study's two most critical flaws center on its reliance on calculated baseline renal function and on the low volume of exposure to the treatment fluids. More than one third of the patients' baseline creatinine levels were unavailable. This should give the reader significant pause, since the study's only statistically significant finding was a calculated, secondary, composite outcome. Perhaps equally concerning is the amount of fluids given; the total amount of fluid administered to each patient was startlingly low, with a median volume of only 1 liter per patient. As a result, it is extremely hard to imagine how such small volumes of fluids could be the driving force for any significant differences in the patients' overall mortality or renal outcomes.

Despite its good intentions, the SALT-ED trial was unfortunately too strongly limited by its inherent biases, limited fluid volumes, and composite outcomes to be able to glean any real insight into the potential differences between BC and NS in non-critically ill patients.

Conclusion

Studies of IVF therapy have yet to make any strong statement regarding a superior choice with regards to shock type, adverse outcomes, or mortality benefit. The SMART trial was able to conclude that renal outcomes may be improved with BC although their analysis methods have been called into question, while the other studies, including the SPLIT trial, were not powered or designed appropriately to be practice changing. Overall, the studies into IVFs demonstrate that there is not one appropriate IVF choice, but rather with the information available an IVF must be chosen to fit the clinical situation. Further research into fluid use will be important in understanding their respective effects. It is clear that well designed studies will be difficult to produce given the inherent challenges in providing controls and preventing bias.

Now we return to the questions posed in the introduction:

1. *Does the use of BC in the resuscitation of patients confer a mortality/morbidity benefit when compared with NS?*
The available evidence is not strong enough to make any conclusive statement about mortality benefit of BC over NS.
2. *Does the use of BC decrease the risk of AKI in the acute setting?*
There does appear to be a trend towards improved renal outcomes with BC with the best evidence from the SMART trial, however the other studies were not designed or powered to state this with certainty. Further research is required to detect a statistically significant change in the acute care setting. ●

Continued on next page

References

1. Bampoe, S. et al. Perioperative administration of buffered versus non-buffered crystalloid intravenous fluid to improve outcomes following adult surgical procedures. *Cochrane Database Systematic Reviews*, 9
2. Finfer, S., Myburg J., and Bellomo, R. Intravenous Fluid Therapy in Critically Ill adults. *Nature Reviews Nephrology*. 14(9): 541-557
3. Myburgh JA, Mythen MG. Resuscitation Fluids. *New England Journal of Medicine*. 2013;369(13):1243-1251. doi:10.1056/nejmra1208627.

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Medical Student Council President

'Tis the Season

Shae Boles
Medical Student Council President



Interview season. For 4th year medical students going into emergency medicine, November-January is a stressful, yet exciting time. Audition rotations are over and students can finally relax and focus on getting to know the programs which they applied to. But interviews bring a lot of anxiety and nerves. Be yourself! Sure, it sounds cliché, but the process of assigning residency programs is called the match for

a reason. For most applicants there is a program out there that is right for them and it is their job, as well as the interviewers, to decide which program that is. At this point your CV is your CV, your publications are your publications, your grades are your grades. Own your application, explain any mishaps, and try and enjoy the process.

Make a list of what is important to you in a residency. Some examples are: location, a big trauma center, pediatrics, strong ultrasound, interesting didactics, and support from faculty. Bring this list or a list of questions with you as a reminder. Certain questions might be better answered by residents, and some by faculty. Avoid asking simple questions that could be found on the website just for the sake of asking questions- they want to know that you have thought about their program and truly considered it. Wear something professional, but wear comfortable shoes so you can manage walking around during tours.

In terms of preparation, it may seem silly but practicing answers out loud helps you sound composed during the interview, regardless of if the questions you use are like the actual questions or not. You can do this with a friend, or even alone. Know your application and have a list of experiences that are most important to you, or show who you are as an applicant. Again, practice talking about these experiences out loud. You have gone through your CV a million times in writing but it is different when you are asked to talk about it.

