New York American College of Emergency Physicians

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EMERGENCY PHYSICIANS' INTERIM COMMUNIQUE

PRESIDENT'S MESSAGE

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Planning For Our Future

Every other fall, the New York ACEP Leadership gathers for a strategic planning session. Whether you call it strategic planning, long-range visioning or initiative prioritization, it is an important process to reassess the environment we work and live in, and ultimately make sure that New York ACEP is adequately meeting the needs of each of us – the membership. Members of the Board and Committee Chairs spent two days in September and much of the details of this planning process will manifest itself in the objectives and assignments of New York ACEP's Committees. Whether Government Affairs, Practice Management, EM Resident, Education, Research, EMS or Professional Development; Committees are where all the work of New York ACEP gets done and is a great way to get involved in shaping your specialty while networking with colleagues around the state. For more information about the Committees, what they do, and how to serve on one, check out www.nyacep.org/about-new-york-acep/committees.

> ***"New York ACEP recognizes the many influences on physician wellness and has renewed our conviction to share best practices, resources and opportunities for how we can maintain balance so necessary for our lives."***

Beyond the important work of the committees, however, the strategic planning session identified two extraordinarily important themes that are critical to New York ACEP being effective in meeting your needs. The first is communication. No doubt, we need to do a better job communicating across multiple platforms in ways that fit your needs (that is, of our membership). Admittedly, I am not the one leading this, for I have never had a Facebook account (that might have been a good thing lately), I just broke down last year and joined Instagram, and I have never Tweeted. But when it comes to sharing the talents of New York's amazing educators or our accomplished researchers , or speaking loudly to our elected leaders when they want to mandate another couple hours of training for emergency department physicians– we need a way to inform, engage, and when necessary, mobilize. Given this, New York ACEP will be embarking on a comprehensive communications plan to align and enhance our ability to facilitate communication amongst our membership and better meet your needs. Look for more information in the future, and if you are interested in being a part of the communications workgroup, shoot me an email at cushman@nyacep.org.

The second theme was wellness. The Professional Development and Education Committees have already begun integrating wellness activities into some of our educational programs, and we will continue – whenever possible – to integrate some type of wellness-related activity with every New York ACEP offering. Let us face it, our work environments are only getting tougher, and the cumulative stress of what we do, and experience, is becoming increasingly apparent. During the national ACEP Council meeting there were a number of resolutions surrounding physician wellness, as well as the somber honoring of one of New York ACEP's own members that died of suicide this year. New York ACEP recognizes the many influences on physician wellness and has renewed our conviction to share best practices, resources, and opportunities for how we can maintain the balance so necessary for our lives.

There is much ahead, and I am extremely grateful to the entire New York ACEP leadership team for their vision and dedication to serving their specialty. We remain busy planning for our future, and look forward to you joining us along the way.

WHAT'S INSIDE?

SOUND ROUNDS

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Diplopia

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Case

A 70-year-old male with a medical history of hypertension, diabetes and high cholesterol presented to the emergency department with left eye proptosis and intermittent diplopia. The proptosis started three months ago with intermittent left monocular blurred vision and diplopia with certain eye movements. The patient denied eye trauma, headache, fever or dizziness. He denied difficulty with speech or swallowing, change in strength or sensation, difficulty with balance or ambulation or neck pain. He had an 8lb unintentional weight loss over the past few months. Vital signs in the ED were BP 175/83, HR 70, RR 16, SpO2 100% on room air and temperature 36.4 C. The physical exam was significant for a well appearing male, AAOx3, PERRLA with a left CN 6 palsy. Vision was 20/30 bilaterally. There was proptosis of the left orbit with pupillary sparing. No nystagmus was present. Double vision was present only with gaze to the extreme left. The rest of the cranial nerves were intact and the remaining physical exam was non-contributory.

A bedside point of care ultrasound (POCUS) of the orbits was performed with a Zonare Z.One PRO high frequency linear (L10) probe. The patient was placed in a recumbent position. A Tegaderm™ (St. Paul, MN) was placed over the patient's closed left eye. Copious gel was applied to the Tegaderm™. During the POCUS exam, the patient was asked to look straight ahead, look left and look right while keeping his eyes closed. POCUS demonstrated a heterogeneous, hyperechoic, well-circumscribed, vascular mass lateral to the left eye, concerning for malignancy (Figures 1 – 3). A follow-up CT of the head and orbits revealed a 1.9 cm mass at the lateral aspect of the left orbital space abutting the frontal process, likely arising from the lacrimal gland. The mass impinged upon the lateral rectus muscle and exhibited mass effect upon the posterior aspect of the left globe, likely representing a neoplastic process. The patient was admitted for further workup of this new lacrimal gland mass.

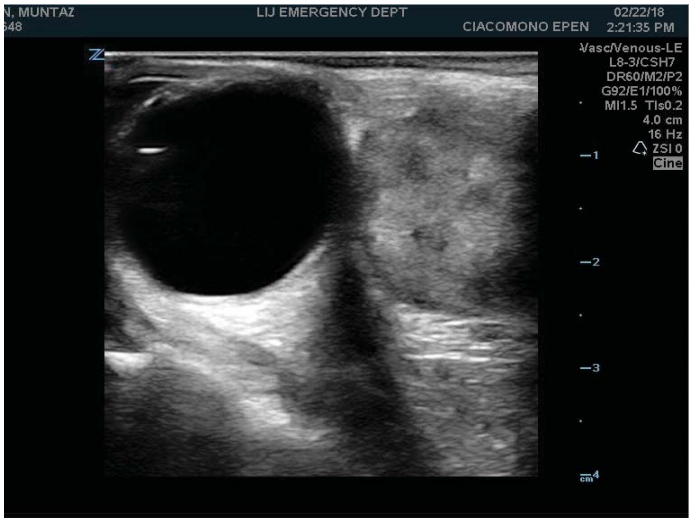

Figure 1. *Ultrasound image of the left eye in transverse plane. Note the hyperechoic, heterogenous structure adjacent to the orbit.*

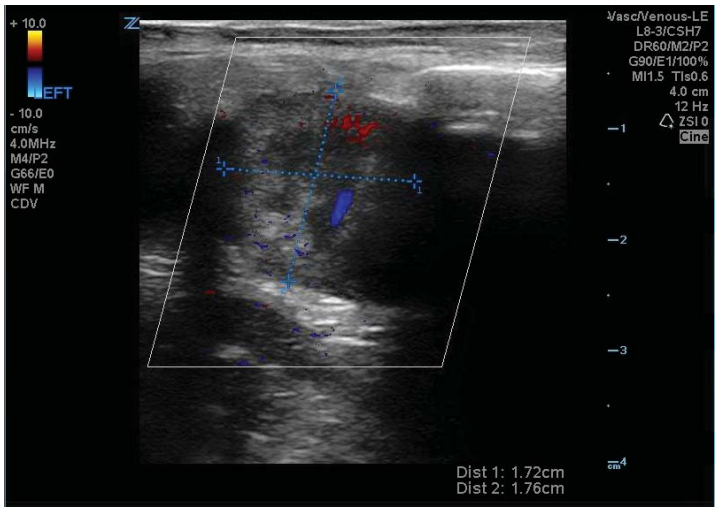

Figure 2. *Ultrasound image of the heterogenous structure demonstrating vascularity.*

SOUND ROUNDS

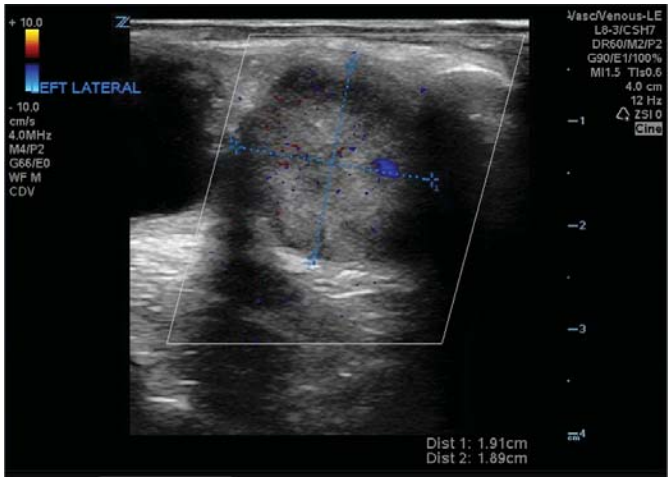

Figure 3. *Ultrasound image measuring the heterogenous structure.*

Indications

- Vision loss
- Floaters
- Flashes
- Visual field abnormality

Technique

- Scan the unaffected eye.
- Proceed to the affected eye.
- Place a Tegaderm™ over the patient's closed eyelid.
- Apply water-soluble gel to serve as an acoustic medium.
- Place a linear transducer in transverse plane over the patient's closed eyelid.
- Scan through the eye with the patient looking forward with eyes closed.
- Scan the eye also in the sagittal plane.

Discussion

Lacrimal gland tumors are rare and may be either benign or malignant. They are typically classified as benign mixed epithelial tumor, dacryocele, pleomorphic adenomas, malignant mixed epithelial tumor, lymphoma, or adenoid cystic carcinoma of the lacrimal gland. Approximately half of lacrimal gland tumors are malignant, with adenoid cystic carcinoma being the most common of this type. Classically, patients with lacrimal gland tumors will present with blurry vision, pain in or around the eye, swelling and/or double vision. Patients with adenoid cystic carcinoma will have a rapid onset of symptoms (less than one year) along with a temporal mass. Once a lacrimal gland tumor is suspected, its presence can be diagnosed with either a CT or MRI. While the use of ultrasound for the diagnosis of ocular pathologies such as retinal detachment, vitreous hemorrhage, lens dislocation and increased intracranial pressure are well- documented, there have been limited studies into the use of ultrasound for diagnosing lacrimal gland tumors such as in our patient. Lacrimal gland tumors will typically appear as an infiltrated lesion with a medium reflective irregular internal structure on ultrasound. The tumor will exhibit strong sound attenuation and may contain cystic cavities or calcifications. Furthermore, tumor invasion may be identified on adjacent bony orbital walls. Malignant tumors are treated by surgical resection, radiotherapy and/or chemotherapy, depending on the size, location and spread of the tumor.

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PRACTICE MANAGEMENT

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The Bundling of Code Sepsis and the Sepsis Checklist: A Tool to Improve Documentation and CMS Sepsis Compliance

Throughout the United States, many emergency departments (EDs) have struggled with what feels like a never-ending amount of government regulations. The provisions over sepsis care are no exception. We are confident that many ED directors and administrators have lost more than a few nights of sleep thinking of ways to maximize CMS Sepsis compliance without inadvertently impacting the overall operations of their departments. One of the largest hurdles in meeting CMS Sepsis measures pertains to documentation. Many cases that are deemed either "out of compliance" or "outside of the window" boil down to an issue in documentation and are not in reality an accurate depiction of the quality of care delivered. So how do we appropriately document these charts to ensure that we are recognized for the quality of care provided?

After conducting an in-depth review of cases that fell out of CMS measures, we found that in the majority of the instances, the medical care was actually appropriate and met standard of care. Further analysis revealed that documentation deficiencies largely contributed to the fall out. Emergency medicine physicians are competent in appropriately recognizing and managing sepsis. However, it has become evident that we are not good at permitting such great care to be reflected in our documentation and the patient's chart. The most common areas for errors in documentation include: the electronic documentation of "time zero" or time of suspected sepsis, the documentation of IV fluids administered, and the documentation of time to antibiotic administration.

For example, let us assume that a patient with a diagnosis of severe sepsis or septic shock has antibiotics ordered and appropriately administered within the allotted time (< 180 minutes of sepsis identification as per CMS). Theoretically, the care provided thus far is compliant with CMS measures. However, if the nurse was busy with multiple critical patients, as is often the case, and did not have that opportunity to document the administration of these antibiotics in real time, then this case would count as a fall out for a delay in antibiotic administration. Does this sound fair? Does this accurately reflect the quality of delivered care? Obviously, the answer is no. We are all left having to deal with this reality and many departments are currently trying to figure out mechanisms to improve compliance and ways to accurately depict the quality of the care delivered.

At our hospital, we face many of the same hardships that emergency departments across the country battle on a daily basis. We have tried multiple corrective actions and different forms of communication with providers in an effort to improve overall compliance. This includes periodic emails, lectures at faculty meetings, and individual provider feedback, etc. We have also tried leaving notes in providers' mailboxes highlighting their individual areas of non-compliance. Despite having an astonishing 48.7% drop in the mortality of patients with sepsis, severe sepsis and septic shock from January, 2008 to March, 2018 (Figure 1), we continue to experience fall outs based on CMS review. We believe that this value does not accurately depict the great strides made by the institution in terms of sepsis related mortality. So how do we fix this?

