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ENVISION PHYSICIAN SERVICES OFFERS...

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Matt Kaufman, MD
Emergency Medicine
Staten Island, NY

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I want to thank all of you who answered our Calls To Action by meeting with, and reaching out to your elected leaders over the last few months. With dozens in Albany for our annual lobby day, and many calls to our leaders, we effectively reacted to a number of proposals in the Governor’s budget that would have made it even more difficult to practice emergency medicine in New York. Amongst many wins, most impressive was our ability to remove the proposed repeal of the 5 day PMP exemption for emergency medicine, while simultaneously reinforcing the obligation the New York Department of Health has in integrating EHRs so they seamlessly link with the PMP. It is rare to get something taken out of the budget proposal, but we were able to do it this year thanks to your help. This was a huge victory and we have no doubt saved your mouse-clicking finger thousands of clicks for another year (that is, if you can remember your ever-changing password long enough to log in to the PMP).

Now that we have that brief reprieve, I ask your finger to make just a few clicks to help us win the next legislative threat on our practice. Right now, click and consider giving up a glass of your favorite beverage once a month for the rest of the year by contributing to the New York Emergency Medicine Political Action Committee (NYEMPAC). A hundred dollars once a year is all I ask. Gaining access to elected leaders is critical for them to hear our perspective. In the case of I-STOP and this recent victory, we had access in great part due to our NYEMPAC and that allowed us to share our stories which clearly resonated, given our success.

The dollars contributed to the NYEMPAC are used strategically to support the campaigns of elected leaders regardless of party affiliation. Such contributions are to leaders and candidates that are sensitive to the needs of emergency physicians and the patients seeking emergency medical care. It takes dollars though, and the reality is that dollars lead to access, which is what we need to be able to tell our stories. Some of you meet with your elected leaders and attend our lobby days – and I am so thankful for that. I also completely understand that some of you have no desire to do that – and I truly get it! Sometimes I do not want to meet with them either (that would probably look bad, though!). But I do offer one way that you can help your practice and that is contributing to NYEMPAC.

Whether it’s attending lobby day, calling your elected officials, or contributing to our PAC (or better yet, all three), together our voice is being heard and it is making a difference in our practice. I can not thank you enough for that!
Case
A 71 year-old woman complained of painless vision loss in her left eye three days prior to presentation to the Emergency Department (ED). She reported almost complete vision loss but had preserved central vision. She denied any other symptoms. Her past medical history was significant for hypertension, aortic stenosis, and cardiomyopathy. On exam in the ED, the patient was noted to have intact vision in the right eye and grossly intact central vision in the left eye with perception of finger motion peripherally. Pupils were equal, round and reactive to light bilaterally and no afferent pupillary defect was noted. Intraocular pressure was measured at 18 mmHg bilaterally. Direct fundoscopy of the left eye demonstrated a pale optic disc with optic nerve pallor. Cardiovascular exam was significant for a 3/6 systolic murmur radiating to the carotid arteries. Neurologic exam did not demonstrate any focality. EKG demonstrated normal sinus rhythm and was consistent with left ventricular hypertrophy. Non-contrast computed tomography of the head was unremarkable.

Point-of-care ocular ultrasound was performed at the bedside demonstrating no obvious retinal detachment, vitreous detachment, or vitreous hemorrhage. Optic nerve sheath diameter was measured at 3.4 mm. There was an echogenic focus within the optic nerve sheath (Figure 1). Color Doppler ultrasound demonstrated retrograde flow with a lack of forward flow (Figure 2). Spectral Doppler ultrasound demonstrated a post-capillary venous waveform with the lack of any low resistance arterial flow (Figure 3).

Figure 1. B-mode ultrasound of the left eye and optic nerve. Optic nerve sheath diameter was 3.4 mm as measured 3 mm posterior to the retina. Also noted is an echogenic focus within the optic nerve sheath.

Figure 2. Color Doppler ultrasound of the left eye demonstrating retrograde flow (blue) with the absence of forward flow (red) within the optic nerve sheath. Preserved forward arterial color Doppler flow (red) is noted within the ciliary artery and the central portion of the retina.

Figure 3. Pulsed wave Doppler ultrasound interrogation of the optic nerve sheath demonstrated a flat posterior capillary venous waveform and absence of a low resistance arterial waveform.
**Discussion**

Central retinal artery occlusion (CRAO) is an emergent ophthalmologic diagnosis that generally presents with sudden, painless and near-complete vision loss. If this occlusion is not definitively treated, the prognosis for visual recovery is poor; 80% of patients have subsequent visual acuity of 20/400 or worse. Vision becomes affected at 90 minutes after occlusion and irreversible vision loss begins at 240 minutes after occlusion. In addition, patients with CRAO are at increased risk of stroke and other embolic disease which often mandates further urgent workup and management. Accurate and timely diagnosis is important as it will lead to prompt treatment and ophthalmologic consultation.

Two-thirds of CRAO cases are caused by thromboembolic disease, usually originating from the carotid artery. Non-thromboembolic cases are either due to vasospasm or due to giant cell arteritis. Some CRAO patients may experience only minor visual changes due to a collateral cilioretinal artery, which can maintain areas of retinal perfusion and vision even with occlusion of the central retinal artery. The confirmatory test for CRAO is fluorescein angiography, involving a specialized retinal camera, not readily available in the ED. Diagnosis of CRAO is generally clinical and may not necessarily reveal an underlying etiology. Clinical diagnosis becomes tricky in patients with CRAO who have a significant preservation of vision. Point-of-care ultrasound enables emergency physicians to diagnose CRAO and differentiate it from other causes of vision loss.