This time of year tends to be tough on the wallet for everyone between holiday parties, travel, and gifts. Do the best you can to be frugal. Reach out to old friends or classmates in the cities you are applying to and ask to stay or find out if the schools have residents or students who can house you for a night or two. Another option is to get a hotel credit card to start building points or an airline credit card to build miles.

This cannot be stressed this enough—enjoy the process. Medical school is almost over. If you have the time and money, try and explore a new place while you interview. The time will fly by and soon you will have less of an excuse to travel somewhere new and meet new people. This is all just my two cents. You can find a ton of advice and information on the internet. Use your resources—like anything else you will likely feel better if you are prepared! Good luck! ●

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Episode Highlight — Evaluating Job Opportunities: Making the Right Choice

In this episode, Jessica Zahn, DO and Andy Walker III, MD FAAEM, discuss how to make the right choice when evaluating job opportunities. Dr. Zahn is a resident at University of Illinois at Chicago and member of the RSA Education Committee. Dr. Walker is a past AAEM board member, Chair of the AAEM Government and National Affairs Committee, and President of TNAEM.

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Keynote Speaker

Tuesday, March 12, 2019 | 8:00am-8:45am

Water and Stars

Matthew Wetschler, MD



In November of 2017, Dr. Matthew Wetschler, a Stanford-trained emergency physician, former professional athlete, and visual artist had a catastrophic surfing accident, which nearly killed him and initially rendered him a quadriplegic. In less than a year, he has made a near-complete recovery. Inspired by his experience, and lessons gained on the journey to recovery, Dr. Wetschler has developed a new lecture about navigating our most difficult challenges with strength and grace. Prior to his injury, drawing from his experiences during clinical training, Dr. Wetschler toured nationally to renowned institutions such as Harvard, Duke, UCSF and Stanford as a guest lecturer speaking to the phenomenon of physician burnout, well-being, and personal optimization.

Plenary Speakers

Sunday, March 10, 2019 | 1:30pm-2:15pm

Emergency Cardiology 2019: The Articles You've Got to Know!

Amal Mattu, MD FAAEM



Sunday, March 10, 2019 | 2:45pm-3:30pm

Sepsis – New Recommendations

Peter M.C. DeBlieux, MD FAAEM



Monday, March 11, 2019 | 8:00am-8:45am

New Horizons in Trauma Resuscitation

Thomas M. Scalea, MD FACS MCCM



Monday, March 11, 2019 | 9:00am-9:45am

Efficient EM Care of the Child with Special Needs

Ilene Claudius, MD FAAEM FAAP FACEP



Monday, March 11, 2019 | 1:00pm-2:15pm

Essential Resuscitation Articles 2018-2019

Corey M. Slovis, MD FAAEM FACP FACEP



Wednesday, March 13, 2019 | 8:00am-8:45am

Neurology Updates

Evie Marcolini, MD FAAEM FACEP FCCM



Wednesday, March 13, 2019 | 9:00am-9:45am

Critical Care in Review

Haney Mallema, MD FAAEM



Dr. Wetschler's lecture discusses the experience of death, paralysis, and, eventually, a remarkable recovery. Weaving in his expertise of burnout and the psychology of elite-athletic performance, he distills valuable mental frameworks for self-optimization, resilience, durational effort, and, ultimately success inside intensely demanding and uncertain endeavors. These lessons are anchored within a riveting, against-all-odds story of recovery, one that involves narrowly escaping death, the cutting-edge science of modern spinal injury management, and a vibrant testament to our innate human capacity.

Visit the AAEM19 website for full educational details including session titles, speakers, and more!

www.aaem.org/AAEM19

Pre-Conference Courses

Hands-On Courses

Ultrasound — Beginner

Saturday, March 9, 2019 | 8:00am-3:45pm

This is the ultimate ultrasound course for EPs. This year includes additional focus on echocardiography and central line placement. Didactic lectures will provide state of the art audiovisual presentation by veteran faculty, followed by small groups of a maximum four participants / one instructor allowing you ample hands-on time for ultrasound scanning.