Our department decided to take a new approach in hopes of improving our CMS compliance rate. We implemented a well-known business strategy known as Lean Methodology. In essence, Lean is a modern business tool that is used to increase productivity while simultaneously eliminating waste. It employs a detailed analysis and understanding of the various components involved in a particular process in order to maximize productivity. We held a Sepsis Lean event In April, 2018 to address our issue of CMS non-compliance, particularly as it pertains to our lack of documentation. Our department has multiple providers with lean/six sigma training and the implementation of this methodology has historically proven to be useful for many hospital and departmental initiatives.

Lean methodology and emergency medicine seem to be the perfect fit. They are both fast paced, solution orientated, highly focused, and are both very versatile. They require thinking outside of the box and encourage participation from individuals whose "boots are on the ground". A key attribute of lean methodology that illustrates its impact is its engagement of all front line staff who may be affected by a particular problem. From bottom up, this collaboration of individuals from different disciplines permits one to view a problem from a different perspective. These new perspectives not only contribute to an enhanced understanding of the overall process but also guides the path in developing a robust solution.

During our sepsis lean event, we had representation from many different stakeholders who work in the ED. Approximately 15 staff members attended the event and were comprised of ED technicians, clerical staff, nursing, residents, physician assistants and physicians. The event lasted approximately six hours and during this time the staff fully dissected and

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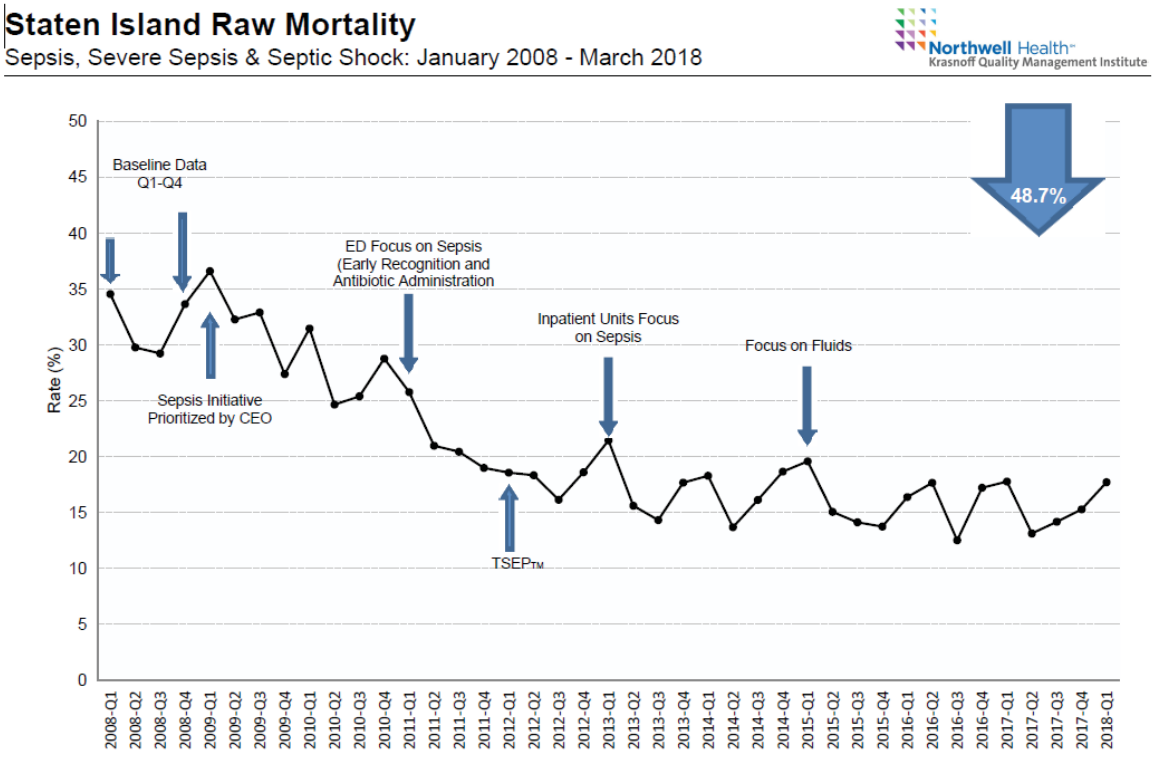
scrutinized the process of documentation for a patient with severe sepsis and septic shock. The team analyzed many facets of this pathway which extended from the time of patient arrival to the time of admission. Lean methodology was employed to detect areas of weakness, as well as areas where we can improve as a group. It is only after an in-depth analysis of a process and the identification of areas of weakness can solutions begin to surface.

In an effort to ensure appropriate sepsis care and improve our overall documentation for patients presenting to the ED in severe sepsis or septic shock, the Lean team decided to bundle "Code Sepsis" with a "Sepsis Checklist". Code sepsis is a targeted activation of pertinent members of the clinical team to alert them of their patient's condition. The code consists of three steps. Primarily, a patient with concerning vital signs is identified by any member of the clinical team using the Sepsis Flow Chart as a guide (Figure 2). This identification results in the activation of the charge nurse who is the code sepsis leader and has the duty of gathering all team members caring for the patient. The charge nurse then brings the "Sepsis Checklist" (Figure 3) to the patient's bedside and the team will go through the checklist and ensure that all parameters of treatment are met and are electronically documented. The bundling of code sepsis with the sepsis checklist not only provided a means to improve CMS sepsis compliance, but also promoted a team based approach to improving care for this high risk patient population.

As an extension from the lean event, we collected data biweekly and completed multiple rounds of analysis. Each round shed light on an unforeseen barrier that must be overcome to attain success. After each round, we made a minor or major change to the process and continued to educate our staff. Changes were also implemented based on group feedback collected from our bedside staff on ways to improve our overall process. As you can see from the compliance analysis below (Figures 4 and 5), we were able to better isolate and identify areas in need of improvement. Moreover, we identified individual providers in need of better education on the overall process. For instance, when viewing the results of Round 3-North, one can see that the overall fluid compliance during this time period dropped to 60%. After discussing specific cases with individual providers it appeared that there was confusion regarding the documentation of limited fluid use in certain patient populations (CHF, ESRD, etc.). Our providers were educated on documenting the reason for judicious fluid use in certain patient populations and by the next round our overall fluid compliance improved by 22.1 %. This is just one example of our many interventions during this process, a theme that will continue with each successive round of data collection.

The implementation of Lean methodology and the bundling of Code Sepsis and the Sepsis Checklist in our ED has allowed us to not only enhance the quality of care delivered but also provided a means for tracking compliance on both departmental and individual provider levels. We noted an instant improvement in many parameters such as the electronic documentation of time zero and appropriate weight documentation in the medical chart (used later on for appropriate weight based fluid bolus). We have learned a great amount about change management and process implementation. The tools of Lean methodology helped to provide order to the chaos and in essence provided the structured foundation on which we began to build solutions for success.

Figure 1.



PRACTICE MANAGEMENT

Figure 2.

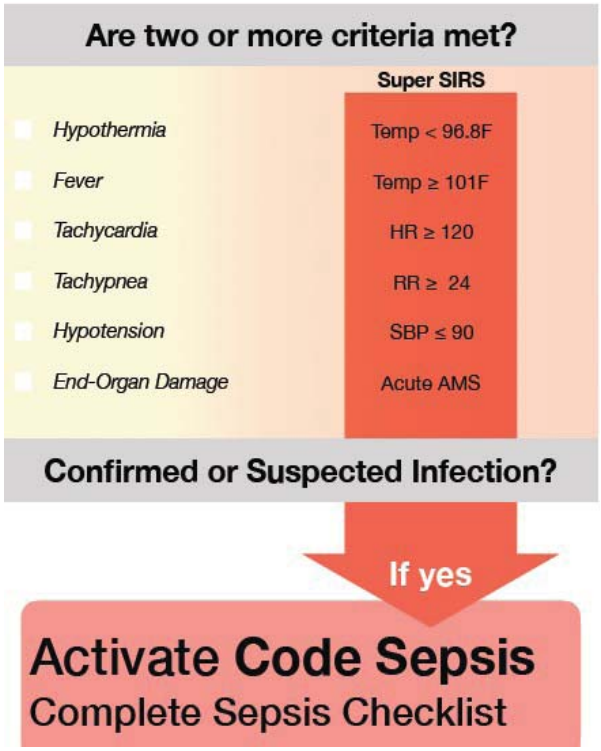


Figure 3.

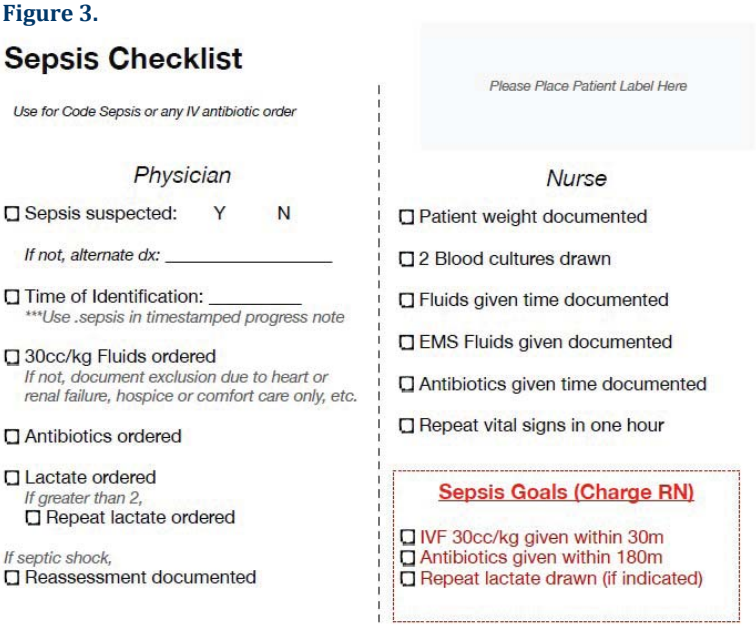


Figure 4.

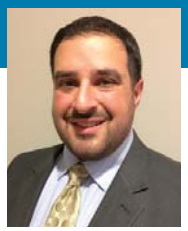
Code Sepsis Compliance Tracking

	Sample Size	Time Zero	Weight	Fluids	Antibiotics	Lactate	Blood Cultures
Round 1- North	27	56.0%	96.0%	89.0%	93.0%	88.0%	92.0%
Round 2- North	22	77.3%	100.0%	86.4%	90.9%	90.9%	95.5%
Round 3-North	20	75.0%	100.0%	60.0%	80.0%	100.0%	95.0%
Round 4 North	28	67.8%	96.0%	82.1%	92.8%	92.8%	96.4%
Round 5 North	13	92.3%	100%	100%	100%	100%	92.3%

Figure 5.

	Sample Size	Time Zero	Weight	Fluids	Antibiotics	Lactate	Blood Cultures
Round 1- South	4	75.0%	100.0%	50.0%	75.0%	75.0%	100.0%
Round 2 South	27	55.6%	96.3%	100%	96.3%	88.9%	100.0%
Round 3 South	19	78.9%	100%	100%	100%	68.4%	100%

ASK THE EXPERTS



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Associate Chair, Emergency Medicine
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Interview With:
Michael Granovsky, MD FACEP
President, Logix Health

Interviewed By:
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Assistant Professor, UBMD Emergency Medicine
Associate Chief of Service, Erie County Medical Center

Over the past two years, I have had the pleasure of meeting Michael Granovsky, MD FACEP at the New York ACEP ED Director Forum and ACEP Scientific Assembly.

Doctor Granovsky is the President of Logix Health, a national ED coding and billing company processing over 10,000,000 annual encounters. Following completion of his emergency medicine residency, Dr. Granovsky went on to found Greater Washington Emergency Physicians, serving as the Chief Financial Officer. Dr. Granovsky then attained a coding certification, followed by an Emergency Department (ED) subspecialty certification in coding and reimbursement and currently is one of a few medical doctors in the country who is also a certified coder. Dr. Granovsky is the Director of the American College of Emergency Physicians (ACEP) Reimbursement course, and leads the education efforts of ACEP's National Coding and Nomenclature Advisory Committee. He is the immediate past Chairman of National ACEP's Reimbursement Committee as well as the reimbursement subject matter expert to multiple task forces including quality measure development, episodes of care, ACEP's CEDR QCDR, and Out of Network Fair Payment coalition. Dr. Granovsky serves as editor for both ED Coding Alert and the American Academy of Professional Coders (AAPC) ED Specialty Coding Certification Exam. A nationally recognized expert, Dr. Granovsky has been recognized with numerous national speaking awards including ACEP Speaker of The Year.

What factors initially led to your interest in reimbursement and coding?

We had started a fee for service group in the 1990s and all of a sudden realized we might not make payroll. Our physician group was seeing patients, writing detailed charts and had a decent billing company. Unfortunately, the coding was undervaluing our higher complexity work. True to an ED physician's approach, I decided to unravel the mystery of reimbursement and coding and get our group on the right track.

What major changes can emergency medicine physicians expect in 2019?

The 2019 Medicare Physician Fee Schedule Final Rule should be released in November and go into effect in January, 2019. It is expected that RVUS will remain stable. The proposed 2019 RVU conversion factor of $36.0463 is a slight increase from the 2018 conversion factor of $35.9996. ACEP has also been defending the need to increase the RVU valuation of Emergency Medicine codes by the Relative Value Scale Update Committee (RUC).

Where can emergency medicine physicians learn more about reimbursement and coding?

ACEP's Reimbursement and Coding Conference teaches strategies to maximize reimbursement and is held each year. In 2019 the conference will be held in Las Vegas, Nevada from February 24-27. I serve as the Course Director and an instructor along with nationally recognized experts who are actively involved in the regulatory and legislative process.

New York ACEP has also had courses during the ED Director Forum over the past few years. This year's courses included *Design and Implementation of an Effective Incentive Based Compensation Program* and *Reimbursement Strategies*.

If you do not have time to attend a conference, I have two upcoming 1-hour webinars on reimbursement and coding topics including *The Nuts and Bolts of Reimbursement* and *Industry Updates*. There are resources available through *ACEP Now*. The ACEP website also has a deeply resourced set of FAQs related to common coding and reimbursement issues.

How can emergency medicine physicians get more involved in ACEP?

The best place to start is with your state ACEP chapter by getting involved in committee work. New York ACEP has several committees that meet by phone each month and in person at the Scientific Assembly in July. If you have any interest in Education, Professional Development, Practice Management, Government Affairs, Research or EMS, there is a committee for you.

Once you have some state experience, National ACEP has multiple reimbursement focused committees including: the National Reimbursement Committee, Coding and Nomenclature Committee, and the State and Regulatory Affairs Committee.

ACEP is focused on developing thought-leaders in reimbursement and coding. They currently have a Reimbursement Leadership Development Program to identify and train future leaders. Applicants will attend multiple conferences and sessions over 18 months to develop the skill set needed to represent ACEP and the emergency medicine community. The application for this program can be found at https://www.acep.org/administration/reimbursement/acep-leadership-development-program-application/#sm.0000egkfwc1ck4dvlsm7f86rxzwwj

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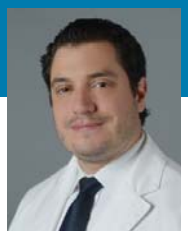

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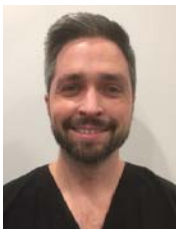

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Hemorrhage Control

Over the past decade there have been many efforts to improve the initial care of the bleeding patient, much of which has arisen from military studies. Many first aid and bleeding control courses are pushing tactical trauma care to civilians, law enforcement, military, EMS, firefighters and other first responders. In some facilities, there are bleeding control kits located next to the Automated External Defibrillators (AEDs). Depending on where you work, you may receive patients who were cared for and received initial treatments by providers or civilians (trained or not trained) in bleeding control.

As you are all aware, the out of hospital care for massive hemorrhage or traumatic wounds has been evolving. We are now using techniques once abandoned as bad medicine. In addition to tourniquets, there are now more sophisticated dressings, bandages and treatments available. The mnemonic MARCH PAWS (Massive bleeding, Airway, Respiration, Circulation, Head trauma/Hypothermia, Pain, Antibiotics, Wounds, Splinting) exemplifies this with massive bleeding first. Where we were once teaching direct pressure, pressure dressing, elevation, and pressure points, the teaching now is pack the wound with gauze treated with hemostatic agents, cover with compressible bandage and if bleeding persists, apply a tourniquet. If bleeding is life threatening or in a tactical situation where packing is not reasonable, the direct application of a tourniquet is recommended, and sometimes even two.

Many agents are already ubiquitous in our emergency departments (EDs) such as Surgicel (oxidized cellulose polymer) and gelatin foams, silver nitrate (mostly for epistaxis), and even topical TXA. However, in the prehospital setting and initial care in the ED of massive hemorrhage other fast acting agents may be necessary. These are especially important in junctional wounds at the shoulder or groin where tourniquets and pressure dressings are either difficult to place or not even possible. Newer topical hemostatic agents are typically available in the form of a powder that fills the wound or a dressing that is used to pack the wound. They differ widely by mechanism of action and can be loosely grouped into the following categories:

- Biologically Active Agents
- Absorbents/Concentrators
- Mucoadhesives
- Combination Agents

1. Biologically Active Agents

This group of hemostatics provides procoagulant factors to the site of bleeding. Topical TXA can be included here. Also available are topical thrombin and fibrin sealants. These can be augmented by incorporating them into a gelatin matrix that will provide a scaffold where clots can easily form. With patients who have clotting deficiencies or are taking anticoagulants, these agents may not work as well.

2. Absorbents/Concentrators

These hemostatics rapidly absorb water from the blood, thereby concentrating the remaining components (platelets, clotting factors, etc.) to improve clot formation. The absorbent also acts as a barricade to fill the space that the wound created. Again, in patients with clotting abnormalities, be wary, as a functioning clotting cascade is important for full functionality. Some examples of these agents are Quick Clot (Combat Gauze), self-expanding hemostatic polymer, and modified rapid deployment hemostat (mRDH). XSTAT is a product that incorporates compressed medical sponges into an injectable syringe that can be rapidly delivered into the wound.

3. Mucoadhesives

The major component in this class of hemostatics is chitosan, a compound from shrimp exoskeletons. It works by binding with negatively charged red blood cells to create a gel like adhesive. A significant benefit of this mechanism of action is that it does not require the normal clotting cascade to exert its effect. Also, chitosan functions well with liquids and wet tissues, meaning a bloody field will not be inhibitory. Examples of products are HemCon (ChitoGauze), Celox, and ChitoFlex.

4. Combination Agents

Some products are utilizing multiple pathways in order to control bleeding. Taking the best aspects of each approach seems promising and there will likely be more products coming down the pipeline.

Many of these agents have gone through animal and military studies showing benefit, but have limited review in the civilian realm. More research needs to be done demonstrating efficacy. Potential adverse effects also need to be monitored such as: interactions with the vessel wall, downstream thrombosis from intravascular introduction, chemical reactions between product and blood, allergies to product (shrimp derived chitosan), and improper application of dressing/powder to the wound. In addition, pain management is an important consideration. Just like tourniquets, wound packing and pressure dressings will cause pain and this needs to be addressed.

Removal of product can also be a sticky issue. Emergency medicine providers will likely see more and more cases with these products utilized in the pre-hospital setting. There is large variance between agents,

most requiring removal in the Operating Room (OR) just prior to repair. The powders/granules will form a clot matrix that should not be disrupted. The gauzes will mostly adhere to the tissue making it difficult to remove without messing up the clot. XSTAT (the compressible sponges) needs to be removed sponge by sponge in the OR, and they are radiopaque to ensure complete removal. The bottom line is that if there is any doubt about removal, a trauma surgeon needs to be consulted and the wound should be explored in the OR.

As emergency physicians we need to be ready to handle anything that comes through the door. More and more options are being added to the array of tools available to control massive hemorrhage. Topical hemostatics will likely play a larger role in the years to come and we need to be prepared to provide the best care possible to stop that bleed.

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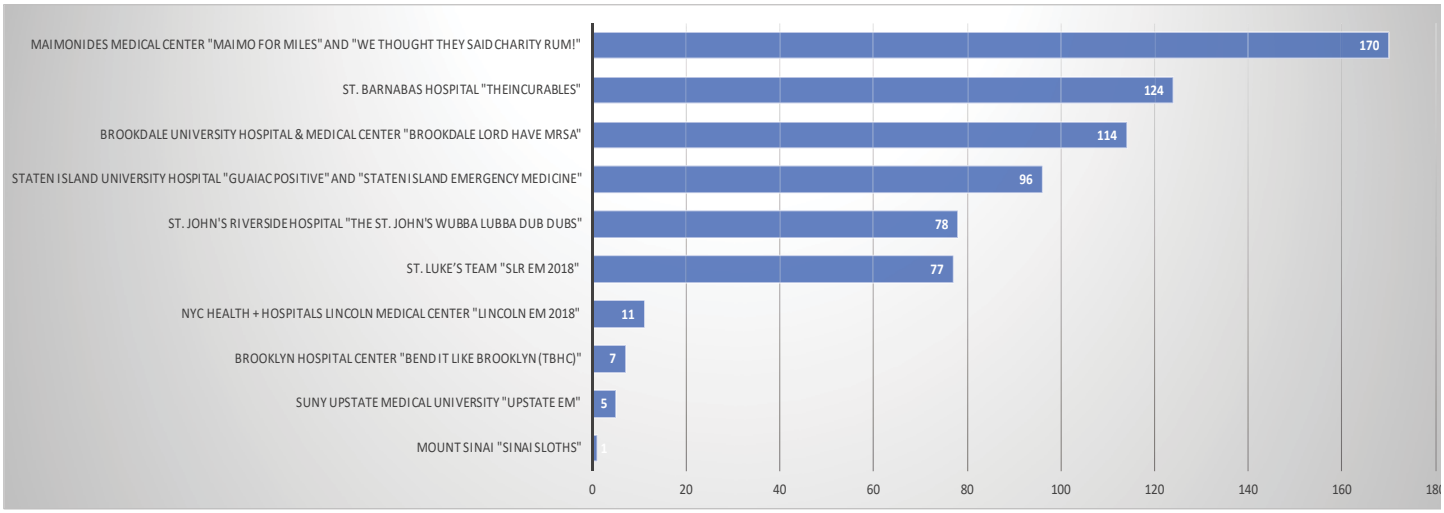
EM Day of Service: September 21, 2018

This year, New York ACEP teamed up with the Charity Miles App for the EM Day of Service. Ten residency programs from all over the state competed to see which program could raise the most money for charity. The teams completed 683 miles and raised $171 for Stand Up To Cancer. Maimonides once again took top honors completing 170 miles.



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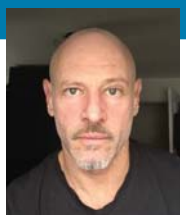

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Busy Shifts Hurt More Than We Might Think

Until recently, the concept of physician wellness encompassed little more than platitudes such as "work/life balance" or "healing the healer". Currently though, a number of our colleagues (including some leaders within New York ACEP) are directing serious scholarship and attention to this vital topic, which is proving to be as complex as it is important.

A letter[1] was published in the September, 2018 issue of Annals of Emergency Medicine by Drs. Esther Murray and Shewta Gidwani from London, England; it was in response to a recent article[2] on the topic of post-traumatic stress disorder (PTSD) amongst emergency medicine residents. Therein they: "…ask the authors [of the PTSD article] to consider another conceptualization of the psychological harms that may be attendant on practicing emergency medicine, that of 'moral injury'." The source of their suggestion is work by psychiatrist Jonathan Shay who coined the term "moral injury" as a result of his psychotherapy work with combat veterans. To paraphrase his definition for our context, moral injury is present when:

In a high stakes situation

There has been a betrayal of "what's right"

Either by one's self (the physician) or by someone else in authority.[3]

That our professional milieu is a constant high stakes situation is unquestionable. But whereas the betrayal of "what's right" is not something that any competent and caring emergency physician does intentionally, there exists a more insidious version which most of us do on a consistent basis: we work busy shifts. We are over-tasked and often asked to complete more than is possible. As a result, working busy shifts can compromise "what's right" and consequently subject the physician to moral injury.