6.25
Credits

Bleeding to Death? What's New in Military Hemorrhage Control

Saturday, March 9, 2019 | 12:30pm-5:45pm
Jointly Provided by USAAEM

Would you like to learn about translating military damage control resuscitation strategies into your civilian practice? A unique military-civilian partnership has allowed for the widespread deployment of low titer O+ whole blood (LTO+WB) in the San Antonio metropolitan area. The Uniformed Services Chapter Division of AAEM (USAAEM) will offer our experience with deploying LTO+WB in hospitals and on ground ambulances. We will also provide education on a variety of techniques (REBOA, modified thoracotomy, and AAJT) you can deploy in the setting of traumatic arrest and peri-arrest. Approximately twenty five percent of the time will be dedicated to hand-on instruction and demonstrations.

4.75
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Ultrasound — Advanced

Sunday, March 10, 2019 | 8:00am-12:30pm

A fully hands-on experience! Didactic lecture videos will be available at your convenience one month prior and one month following the advanced US course. At the onsite course there will be a maximum four participants to one instructor allowing you ample hands-on time for ultrasound scanning.

3.75
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Expert Instruction

Resuscitation for Emergency Physicians

Two-Day Course

Saturday, March 9, 2019 | 7:30am-5:00pm
Sunday, March 10, 2019 | 7:30am-11:00am

Resuscitation for Emergency Physicians (REP) is an outstanding course for the emergency physician that encompasses a broad spectrum of topics including cardiac arrest, noninvasive ventilation, ED mechanical ventilation, post-intubation hypotension, septic shock, pediatric resuscitation, CNS catastrophes, toxicologic disasters, trauma, and complex cardiac conditions. Quite simply, this course will help you save lives!

9.25
Credits

Medication Assisted Treatment Waiver Training

Saturday, March 9, 2019 | 7:30am-5:00pm

Jointly provided by the American Academy of Addiction Psychiatry, a DATA 2000 sponsoring organization and Providers Clinical Support System

Physicians are required to complete eight hours of medication assisted treatment (MAT) training to apply to the Drug Enforcement Agency for a waiver ("X-license") to prescribe buprenorphine, one of three medications (buprenorphine, naltrexone and methadone) approved by the FDA for the treatment of opioid use disorder.

9
Credits

Emergency physicians have an opportunity to profoundly impact the deadly opioid epidemic by bridging patients to addiction treatment from the ED with buprenorphine. Along with the X-license, the information in the course will facilitate this life-saving, and potentially life-transforming, intervention.

Funding for this initiative was made possible (in part) by grant nos. 5U79TI026556-02 and 3U79TI026556-02S1 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Please visit the website for more information on course eligibility.

ECG in the Emergency Department: Acute Coronary Syndrome and Dysrhythmia

Sunday, March 10, 2019 | 7:30am-12:00pm

The ability to interpret the electrocardiogram (ECG) is a life-saving skill, but ECG training in most specialties only teaches the basics. Through a series of mini-lectures and multiple case-presentations, you will learn an assortment of ECG pearls to elevate your ability to interpret ECGs to a significantly higher level. The course will also discuss many of the common pitfalls that can lead to disastrous outcomes. Whether you are a new residency graduate or a seasoned physician, you will learn new and useful information that will truly make a difference in patient care and will save lives!

4
Credits

2018 LLSA Review Course

Sunday, March 10, 2019 | 8:00am-12:00pm

The experienced emergency physician will value this evidence-based review course for all of the required readings for the 2018 LLSA Review. Course content will be discussed both via lecture and through small group discussion on key topics for each mandated journal article.

3.75
Credits

2019 Medical Student Track

Sunday, March 10, 2019 | 7:30am-12:05pm

The medical student track will provide you with invaluable advice on how to successfully apply to an emergency medicine residency. There will also be a residency program director panel. Pre-registration is required and open to medical students only, 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!

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