Busy shifts—at least in our part of the world—are the norm. The volume of patients, the emphasis on efficiency and throughput, the mandate to discover the occult threat to life-and-limb hiding among the worried-well, and the seemingly endless pull of mandatory peripheral tasks/distractions collectively create a condition in which patients rarely see the best possible version of their doctor. For example, we strive for concise conversations during history-taking, and may be intolerant to what more the patient wants to say, if not germane to the problem at hand. Additionally, we often do not take time to teach the patient about their diagnosis, or to discuss lifestyle modification, offer reassurance, or explain the meaning of all of the test results, etc. Keep in mind the definition of moral injury includes to "…grapple regularly with a sense of personal failure in believing that [we] could have done more…".[4] Were this to happen once, we might write it off as a bad day. Were this to happen occasionally, we might accept it as a periodic occupational disappointment. But this happens all the time. Our system's status quo is one in which physicians and resources are often overwhelmed.

And so we find ourselves merely "surviving" our shifts. When we work 12-hours without missing a serious diagnosis or having a bad outcome we feel relieved to have weathered the storm, but we don't feel the satisfaction that ought to follow from a day spent in the service of others. Perhaps we resuscitated a septic patient or accomplished a rapid door-to-balloon time for a STEMI, but if we don't have time to help the cholelithiasis patient understand the reasons for dietary modifications or help the asymptomatic hypertensive patient understand the sequelae of poorly controlled blood pressure, we have merely done our best under the circumstances. The reality of real-world emergency medicine smothers the image we held as medical students (and probably earlier) of the doctor we wanted to be to our patients. Weeks, months, and years of these micro-disappointments in ourselves can gradually push us into a state of moral injury and may be a factor leading to what is commonly referred to as burnout. Is it any wonder that it is only the rarest of emergency physician who spends an entire career working clinically and does not seek out some administrative, research or teaching role to reduce clinical hours?

What can be done to mitigate the moral injury that results from chronically busy shifts? As our specialty's brain trust collectively gives increasing attention to wellness issues, I am faithful that this concept of moral injury will be addressed. I can, for now, suggest three techniques in decreasing order of abstractness:

We can advocate to department directors, hospital administrators, elected officials and the public that our system of emergency care is suboptimal at baseline and reject the notion that "this is just how it is". The volume and needs of patients seeking emergency care are largely predictable, so our failure to optimize conditions to provide quality care to all may be mitigated, because it is neither cost prohibitive nor logistically impossible.

We should allow awareness of chronic moral injury to permeate our daily practice. We cannot change the volume of work on a busy shift and we should not drastically change the way we practice. Because after all, we are quite effective at performing the critical components of our job and keeping our patients safe with sound medical treatment. But

by being aware that the status quo is morally injurious, we can work to be better versions of ourselves during the shifts that are less busy. We can overcome our conditioning and, when circumstances allow, actually be the doctor of our mind's eye.

We must teach medical students and residents that there are specific and identifiable factors that lead to burnout, rather than let them believe the fatalism that burnout is an unalterable reality of our specialty. Our message to them must be one of hope and reassurance. They should understand we are collectively working to change and adapt to our practice environment with the goal of being "well" physicians practicing our best medicine.

Finally, the PTSD and moral injury amongst the war veterans who are the subject of Shay's work should not be directly equated with the difficulties inherent to a career in emergency medicine, because that would be gravely disrespectful to the atrocity of war and the valor of their service. Rather, the concept of moral injury is an example of how work in disparate fields will, in the years to come, help us as we carry the concept of physician wellness from a nebulous catch-phrase to a well-defined and rigorously studied occupational necessity.

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Hospitalization Outcomes in Pneumocystis Pneumonia Inpatient Population: A Comparison Between HIV And Non-HIV Patients.

Datta S(1), Mahal S(2), Ravat V(3), Saroha B(4), Isidahome EE(5), Patel P(6); New York Presbyterian Queens, Flushing; Cureus, 2018 Aug 1;10(8):e3082.

OBJECTIVE: To evaluate the difference in hospitalization outcomes, including morbidity and mortality among patients admitted for Pneumocystis pneumonia (PCP) with human immunodeficiency virus (HIV) and non-HIV condition.

METHODS: A case-control study was done using the Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample (NIS) data. We identified PCP and HIV as the primary and secondary diagnosis using ICD-9--CM diagnosis codes. We used the multinomial logistic regression model to generate odds ratios (OR).

RESULTS: A total number of 1,250 PCP patients were enrolled in this retrospective analysis.

PCP patients with HIV had eight times higher odds of non-elective admission based on emergency condition (OR = 7.873, P < .001) compared to non-HIV patients. PCP patients with HIV had eight times higher odds of longer hospitalization of more than eight days (OR = 8.687, P < .001) compared to non-HIV patients. HIV patients with PCP had five times higher odds of severe morbidity or extreme loss of body function (OR = 5.277, P < .001). PCP patients with HIV had 22 times higher likelihood of in-hospital mortality (OR = 21.845, P < .001) compared to non-HIV patients.

CONCLUSION: PCP patients with HIV have a higher risk of severe morbidity and in-hospital mortality as compared to non-HIV patients. More attention needs to be paid to the elderly population that is at a higher risk of PCP with HIV. We need additional research and studies to direct the development of clinical care models for aiming early diagnosis and treatment of HIV in PCP patients.

Predictors of Clinically Significant Echocardiography Findings in Older Adults with Syncope: A Secondary Analysis.

Probst MA, Gibson TA, Weiss RE, et. Al.; Mount Sinai School of Medicine, New York J Hosp Med. 2018 Sep 26:E1-E7.

BACKGROUND: Syncope is a common reason for visiting the emergency department (ED) and is associated with significant healthcare resource utilization.

OBJECTIVE: To develop a risk-stratification tool for clinically significant findings on echocardiography among older adults presenting to the ED with syncope or near syncope.

DESIGN: Prospective, observational cohort study from April 2013 to September 2016.

SETTING: Eleven EDs in the United States.

PATIENTS: We enrolled adults (=60 years) who presented to the ED with syncope or near-syncope who underwent transthoracic echocardiography (TTE).

MEASUREMENTS: The primary outcome was a clinically significant finding on TTE. Clinical, electrocardiogram, and laboratory variables were also collected. Multivariable logistic regression analysis was used to identify predictors of significant findings on echocardiography.

RESULTS: A total of 3,686 patients were enrolled. Of these, 995 (27%) received echocardiography, and 215 (22%) had a significant finding on echocardiography. Regression analysis identified five predictors of significant finding: (1) history of congestive heart failure, (2) history of coronary artery disease, (3) abnormal electrocardiogram, (4) high-sensitivity troponin-T >14 pg/mL, and 5) N-terminal pro B-type natriuretic peptide >125 pg/mL. These five variables make up the ROMEO (Risk Of Major Echocardiography findings in Older adults with syncope) criteria. The sensitivity of a ROMEO score of zero for excluding significant findings on echocardiography was 99.5% (95% CI: 97.4%-99.9%) with a specificity of 15.4% (95% CI: 13.0%-18.1%).

CONCLUSIONS: If validated, this risk-stratification tool could help clinicians determine which syncope patients are at very low risk of having clinically significant findings on echocardiography.

Acupuncture as a Nonpharmacologic Treatment for Pain in a Pediatric Emergency Department.

Tsai SL, Reynoso E, Shin DW, Tsung JW; Columbia University College of Physicians and Surgeons; Pediatric Emerg Care. 2018 Sep 21.

OBJECTIVES: With epidemic opioid deaths and abuse in the United States, government agencies recommend nonpharmacological treatments for pain. However nonopioid treatment options for moderate to severe pain in the pediatric emergency department (PED) are limited. Acupuncture has been shown to be effective for pain. The objective of this study was to evaluate the feasibility of using traditional acupuncture (TA) and battlefield acupuncture (BFA) in the treatment of pain in the PED.

METHODS: A pediatric cohort treated with acupuncture for pain in an urban PED was assessed. All subjects received TA or BFA as treatment, and pre/post acupuncture pain scores, feedback, and adverse events were assessed. The primary outcome was a change in pain score.

RESULTS: Twelve patients received BFA, and 13 received TA for these pain conditions: headaches, sciatica, paraphimosis, torticollis, joint pains (knee, shoulder, jaw), sprains (foot, wrist, thumb), dysmenorrhea, otitis externa, sickle cell, and muscle knot. The mean ± SD pain score change, 5.8 ± 2.5 (P < 0.05; 95% confidence interval, 4.9-7.0), was clinically and statistically significant. Over 90% of subjects reported significant improvement or resolution of pain; 96% were satisfied with pain relief and would receive acupuncture again. Two adverse events were noted: one patient reported dizziness, and another, a tinge of blood at 1 of 90 needled points.

CONCLUSIONS: This study suggests that acupuncture is a potential nonpharmacologic therapeutic option for acute pain management in the PED.

Use of In-Chamber Transcutaneous Oxygen Measurement to Determine Optimal Treatment Pressure in Patients Undergoing Hyperbaric Oxygen Therapy.

Heyboer M, Byrne J, Pons P, Wolner E, Seargent

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S, Wojcik SM; SUNY Upstate Medical University, Syracuse; Undersea Hyperb Med. 2018 Jul-Aug;45(4):389-394.

INTRODUCTION: Hyperbaric oxygen (HBO2) therapy is used to promote healing in select problem wounds. Transcutaneous oxygen measurement (TCOM) can be used to predict the response of these wounds to HBO2, with in-chamber TCOM values shown to be the most predictive. We evaluated the use of in-chamber TCOM values to determine optimal treatment pressure.

METHODS: A retrospective review was completed of patients undergoing HBO2 therapy for a lower-extremity wound and who had in-chamber TCOM. Data collected included TCOM values, treatment profile, and patient outcome.

RESULTS: A total of 142 patients were identified. The overall results demonstrated healing in 59%, minor amputation (below ankle) in 11.3%, and major amputation (above ankle) in 16.2% of patients. 79.3% of patients at 2 atmospheres absolute (ATA) and 86.6% of patients at 2.4 ATA had transcutaneous oxygen pressure (TcPO2) values ≥250 mmHg. Among those with TcPO2 <250 mmHg at 2 ATA, 41% attained TcPO2 >250 mmHg at 2.4 ATA. Among those treated at 2 ATA the healing rate was 70.6% if TcPO2 >250 mmHg, and 11.8% if TcPO2 <250 mmHg (P<0.001). Among those treated at 2.4 ATA the healing rate was 33.3% if TcPO2 >250 mmHg and 14.3% if TcPO2 <250 mmHg (P<0.001).

DISCUSSION: Determining optimal therapeutic pressure for patients undergoing HBO2 is important to maximize benefit and minimize risk. This study indicates that in-chamber TCOM can be used to select an individualized optimal treatment pressure in patients undergoing HBO2 for lower-extremity wounds, including diabetic foot ulcers. This may result in better utilization of HBO2 and better outcomes.

A Qualitative Study of Psychological Outcomes in Avalanche First Responders.

Dolan N, Tedeschi C; Vagelos College of Physicians and Surgeons, Columbia University, New York; High Alt Med Biol. 2018 Sep 20.

OBJECTIVES: We sought to characterize the mental health morbidity associated with avalanche rescue, and to generate hypotheses as to how such morbidity may be mitigated.

MATERIALS AND METHODS: Avalanche first responders were recruited through online advertisements, social media, direct outreach, and e-mail solicitation. Thirteen subjects were selected for inclusion. Each subject participated in a semi structured interview. Transcripts were coded and thematically analyzed.

RESULTS: Themes identified from interviews fell into three broad categories: long-term effects of rescue participation, assessments of psychological support, and recommendations for change. Symptoms of substance use disorder, depression, anxiety, panic, acute stress disorder, and posttraumatic stress disorder were evident in the interviews, as was evidence of adverse effects on subjects' personal relationships. Many respondents described a deficiency of formal psychological support for avalanche first responders, often limited to after-action debriefs of varying effectiveness. Nevertheless, subjects who received high-quality professional psychological support considered it helpful.

Participants' suggestions for improvement focused on formalizing pre-incident psychological preparation and post-incident support.

CONCLUSIONS: Avalanche responders may experience long-lasting, work-related psychological effects. There is a paucity of effective psychological preparation and support for this population of first responders. Formal psychological support is positively received when available. Further study is required to evaluate particular interventions in this specific population.

Asthma-Related Educational Needs of Families With Children With Asthma in an Urban Pediatric Emergency Department.

Kwok MY, Pusic MV, Cabrera KI, York DV, Lee J, Evans D; New York University Langone Medical Center New York; Pediatr Emerg Care. 2018 Sep;34(9):636-640.

OBJECTIVE: The aim of this study was to identify the educational needs of inner-city children with persistent asthma and their caregivers who utilize the emergency department (ED) for asthma care as well as determine their guideline adherence, factors associated with ED use, and comfort with computers.

METHODS: Cross-sectional survey of children aged 2 to 18 years with previous diagnosis of asthma presenting with asthma-related complaints or acute asthma exacerbations to an urban pediatric ED. Data on demographics, families' response to acute asthma, approach to asthma prevention, access to care, educational topics of interest, and sources of health information were collected.

RESULTS: Of approximately 1,500 asthma-related visits, 218 caregivers were approached, and 200 completed the survey. In the past 12 months, 31% had experienced at least 1 asthma-related hospitalization, and 55.5% had had at least 3 ED visits. Although 184 (92.9%) of 198 caregivers were able to identify a primary physician, 37% reported they were more likely to take their child to the ED in response to acute asthma during the day as opposed to their physician (17%). Approximately half of patients were not on any preventive medication, with 57% not having had received an Asthma Action Plan. Caregivers expressed the most interest in learning about long-term controller medications (44.2%), use of metered dose inhalers or nebulizers (44.2%), and trigger avoidance (35.2%). Most caregivers (approximately 68%) reported ease of use with computers and the Internet.

CONCLUSION: There was discordance between caregivers' reports of primary care provider teaching on asthma management and the use of the controller medications and possession of the Asthma Action Plans for persistent asthma. Education could focus on caregiver concerns of the safety and benefits of the controller medications.

A Randomized, Sham-Controlled Trial of Bilateral Greater Occipital Nerve Blocks With Bupivacaine for Acute Migraine Patients Refractory to Standard Emergency Department Treatment With Metoclopramide.

Friedman BW, Mohamed S, Robbins MS, Irizarry E, Tarsia V, Pearlman S, John Gallagher; Albert Einstein College of Medicine, Montefiore Health System, Bronx; E. Headache. 2018 Aug 25.

BACKGROUND: Greater occipital nerve block (GONB) is thought to be an effective treatment for acute migraine, though no randomized efficacy data have been published for this indication. We hypothesized that bilateral GONB with bupivacaine would provide greater rates of headache freedom than a sham injection among a population of emergency department (ED) patients who reported persistence of moderate or severe headache

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despite standard treatment with intravenous metoclopramide.

METHODS: This was a randomized clinical trial conducted in 2 urban EDs. Patients with acute migraine who reported persistence of a moderate or severe headache for at least 1 hour or longer after treatment with 10 mg of intravenous metoclopramide were randomized to bilateral GONB with a total of 6 mL of 0.5% bupivacaine or bilateral intradermal scalp injection with a total of 1 mL of 0.5% bupivacaine. The primary outcome was complete headache freedom 30 minutes after the injection. An important secondary outcome was sustained headache relief, defined as achieving a headache level of mild or none in the ED and maintaining a level of mild or none without the use of any additional headache medication for 48 hours.

RESULTS: Over a 31 month period, 76 patients were screened for participation and 28 were enrolled, of whom 15 received sham injection and 13 received GONB. This study was stopped before achieving the a priori sample size due to slow enrollment. The primary outcome - headache freedom at 30 minutes - was achieved by 0/15 (0%) of patients in the sham arm and 4/13 (31%) of patients in the GONB arm (95%CI for difference of 31%: 6, 56%, P = .035). The secondary outcome, sustained headache relief for 48 hours, was reported by 0/15 sham patients (0%) and 3/13 (23%) GONB patients (95% CI for difference of 23%: 0, 46%, P = .087). Reported side effects did not differ substantially between the groups.

CONCLUSION: GONB may be an effective treatment for ED patients with acute migraine who continue to suffer from moderate or severe headache after administration of intravenous metoclopramide; however, this study was stopped prior to achieving the a priori sample size.

Randomized Clinical Trial of IV Acetaminophen as an Analgesic Adjunct for Older Adults with Acute Severe Pain.

Chang AK, Bijur PE, Ata A, Campbell C, Pearlman S, White D, Chertoff A, Restivo A, Gallagher EJ; Albany Medical College, Albany; Acad Emerg Med. 2018 Aug 17.

OBJECTIVES: Older adults are at risk for undertreatment of pain. We examined IV acetaminophen as an analgesic adjunct to IV opioids in the care of older emergency department (ED) patients with acute severe pain.

METHODS: This was a randomized clinical trial conducted in two emergency departments in the Bronx, New York. Eligible adults aged 65 years and older with acute severe pain were randomized to 0.5 mg IV hydromorphone and 1 gram IV acetaminophen or 0.5 mg IV hydromorphone and 100 cc normal saline placebo. The primary outcome was the between group difference in improvement of NRS pain scores at 60 minutes. Secondary outcomes were the between group differences in the proportion of patients who chose to forgo additional pain medications at 60 minutes, the proportion who developed side effects, the proportion who required rescue analgesia, and between group differences in NRS pain scores at 5, 15, 30, and 45 minutes.

RESULTS: 81 patients were allocated to each arm. 80 patients in the IV acetaminophen arm and 79 patients in the placebo arm had sufficient data for analysis. At 60 minutes, patients in the hydromorphone + IV acetaminophen group improved by 5.7 NRS units while those in the hydromorphone + placebo group improved by 5.2 NRS units, for a difference of 0.6 NRS units (95% CI -0.4 to 1.5). 28.7% of patients in the hydromorphone + IV acetaminophen group wanted more analgesia at 60 minutes vs. 29.1% in the hydromorphone + placebo group, for a difference of -0.4% (-14.3 to 13.5%). These differences were neither clinically nor statistically significant. Safety profiles were similar in both groups.

CONCLUSION: In this randomized clinical trial, the addition of IV acetaminophen to IV hydromorphone as an adjunctive analgesic for acute, severe, pain in older adults provided neither clinically nor statistically superior pain relief when compared to hydromorphone alone within the first hour of treatment.

Emergency Department Provider Perspectives on Elder Abuse and Development of a Novel ED-Based Multidisciplinary Intervention Team.

Rosen T, Stern ME, Mulcare MR, Elman A, McCarthy TJ, LoFaso VM, Bloemen EM, Clark S, Sharma R, Breckman R, Lachs MS; Weill Cornell Medical College / NewYork-Presbyterian Hospital, New York City; Emerg Med J. 2018 Oct;35(10):600-607.

BACKGROUND: An ED visit provides a unique opportunity to identify elder abuse, which is common and has serious medical consequences. Despite this, emergency providers rarely recognize or report it. We have begun the design of an ED-based multidisciplinary consultation service to improve identification and provide comprehensive medical and forensic assessment and treatment for potential victims.

METHODS: We qualitatively explored provider perspectives to inform intervention development. We conducted 15 semi structured focus groups with 101 providers, including emergency physicians, social workers, nurses, technologists, security, radiologists and psychiatrists at a large, urban academic medical centre. Focus groups were transcribed, and data were analyzed to identify themes.

RESULTS: Providers reported not routinely assessing for elder mistreatment and believed that they commonly missed it. They reported 10 reasons for this, including lack of knowledge or training, no time to conduct an evaluation, concern that identifying elder abuse would lead to additional work, and absence of a standardized response. Providers believed an ED-based consultation service would be frequently used and would increase identification, improve care and help ensure safety. They made 21 recommendations for a multidisciplinary team, including the importance of 24/7 availability, the value of a positive attitude in a consulting service and the importance of feedback to referring ED providers. Participants also highlighted that geriatric nurse practitioners may have ideal clinical and personal care training to contribute to the team.

CONCLUSIONS: An ED-based multidisciplinary consultation service has potential to impact care for elder abuse victims. Insights from providers will inform intervention development.

Interdisciplinary Design to Improve Fast Track in the Emergency Department.

Celona CA, Amaranto A, Ferrer R, Wieland M, Abrams S, Obusan F, LoPuzzo S, Joy V; New York-Presbyterian Hospital-Columbia and Cornell, New York; Adv Emerg Nurs J. 2018 Jul/Sep;40(3):198-203.

Delays in medical care will increase risks for patients. For this reason, timeliness of care is a public health priority and the one of the missions for this facility. The goal of this process improvement project was to enhance

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timeliness of care by restructuring fast track. Door-to-provider time, treat and release time, and the number of patients who left without being seen by a provider were monitored. Nurse practitioners were introduced into advanced practice provider mix and the development of care teams was implemented. The number of fast-track visits increased significantly to a projected 23,710 in 2017, whereas the door-to-provider time decreased to 48 min, treat and release times decreased to 162 min, and the number of patients who left without being seen decreased to 4.7%. Work needs to continue in these areas in to exceed Medicare and Medicaid Services benchmarks.

Does Initial Temperature in the Emergency Department Predict Outcomes in Patients Admitted for Sepsis?

Khodorkovsky B, Youssef E, Adamakos F, Cina T, Falco A, LaMura L, Marion A, Nathan S, Hahn B; Staten Island University Hospital, Northwell Health, Staten Island; J Emerg Med. 2018 Sep;55(3):372-377.

BACKGROUND: Sepsis is a leading cause of morbidity and mortality in hospitalized patients. Prompt recognition and early treatment has been shown to improve mortality. Both low and high temperature are among the four elements of systemic inflammatory response required for the diagnosis of sepsis. We hypothesized that initial temperature has an effect on the identification, treatment, and outcomes of septic patients.

OBJECTIVE: Our aim was to determine the prognostic and diagnostic utility of the initial recorded body temperature in patients presenting to the emergency department (ED) with sepsis.

METHODS: This retrospective cohort study was conducted in the ED of a single facility during the study period of January 1, 2014 through December 31, 2014.

Inclusion criteria were adult subjects 18 years of age and older who were admitted to the hospital from the ED with a diagnosis of sepsis.

RESULTS: Hypothermia on presentation was associated with a longer time to antibiotics treatment of 338.6 min ($p = 0.002$), longer length of stay of 14.5 days ($p < 0.001$), higher rate of intensive care unit (ICU) admission of 32.7% ($p = 0.003$), and higher mortality rate of 30.8% ($p < 0.001$).

CONCLUSIONS: In this study of adult patients diagnosed in the ED with sepsis, hypothermia correlated with increased time to initial antibiotics, length of stay, rate of ICU admission, and mortality. Therefore, hypothermia in the setting of sepsis requires early and aggressive intervention to prevent adverse outcomes and delays in care.

Identifying and Initiating Intervention for Elder Abuse and Neglect in the Emergency Department.

Rosen T, Stern ME, Elman A, Mulcare; Weill Cornell Medical College, NewYork-Presbyterian/Weill Cornell Medical Center; MRClin Geriatr Med. 2018 Aug;34(3):435-451.

Elder abuse and neglect are common and may have serious medical and social consequences but are infrequently identified. An emergency department (ED) visit represents a unique but usually missed opportunity to identify potential abuse and initiate intervention. ED assessment should include observation of patient-caregiver interaction, comprehensive medical history, and head-to-toe physical examination. Formal screening protocols may also be useful. ED providers concerned about elder abuse or neglect should document their findings in detail.

ED interventions for suspected or confirmed elder abuse or neglect include treatment of acute medical, traumatic, and psychological issues; ensuring patient safety; and reporting to the authorities.

A Targeted Mindfulness Curriculum for Medical Students During Their Emergency Medicine Clerkship Experience.

Chung AS, Felber R, Han E, Mathew T, Rebillot K, Likourezos A; Icahn School of Medicine at Mount Sinai, New York; West J Emerg Med. 2018 Jul;19(4):762-766.

INTRODUCTION: Despite high rates of burnout in senior medical students, many schools provide the majority of their wellness training during the first and second preclinical years. Students planning a career in emergency medicine (EM) may be at particularly high risk of burnout, given that EM has one of the highest burnout rates of all the specialties in the United States We developed an innovative, mindfulness-based curriculum designed to be integrated into a standard EM clerkship for senior medical students to help students manage stress and reduce their risk of burnout.

METHODS: The curriculum included these components: (1) four, once-weekly, 60-minute classroom sessions; (2) prerequisite reading assignments; (3) individual daily meditation practice and journaling; and (4) the development of a personalized wellness plan with the help of a mentor. The design was based on self-directed learning theory and focused on building relatedness, competence, and autonomy to help cultivate mindfulness.

RESULTS: Thirty students participated in the curriculum; 20 were included in the final analysis. Each student completed surveys prior to, immediately after, and six months after participation in the curriculum. We found significant changes in the self-reported behaviors and attitudes of the students immediately following participation in the curriculum, which were sustained up to six months later.

CONCLUSION: Although this was a pilot study, our pilot curriculum had a significantly sustained self-reported behavioral impact on our students. In the future, this intervention could easily be adapted for any four-week rotation during medical school to reduce burnout and increase physician wellness.

A Novel Approach to Addressing an Unintended Consequence of Direct to Room: The Delay of Initial Vital Signs.

Basile J(1), Youssef E(1), Cambria B(1), Chacko J(1), Treval K(1), Hahn B(1), Ardolic B(1); Northwell Health, Staten Island University Hospital, Department of Emergency Medicine, Staten Island; West J Emerg Med. 2018 Mar;19(2):254-258.

INTRODUCTION: The concept of "direct to room" (DTR) and "immediate bedding" has been described in the literature as a mechanism to improve front-end, emergency department (ED) processing. The process allows for an expedited clinician-patient encounter. An unintended consequence of DTR was a time delay in obtaining the initial set of vital signs upon patient arrival.

METHODS: This retrospective cohort study was conducted at a single, academic, tertiary-care facility with an annual census of 94,000 patient visits. Inclusion criteria were all patients who entered the ED from 11/1/15 to 5/1/16 and between the hours of 7 am to 11 pm. During the implementation period, a vital signs station was created and a personal care

NEW YORK STATE OF MIND

assistant was assigned to the waiting area with the designated job of obtaining vital signs on all patients upon arrival to the ED and prior to leaving the waiting area. Time to first vital sign documented (TTVS) was defined as the time from quick registration to first vital sign documented.

RESULTS: The pre-implementation period, mean TTVS was 15.3 minutes (N = 37,900). The post-implementation period mean TTVS was 9.8 minutes (N = 39,392). The implementation yielded a 35% decrease and an absolute reduction in the average TTVS of 5.5 minutes ($p < 0.0001$).

Conclusion: This study demonstrated that the coupling of registration and a vital signs station was successful at overcoming delays in obtaining the time to initial vital signs.

The Prevalence of Cannabinoid Hyperemesis Syndrome Among Regular Marijuana Smokers in an Urban Public Hospital.

Habboushe J, Rubin A, Liu H, Hoffman RS; New York University School of Medicine, New York; Basic Clin Pharmacol Toxicol. 2018 Jun;122(6):660-662.

Epidemiological data, including prevalence, for cannabinoid hyperemesis syndrome (CHS) remain largely unknown. Without these data, clinicians often describe CHS as 'rare' or 'very rare' without supporting evidence. We seek to estimate the prevalence of CHS in a population of patients presenting to a socio-economically and racially diverse urban Emergency Department of a public hospital. This study consisted of a questionnaire administered to a convenience sample of patients presenting to the ED of the oldest public hospital in the United States. Trained Research Associates (RAs) administered the questionnaire to patients between the ages of 18-49 years who reported smoking marijuana at least 20 days per month. The survey included questions related to CHS symptoms (nausea and vomiting) and Likert scale rankings on eleven symptom relief methods, including 'hot showers'. Patients were classified as experiencing a phenomenon consistent with CHS if they reported smoking marijuana at least 20 days per month and also rated 'hot showers' as five or more on the ten-point symptom relief method Likert scale for nausea and vomiting. Among 2,127 patients approached for participation, 155 met inclusion criteria as smoking 20 or more days per month. Among those surveyed, 32.9% (95% CI, 25.5-40.3%) met our criteria for having experienced CHS. If this is extractable to the general population, approximately 2.75 million (2.13-3.38

TOXICOLOGY

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Intractable Vomiting

Case

A 19 year old male with no past medical history presents to the Emergency Department (ED) with a 36-hour history of nausea, vomiting and epigastric abdominal pain. He denies chest pain, shortness of breath, fever/chills, back pain, or any bloody emesis or feces. The patient has no medical or surgical history, and denies alcohol or drug abuse. Chart review reveals this to be his third ED visit in the last two weeks for the same problem. Prior CBC, liver function, lipase, urinalysis, CT abdomen with IV contrast, and RUQ US were all unremarkable. Vital signs in the ED today are: HR 122 bpm; BP 123/77 mm Hg; RR 18 rpm; Temp 98.7 F; O2 99% on room air. Physical exam is notable for an adult male, actively retching into an emesis bag. Abdominal exam reveals mild diffuse tenderness to palpation, maximal in the epigastrium, without rebound or guarding. The remainder of his physical exam is unremarkable.

Although his heart rate and exam improve with IV fluid, he exhibits no relief of nausea after administration of ondansetron, metoclopramide or prochlorpromazine. His mother reports that he has been showering five times/day for the last four days, and wants him "tested for drugs." A focused inquiry about any recreational marijuana use reveals that he is indeed a twice/day smoker, and has been so for the last two years. Topical application of 0.075% capsaicin cream to the patient's abdomen results in prompt cessation of his symptoms. The patient is diagnosed with cannabinoid hyperemesis syndrome (CHS), and a screening, brief intervention, and referral to treatment (SBIRT) are made.

Cannabis Hyperemesis Syndrome

CHS is characterized by symptoms of cyclical nausea, vomiting, and abdominal pain in the setting of chronic cannabis use. **To be clear, CHS is a diagnosis of exclusion.** Any patient who reports intractable emesis and/or abdominal pain merits a vigilant ED workup. Fortunately, the data needed to exclude a life-threatening cause of GI pathology in a previously healthy patient can be obtained via a thorough HPI, chart review, and ED workup. Most patients with CHS have amassed multiple prior nondiagnostic ED and/or inpatient workups for the same chief complaint (intractable emesis). Published case series have suggested that patients with CHS amass an average of seven ED visits prior to a diagnosis of CHS. Also in the differential diagnosis for CHS includes cyclical vomiting syndrome and psychogenic vomiting. While there is significant overlap between these three diagnoses, the distinguishing feature of CHS is the compulsive behavior of hot water bathing in the setting of chronic cannabis abuse.

Chronic Cannabis Abuse

Unfortunately, the definition of "chronic cannabis use" is somewhat debatable, and varies within the literature. Most cases of CHS describe a frequency of multiple uses/day, and multiple years of daily marijuana use until the first episode of CHS.

Treatment of CHs - Hot water bathing or topical capsaicin cream

The mechanisms of hot showering or capsaicin cream to successfully treat CHS are poorly understood, but a positive response to either of these therapies points to this diagnosis. Relief of CHS symptoms with hot water bathing (greater than 41°C/106°F) has highlighted the importance of the peripheral tissue receptor TRPV1, a G-protein coupled receptor that has been shown to interact with the endocannabinoid system. Furthermore, TRPV1 is the only receptor known to interact with capsaicin.

Capsaicin cream 0.075%, should be applied topically to the abdomen TID. The onset of cutaneous algesia typically coincides with relief of nausea & vomiting. Its application should be done wearing gloves, and sensitive anatomy should be avoided, such as the face, broken or thin skin, mucous membranes, nipples, genitals, etc. Capsaicin cream can be utilized as a first line treatment in cases of a clear diagnosis. It is worth mentioning that many hospitals do not stock capsaicin cream, but it is widely available over the counter.

Discussion

Decades-long changes to our medical and political perceptions towards marijuana use have led to widespread increases in cannabis consumption as well as its potency. The incidence of cannabis-related hospital visits is on the rise, and the perception that "marijuana is not harmful" partially fuels this phenomena. Too often providers will neglect a thorough substance abuse history during ED workups, or patients may fail to divulge an accurate history of marijuana consumption. Consequently, many cannabis-related medical issues go undiagnosed. CHS is one such condition.

Most patients with acute cannabis intoxication can safely be discharged from the ED after a brief observation period. Hospital admissions are occasionally necessary after large THC overdoses. For example, the unwitting ingestion of an edible THC-product in a THC-naive individual, or a recreational misadventure involving an ultrapotent THC-product (e.g. "dabs," "wax," or pure THC oil) may require prolonged hospitalization. Likewise, CHS is not a life-threatening condition. It can be managed with capsaicin cream as a first-line treatment in cases of a clear diagnosis, and patients can safely be discharged home with education, reassurance and referral to cessation programs.

Conclusion/Pearls

Cannabis hyperemesis syndrome should be considered in otherwise healthy patients with recurrent intractable vomiting, a history of chronic daily cannabis abuse, prior negative medical workups, and a history of symptom abatement from hot water bathing. Patients with fever, abnormal labs, significant pain on exam, or GI bleeding warrant further diagnostic workup. The mainstays of treatment for CHS are 1) cessation of cannabis use, 2) supportive care, and 3) topical capsaicin cream 0.075% applied to the abdomen.

PEDIATRICS

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HEAL Trafficking

Managing Trafficking in the Pediatric ED

Human trafficking is a hot topic these days, but what is it really and what is the emergency medicine (EM) clinician's role in caring for these patients? According to the Trafficking Victims Protection Act (TVPA), human trafficking is the recruitment, harboring, transportation, obtaining, and/or provision of a person by the use of force, fraud, and/or coercion, for the purpose of labor and/or sexual exploitation.[1]To be clear and despite the moniker, people are "trafficked" without movement across any borders. In the case of those under the age of 18, any type of involvement in the commercial sex industry is considered human trafficking via sexual exploitation.[1] Multiple studies and reports have established that clinicians, including EM practitioners, are seeing patients who have a trafficking experience.[2,3,4]

Direction on how emergency medicine clinicians should recognize, respond to, and document human trafficking is well described elsewhere. Readers should access instructional resources:

Shandro J, Chisolm-Straker M, Duber HC, Findlay SL, Muñoz J, Schmitz G, Stanzer M, Stoklosa H, Wiener DE, Wingkun N. "Human Trafficking: A Guide to Identification and Approach for the Emergency Physician." Annals of Emergency Medicine, 2016 April; DOI: http://dx.doi.org/10.1016/j.annemergmed.2016.03.049

And

Zimmerman C, Borland R (eds). (2009). Caring for Trafficked Persons: Guidance for Health Providers. International Organization for Migration, Geneva Switzerland. Available at: http://publications.iom.int/system/files/pdf/ct_handbook.pdf

The guidance in these resources applies to all patients regardless of their age, but the care of pediatric patients warrants special consideration in the clinical discussion of human trafficking. Here we review two vignettes, based on real patients with a trafficking experience, to highlight some of those important considerations.

(Names and details have been changed to protect trafficking survivors.)

Charlie

On an unremarkable summer afternoon, during a 12-hour shift, a 16-year-old is listed on the electronic tracker to be seen. The chief complaint is "arm pain." I click on the patient, draw a small box, jot down the chair number, last name, and "arm pain" on my scrap paper and go find the patient. In the general vicinity of the chair, I call out the last name, and I hear the reply come, "Yeah." After a brief bout of Marco-Polo, I locate the source of the voice and color in the box ascribed to this patient. I introduce myself, and ask what brings her in to the ED. Charlie motions to her left arm, in a sling, and raising her eyebrows, frowns. I see this is going to be "one of those" patients. "What happened?" She tells me she was playing basketball and took a hard foul, landing on her left side. She heard a crack, and came to the ED. The triage nurse put her in the sling. After physical exam, it's obvious the arm is broken, and I order the x-rays of her arm, shoulder, and clavicle, and ibuprofen. I ask about her legal guardian, so I can reach them while the evaluation and care progresses. She says her mother is at work, but she'll call for me. To walk over to radiology, I offer to carry her backpack for her but she uses her right hand to snatch it up before I fully bend over. The x-ray shows a mid-shaft fracture of the humerus. I return to "fast track" and tell Charlie her arm is broken. "No kidding," comes her straight-faced reply. I tell her to follow me to a room so the nurse and I can put her in a splint; I offer to carry her bag and again, she quickly refuses. We enter the ED's code room, one of the few that has a curtain and a door, and I gesture that she should have a seat. As we're splinting her arm, I explain the type of fracture she has and ask again how the injury happened. Charlie sucks her teeth and sticks to her initial story. I tell her that the kind of injury she has is not too common, especially for someone her age. Measuring the web-roll, I tell her I chose this job because I want to be useful and I think right now she could use some help. "Honestly? Sometimes I can't fix the real problem, but I can connect people to the services they need. Maybe you're in a situation that I can't keep a secret, maybe someone is hurting you, and I have to tell someone else about it. And maybe that will help you get what you really need." I ask if someone did this to her. Charlie, it turns out, had been selling candy on the subway, but out of her backpack she was selling drugs. She mishandled some money, the dealer broke her arm and told her not to mess up again; he told her if she tried to quit, he'd kill her. She gave me the number to reach her foster mother.

Clinical Care and Discharge

Minors must receive life- or limb-stabilizing care regardless of legal guardian presence or availability in the ED.[5] While this is not information specific to trafficking situations, it bears reminding that our first priority is NOT mandated reporting (discussed below). *Our first duty is apt emergency healthcare.* In non-emergency presentations (e.g., cold

symptoms) of non-mature[6] minors (not emancipated or seeking sexual or reproductive healthcare*) clinicians should try to contact the legal guardian. But clinicians should always remember that legal guardians can and sometimes do, misuse their power; sometimes they are the abusers, exploiters, or traffickers. Hence, it is important that clinicians speak with patients privately when it is age- or maturity-appropriate. Clinicians do not have the authority to detain patients.

Mandated Reporting

Any time I know I will be a mandated reporter,† I tell the patient. Sometimes this possibility becomes apparent as I am hearing a history of present illness. Whenever possible, I tell the patient before I hear the reportable information, to give them as much control over the situation as is feasible. Otherwise, as soon as a patient is medically stable (if that happens in the ED), I let them know of my legal obligation and ask if they would like to speak with the relevant officials. For example, if someone presents with a gunshot wound (GSW), I know immediately that I have to report the presentation to law enforcement. I explain to the patient that I have to make the report, regardless of whether they want it done, but that my first priority is always the provision of the high-quality healthcare that they need. Their healthcare is the first thing to which I will attend.

According to the revised Child Abuse and Prevention Treatment Act (CAPTA),[7] clinicians are mandated reporters for concerns of labor or sex trafficking of children. In New York, reports of concern for child maltreatment should be made to the New York State Central Register of Child Abuse and Maltreatment. Of note, in New York, mandated reporters must file a written report within 48 hours of making an oral report of concern for child maltreatment.[8]

Patients do not have a choice about my mandated report, but they will know about it, and it will be their choice to speak with social services or law enforcement (depending on the report being made), or not. Reporting without our patients' knowledge erodes the trust patients place in us.[9] They come to us for care not secretive reports; sometimes they come to us for a safe place to sleep, a free sandwich, or connection with services. We are always open, we are always free. If they cannot come to us, and expect honesty, where will they go?

Brendan

On an overnight shift, a 17-year-old boy is brought in by his girlfriend, who says he's "really sick." They were out tonight and he drank too much. She gives his name and date of birth to register him, but he is otherwise too intoxicated to provide a history or meaningfully participate in an exam. Assigned to a room with a one-to-one technician (for elopement risk), with no signs of trauma above the clavicle, normal vital signs, and a normal fingerstick, I leave him to sleep it off. The tech calls me back to the room a few hours before the 7am shift change. Brendan is crying and won't say why. I sit down at the foot of his bed and ask him what's wrong. Initially he tells me that he has a terrible hangover. I press him, saying, "I bet you do, your girlfriend was pretty worried about how much you drank last night. We can help hydrate you, to make the hangover less painful. But is there something else bothering you? You seem pretty upset. Maybe I can't help, maybe someone is hurting you, and I have to make a report about it. But maybe that can help?" I make no moves to leave and sit in silence with him for a few moments. He sighs, and briefly tells me about the past two years of his life. He ran away from home, after a suicidal gesture when he was 15. He felt he was an embarrassment to his father and couldn't face him. So young, and not out of high school, he had no other viable survival options and started having sex for places to stay, particularly during inclement or severe weather. He really misses his father but can't imagine facing him now, after what he's done. I ask if he wants to go home, and he does. He calls home, and then hands me the phone.

Remember the Definition

Brendan's story is a reminder that trafficking does not always include a buyer or consumer, a "victim," and a "bad guy." By the TVPA trafficking definition,[1] Brendan is a survivor of human trafficking because he is a minor who used survival sex.‡ Any minor (regardless of emancipation status or third-party facilitation§) acting in the commercial sex industry (including "survival sex," "exotic dancing," and child abuse imagery**) is considered a survivor of human trafficking, not a "child prostitute." The Safe Harbor law indicates that these minors should not be arrested†† for criminal activity.[10]

The definition of trafficking says nothing about the gender of a survivor. This is because people of all genders survive (and perpetrate) human trafficking, despite disproportionate media portrayals of women and girls as those victimized.[11] Societal and systemic norms and pressures make some groups more vulnerable to exploitation than others, but gender does not make one immune.[12,13] Clinicians must practice based on the evidence, not media hype. The data is clear: trafficking impacts all genders.

Screening and Assessment

Patients may present without obvious physical trauma. Blatant red flags, like a controlling visitor, are not always apparent. Brendan presented with alcohol intoxication. Asking the simple question of "Why?" or respectfully trying to better understand how a person arrived in their current state allows them the opportunity to tell their story.

Because trafficking manifests in a multitude of ways and forms, and because the ED clinician's time is limited, a screening tool would be useful. At the time of this writing, there is one trafficking screening tool validated for use in the Emergency Department. The Greenbaum Tool can be used to screen English-speaking 13 – 17-year-olds with (expert-determined) high-risk chief complaints for sex trafficking experiences; it can also be used in this population based upon clinician gestalt (assuming the clinician is trained on human trafficking).[13] As yet, there is no clinically validated screening tool for labor trafficking, though it is clear that of young people that experience trafficking, labor trafficking accounts for a significant proportion,[13,14,15] and labor trafficking is the most common form of human trafficking overall.[16]

While aiming to provide better healthcare by addressing underlying causes, clinicians must not focus on gathering information about whether a child (or any patient) is being trafficked. We must create space and opportunities for patients to share this information with us. We do that first and foremost by addressing their chief complaints and emergent health needs respectfully, honestly and with clinical excellence. We do that by using certified interpreters, not family or friends;[17] we do that

by seeking permission before initiating a physical exam;[18] we do that by asking about the patient's goals of care for the visit; we do that by using available evidence to instruct care provision.

‡Survival sex is defined as when an adult (18 years or older) engages in commercial sex acts to access basic needs like shelter, clothing, or food, that they believe they cannot otherwise obtain. I use the terms "engage" and "use" when describing survival sex of adults and minors, respectively. These verbs are purposely chosen to indicate the legal conception of agency, or lack thereof, with respect to survival sex. Actors' sense of agency and experiences of trauma may not align with legal definitions.

§Effective 13 November 2018, New York State law will align with federal law, such that demonstration of force, fraud, and/or coercion is not necessary to meet the definition of sex trafficking, if the person is a minor (S5988A, signed 15 August 2018 [effective 11/13/18]; Read the bill here: https://www.nysenate.gov/legislation/bills/2017/s5988/amendment/a).

***Formerly known as "child pornography."*

††It is important to note that minors can be detained by police, via custodial arrest or temporary protective custody, for survival sex or "prostitution," though the basis for these detentions oversimplify the complexity of these youths' lives and capacities for agency, and overestimates the government resources dedicated to properly meet the needs of these youth (Connor BM. (2016). In Loco Aequitatis: The Dangers of "Safe Harbor" Laws for Youth in the Sex Trades. Stanford Journal of Civil Rights & Civil Liberties. 12(43): 45-116).

Going "Home"

In these two cases, the young people being trafficked wanted out of their situation, and the clinical care team was able to facilitate that. In these two cases, home or "authorities" were a desirable and safe place for the trafficked minors to turn. That is not always the case.[19] In many cases, pediatric patients for whom clinicians have a trafficking concern will not want to go "home," and will not want to speak with social services. Often, they have a strong sense of agency in their situation, or know that it is not safe to leave.[20,21] Clinicians do not have the authority to detain patients.

Patients may not disclose an exploitative or abusive situation, even if properly given the opportunity. This is not a failure of healthcare. Our role is to be ever-present and ever-ready to provide high-quality healthcare. As needed, we should employ patient-centered, harm reduction-principled methods to support health and facilitate safety.[22,23] That is to say, whenever appropriate and possible, patients should be meaningfully involved in their care and care-decisions, and we should "meet them where they are" to promote the health and safety feasible in their situation. We should facilitate connections to social and legal services when requested. The success is that we provide unbiased, evidence-based care and they seek us out again, knowing we will rightly serve.

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Calendar

December 2018

5 Emergency Medicine Resident Committee Conference Call, 2:00 pm
12 Education Committee Conference Call, 2:45 pm
12 Professional Development Conference Call, 3:30 pm
13 Practice Management Conference Call, 1:00 pm
19 Government Affairs Conference Call, 11:00 am
19 Research Committee Conference Call, 3:00 pm
20 EMS Committee Conference Call, 2:30 pm

January 2019

2 Emergency Medicine Resident Committee Conference Call, 2:00 pm
9 Education Committee Conference Call, 2:45 pm
9 Professional Development Conference Call, 3:30 pm
10 Practice Management Conference Call, 1:00 pm
16 Government Affairs Conference Call, 11:00 am
16 Research Committee Conference Call, 3:00 pm
17 EMS Committee Conference Call, 2:30 pm

February 2019

6 Emergency Medicine Resident Committee Conference Call, 2:00 pm
13 Education Committee Conference Call, 2:45 pm
13 Professional Development Conference Call, 3:30 pm
14 Practice Management Conference Call, 1:00 pm
20 Government Affairs Conference Call, 11:00 am
20 Research Committee Conference Call, 3:00 pm
21 EMS Committee Conference Call, 2:30 pm

March 2019

5 Lobby Day, 10:30 am-4:00 pm
6 Emergency Medicine Resident Committee Conference Call, 2:00 pm
13 Education Committee Conference Call, 2:45 pm
13 Professional Development Conference Call, 3:30 pm
14 Practice Management Conference Call, 1:00 pm
20 Government Affairs Conference Call, 11:00 am
20 Research Committee Conference Call, 3:00 pm
21 EMS Committee Conference Call, 2:30 pm

Livia Santiago-Rosado, MD FACEP
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GCS 16

I was never a big fan of trauma. Many emergency physicians are drawn to it, and some may have even selected our field precisely because trauma is their hook: the adrenaline, the procedures, the ability to intervene acutely and decisively to help a wide swath of individuals who may have unexpectedly found themselves seriously, sometimes mortally, injured. I most enjoy the diagnostic detective work of the undifferentiated ESI 2 or 3 patient, and practiced in a non-trauma center exclusively for years. Last year, I joined the faculty of a nascent residency program in an accredited Level 1 trauma center, and quickly re-familiarized myself with all the basics: the ABCs, the primary survey, the eFAST, and of course, the GCS.

The Glasgow Coma Scale (GCS), a tool developed by Teasdale and Jenner and published in Lancet in 1974 was initially a clinical algorithm to follow a patient's level of responsiveness in the aftermath of trauma. The initial scale was not meant to be calculated as an aggregate score, and was to be used over time in a single individual (Figure 1). Early revisions yielded a 12-point scale (scores range from 3-15) when they divided flexor motor response into normal (withdrawal) and abnormal (decorticate posturing) flexor responses, and assigned a score of 1 in each category as the lowest score, consistent with the absence of response (Figure 2). Clinicians started using the composite scale in their studies, and notably in the development of ATLS, and the GCS took off.

Figure 1.

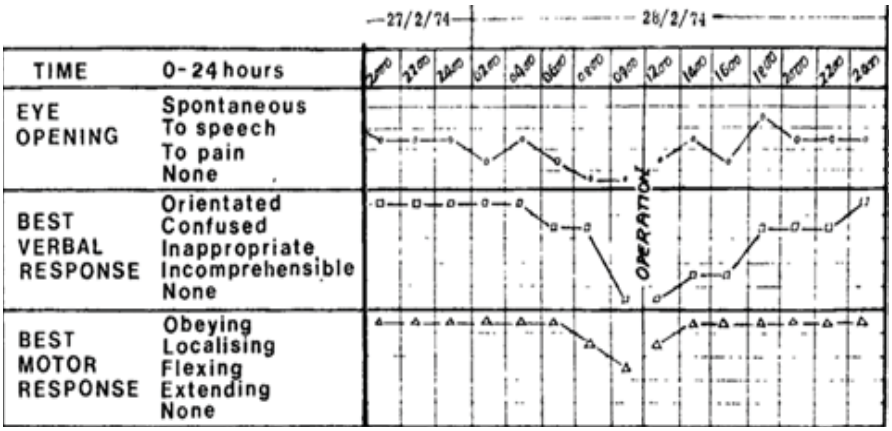

Image credit: https://www.thelancet.com/journals/laneur/article/PIIS1474-4422(14)70120-6/fulltext?code=lancet-site

The original GCS did not have points, nor was it meant to be an additive score.

The more its reach expanded, the more it became clear that the GCS was an imperfect tool. While the scale was useful for grouping patients, and for tracking disability/deterioration in a given patient over time, its interrater reliability and precision have been highly questionable.[1] The GCS has been shown to be unnecessarily complex in both prehospital and in-hospital applications.[2] For one thing, the individual subcategories are onerous; it is also counterintuitive that the lowest score is one point in each category; you may have seen patients with a calculated GCS score lower than the minimum score of 3 because folks may (inappropriately) assign a score of zero to the absence of response. Prehospital setting GCS calculations may be aided by a scoring aid, but remains low even with its use.[3] Furthermore, advances in the treatment of injured patients relative to the early 1970s when the Scale was derived, including the expanded use of prehospital sedation and intubation, rendered variables "untestable" in a higher proportion of patients. Lack of standardization as to how to deal with these "untestable" characteristics have led to even more inconsistency in assigning a score (how *should* one calculate a patient's verbal response score when he is intubated?).

Other questions surround the clinical utility or prognostic value of the score. While many studies have shown inverse relationships between the composite score and mortality or disability, not all clinical features behave this way. One large trial showed that the proportion of patients with intracranial bleeding with midline shift increases as scores descend as far as a score of 4, but somehow drops among patients with a score of 3.[4] The scale does not take into account variables such as focal neurologic deficits (e.g. a patient's score is the same if they are able to localize with one hand or both). This, in addition to the fact that many clinical signs portending poor prognosis are not included, such as pupillary reflexes or refractory status epilepticus, limits the utility of the GCS on initial evaluation of a given patient.

Some have called for full repeal of the GCS. Its (mis)application in clinical practice has resulted in it losing statistical validity. Although it was derived in a trauma cohort, the GCS is often used in the evaluation of coma regardless of etiology; patients with minimally conscious or persistent vegetative states due to encephalopathy or neuromuscular abnormalities, are frequently misclassified.[5] There are also unanswered questions: is each point equivalent to every other point? If I lose a point because I only open my eyes when spoken to, is that equivalent (from a clinical, prognostic perspective) as losing a point because I am unable to follow commands? What if I can follow some commands, but not others?

The original authors have recently advocated for the use of the scale's individual components rather than the composite score to drive clinical care, preferably with verbal descriptors rather than numbers, and have recently called for the scale to be used for prognosis only in conjunction with other variables including imaging results.[6] In 2013, Otha developed an alternative Emergency Coma Scale, which divides patients into three categories dependent on the degree of alteration of consciousness (e.g. cat 1 patients are alert but may or may not be oriented; cat 3 patients can not open their eyes or speak even in response to noxious stimuli, with the specific motor response defining further subcategories, etc.)[7] but the whole thing may frankly be more confusing than the imperfect GCS.

Figure 2.

Glasgow Coma Scale		
Response	**Scale**	**Score**
Eye Opening Response	Eyes open spontaneously	4 Points
	Eyes open to verbal command, speech, or shout	3 Points
	Eyes open to pain (not applied to face)	2 Points
	No eye opening	1 Point
Verbal Response	Oriented	5 Points
	Confused conversation, but able to answer questions	4 Points
	Inappropriate responses, words discernible	3 Points
	Incomprehensible sounds or speech	2 Points
	No verbal response	1 Point
Motor Response	Obeys commands for movement	6 Points
	Purposeful movement to painful stimulus	5 Points
	Withdraws from pain	4 Points
	Abnormal (spastic) flexion, decorticate posture	3 Points
	Extensor (rigid) response, decerebrate posture	2 Points
	No motor response	1 Point
Minor Brain Injury = 13-15 points; **Moderate Brain Injury** = 9-12 points; **Severe Brain Injury** = 3-8 points		

Image credit: https://smhs.gwu.edu/urgentmatters/news/keep-it-simple-acute-gcs-score-binary-decision

Revised versions of the GCS separated out flexor motor behavior into purposeful withdrawal and abnormal decorticate posturing, included points, and led to the use of composite scores by adding the points together.

One intriguing study evaluated the performance of the GCS and determined that its prognostic value could likely be matched by a single binary determination of the motor component: "Does the patient follow commands?" A motor component of the GCS (GCS-m) less than 6 (patient unable to follow commands) predicted serious injury, much as a combined GCS less than 13 has shown. However, GCS-m, especially as expressed in its binary form, is much simpler to calculate and therefore potentially more precise, more accurate, more predictive.[8] The equivalence of the binary assessment was further validated in a study published in Annals this September, perhaps opening the door for wide adoption of this simpler scheme.[9] But this is recent, and given that the GCS has been codified and canonized by the American College of Surgeons among other stalwarts of medical conservatism, those pesky GCS scores are likely to stay for now.

Back in my trauma room, the struggle is real. EMS "calls" traumas on the field utilizing the GCS, but not infrequently, my calculation differs, as does the trauma surgeon's; at times the surgeon's and mine are congruent, sometimes not so much. Sometimes two trauma surgeons disagree with each other. And that is all before the neurosurgeon shows up. I also note that there are plenty of patients with a combined score of 15 on arrival who still had clinically concerning presentations (following commands but with a four-second delay, or using only one side of the body). But there is one distinct category of patients that seems to predictably do well: the ones who come in telling jokes.

Now, bear in mind that using the original 1974 GCS would have yielded a top score of 14. If the fifteenth point was a revision to increase the specificity of the motor response, here is a wild thought: maybe a sixteenth point should be added for the highest verbal response. The highest form of verbal expression is obviously comedy. Imagine you have two trauma patients, and you ask them both their name. One answers by telling you their name in a monotone; the other says, "Depends... who wants to know?" with a twinkle in their eye. Which do you think will do better? Oriented (or as they said in Glasgow, orientated) speech is great, but how much better than simply oriented is humor or sarcasm? So when my patient comes into the trauma bay and blurts out "Hey, fancy meeting you here!" or "Well, this is a fascinating turn of events", I officially relax and yell to the trauma scribe: "GCS 16 — extra point for jokes". Completely unscientifically and anecdotally, none of these GCS 16 patients had any brain injury that required any intervention.

I thought about studying this, scientifically and non-anecdotally. Perhaps if I had, I might have had sufficient ammunition for the pinnacle of medical narcissism: the eponym. Eponyms have been around since before the Hippocratic oath (also, you guessed it, an eponym). The golden age of eponyms started in the 1800s, and peaked in the middle of the last century.[10] The Santiago Sixteen could have been all the rage.* I would personally prefer that we all go to the "Does the patient follow commands?" binary model, and pronto, but in the meantime, I'll keep scoring that sixteenth point for chuckles (and even for feeble attempts at chuckles—"uncle" jokes count). At a minimum, highlighting the humor makes for a more relaxed environment in the trauma room. These days, when I get a trauma patient who comes in with their sense of humor intact, I give them that sixteenth point. And I am calling it the Santiago Sixteen, since it is probably my last chance at an eponym.

**In 1974 the NIH recommended doing away with the use of possessive eponyms since in most cases the individual named neither suffered from nor "owned" the disease (e.g. Crohn disease rather than Crohn's disease, Alzheimer dementia rather than Alzheimer's). So "Santiago's Sixteen" would be incorrect.*

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ALBANY UPDATE

Reid, McNally & Savage

New York ACEP Legislative & Regulatory Representatives

2019 Legislative Session

The State Legislature will return to Albany the first week of January to convene the 2019 Legislative Session which will run until at least late June. The Governor's State of the State Address will be delivered January 9 pursuant to the State Constitution. The State Budget must be released by the Governor no later than February 1, 2019 but is more likely to be unveiled the third week of January. With the start of a new two-year legislative cycle, all bills must be reintroduced with new numbers and will be referenced to the Committee of origin.

New York ACEP and Reid, McNally, and Savage are busy preparing for the 2019 Legislative Session. We once again expect proposals aimed at stemming the opioid crisis, including changing the exemption for emergency department personnel to check the Prescription Monitoring Program (PMP) if a controlled prescription does not exceed a 5-day supply to a 3-day supply, and requiring practitioners in the Emergency Department (ED) to notify a patient's prescriber when there has been an overdose. In addition, it is likely that legislation will be re-introduced to prohibit balance billing of emergency services. New York ACEP and the Government Affairs Committee will continue to gather information to combat these proposals.

2019 Emerging New Issues

Two issue are likely to be hotly debated by the Governor and the Legislature in 2019: 1) Single Payer health care; and 2) legal adult use of marijuana. New York ACEP is currently preparing position papers on both of these proposals.

Single Payer Health Care

The 2018 State elections sparked renewed interest in the New York Health Act (A4738-A Gottfried/S4840-A Rivera). The legislation passed the Assembly this year by a vote of 91to 46, marking the fourth time since 2015. It has never moved to the floor in the Republican-controlled. Senate.

The bill would establish a state-sponsored single Payer health care plan to cover all residents of the State, including undocumented immigrants and seniors over 65 years of age. Long-term care is not included in the plan. Patients would have no deductibles or other out-of-pocket costs for covered services. Coverage would include medical benefits currently included in Medicare, Medicaid, Child Health Plus and essential health benefits under the Affordable Care At (ACA). Federal waivers would have to be granted by the Trump administration in order to redirect all federal, state and ACA funds, as well as marketplace tax credits, to the New York Health (NYH) plan. The plan would be financed through a trust consisting of these federal and state funds and tax credits along with a new state payroll tax imposed on employers (80%) employees (20%) and self-employed individuals.

The New York Health Act (NYHA) would permit physician collective negotiation of fees-something that is currently prohibited. Payment for health care services would be made on a fee-for-service basis with a variety of different payment methodologies offered under the legislation. Payment for services would be required to be "reasonable and reasonably related to the cost of efficiently providing the health care service and assuring an adequate and accessible supply of the health care service."

In August of this year, the RAND Corporation released a study on the NYHA which found that most individuals and employers would save money over the long-term- $15 billion or 3.1 percent by 2031 with coverage of a million more people. However, the report acknowledges that these findings are dependent on restraint in the growth of provider payment rates, the State's ability to administer the plan efficiently, enrollment of all State residents and the federal government's willingness to grant the necessary waivers. RAND estimates that the State would need to raise $139 billion in state tax revenue to cover the program by 2022, a 156% increase.

Legal Adult Recreational Marijuana

Governor Cuomo is expected to introduce legislation in 2019 to allow for legal adult (age 21 and over) recreational use of marijuana in the State. Legislation sponsored by Senator Liz Krueger and Assemblywoman Crystal Peoples-Stokes to legalize marijuana has been pending in the Senate and Assembly since 2014 but has never been brought to the floor in either house for a full vote.

In July of this year, the New York State Department of Health (NYS DOH) released a report on the "Assessment of The Potential Impact of Regulated Marijuana In New York State." The report can be found at:https://www.health.ny.gov/regulations/regulated_marijuana/docs/marijuana_legalization_impact_assessment.pdf

The 74-page report examined the risks and benefits and concluded that legalized marijuana's benefits outweighed its drawbacks.

The Governor's office, the NYS DOH, and other State agencies conducted 18 "Listening Sessions" across the State on the issue. According to Governor Cuomo's office, the purpose of the Listening Sessions is to "garner input from community members and key stakeholders on the implementation of a regulated marijuana program in New York State." The input will assist the 20-member Regulated Marijuana Workgroup appointed by the Governor in drafting legislation for an adult-use marijuana program for the Legislature to consider in the upcoming Session."

New York ACEP 2019 Lobby Day Tuesday March 5

New York ACEP Board and Government Affairs Committee members and residents will travel to Albany, New York, Tuesday, March 5, 2019 to meet with state legislators and staff to Governor Andrew Cuomo about State budget and other issues.

With the deadline for passage of the State Budget April 1, 2019, Reid, McNally & Savage and New York ACEP will press elected officials and policy makers to preserve and protect the emergency services safety net. The work of New York ACEP in Albany is amplified by the participation of members at the local level who respond to Action Alerts to call and meet with legislators and their staff on key issues. Thank you for your past efforts. Please know that your voice does make a difference in Albany.

Congratulations to New Fellows of the American College of Emergency Physicians

Ethan Abbott, DO, FACEP
Nicholas Aloisio, MD, FACEP
Herberth Balsells, DO, FACEP
Cindy Baseluos, MD, FACEP
Torsten Behrens, MD, FACEP
Robert Gregory Brewer, MD, FACEP
Christopher Calandrella, DO, FACEP
Christopher Caspers, MD, FACEP
Jordan Chanler-Berat, MD, FACEP
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Darren M. Huffman, MD, FACEP
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David M. Janicke, MD, PhD, FACEP
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