An understanding of the normal anatomy of the eye is required to be able to recognize any emergent pathology on ultrasound. The eye is composed of two segments: an anterior and posterior segment. The anterior segment consists of aqueous humor between the superficial cornea and the deeper vitreous. The posterior segment is larger and more amenable to ultrasound and consists of vitreous humor from the end of the anterior segment to the optic nerve. The optic nerve is located at the posterior aspect of the posterior segment of the eye. It enters into the eye enveloped in its sheath through the optic canal. The central retinal artery is embedded within the sheath of the optic nerve and contains the blood supply for the retina, excluding the macula and fovea. This pattern of blood supply causes the classic, pathognomonic fundoscopic exam finding of a pale retina with a cherry-red fovea, which is only visualized in 11% of CRAO cases.

Ocular ultrasound has been a part of ophthalmologic care since the 1960s, but was usually found in outpatient clinics and used in the management of chronic conditions. Point-of-care ultrasound for critical and emergency diagnoses is a relatively new field. Outpatient ocular ultrasound utilizes specialized transducers which are not typically seen in the emergency department. However, most point-of-care machines have a high-frequency linear array probe that is capable of assessing the eye. The eye is quite amenable to sonographic evaluation as it is vitreous-filled and includes easily recognizable hyperechoic structures. In the case of central retinal artery occlusion, point-of-care ultrasound is able to diagnose and rule-out alternate diagnoses such as ocular foreign bodies, vitreous hemorrhage and detachment, retinal detachment, lens dislocation, papilledema, and retrobulbar hemorrhage. Sonographic findings of CRAO can be found on examination of the optic nerve sheath. The optic nerve sheath is best evaluated with ultrasound where the sheath enters perpendicular into the posterior globe. Several findings in this area can be suggestive of CRAO. First, assess the central retinal artery at the optic nerve with color flow Doppler. Lack of forward arterial color flow Doppler in the central area of the optic nerve sheath is suggestive of CRAO. Utilizing pulse wave Doppler, a sample gate placed over the optic nerve sheath should display a normal low resistance arterial waveform. A low resistance arterial waveform should exhibit low total velocity, a shallow upstroke and persistent flow during the diastolic phase. Absence of an arterial waveform is suggestive of CRAO. Finally, increased optic nerve sheath diameter as a result of vasogenic edema from the CRAO has been proposed but not validated as a possible finding of CRAO. Importantly, hyperechoic foci corresponding to thromboembolic plaque may be present in the optic nerve sheath or the retrobulbar area. The presence of hyperechoic plaque implies not only CRAO but a thromboembolic etiology. Such findings should instigate the workup for further atherosclerotic disease.

Although data on using point-of-care ultrasound as a primary method to diagnose CRAO exists, no large-scale prospective trials have been conducted to verify its efficacy. The authors therefore recommend caution in solely using point-of-care ultrasound to rule-in or rule-out CRAO. As with any point-of-care ultrasound case, an accurate history and physical combined with sonographer knowledge and skill are invaluable for the proper diagnosis.

**Indications**
- Vision change
- Vision loss
- Visual field defect

**Contraindication**
- Signs of globe rupture

**Technique**
- Select a high frequency linear array probe, ideally with a small footprint, that can easily be placed on the closed eyelid.
- Place a transducer cover or sterile glove over the transducer. Place gel within the transducer cover and on the eye. Recommend use of individually packaged lubricant jelly with ocular ultrasound.
- Scan the eye in both transverse and sagittal planes. Note any posterior vitreous chamber abnormalities that may correlate with an alternate diagnosis.
- If no alternate diagnosis is identified on initial scan, locate the optic nerve sheath entering at the posterior aspect of the globe. This is done by having the patient look straight ahead while keeping their eye closed.
- Scan the optic nerve sheath for an echogenic clot as it enters the posterior globe.
- Place color flow Doppler on the optic nerve sheath to detect flow through the central retinal artery (Figure 2). An absence of forward Doppler flow suggests an arterial occlusion.

*continued on page 8*
PRACTICE MANAGEMENT

The Elimination of Routine Fecal Occult Blood Testing (FOBT) aka “Guaiac” in the Emergency Department

Emergency medicine providers (EMP) face difficult diagnostic challenges on a daily basis. Patients presenting to the Emergency Department (ED) with an acute illness require an accurate diagnosis to be made in a timely fashion. Delays in diagnosis or over-diagnosis may lead to adverse patient outcomes and poor overall patient care. In an effort to maximize diagnostic accuracy and reduce delays in definitive care, EMPs employ many diagnostic adjuncts in their daily practice. It is therefore imperative to evaluate the evidence surrounding such diagnostic aids and to determine if the available literature supports or discourages their use. Furthermore, if such aids are permitted into the clinical arena, it is essential that providers utilize these adjuncts in a manner that is compliant with regulatory guidelines (JCAHO and DOH). Fecal Occult Blood Testing (FOBT), fondly known as “guaiac”, performed by EMPs remains a commonly used adjunct for the detection of GI bleeding. In this article, we hope to describe how an overall lack of supporting evidence, its stringent regulatory compliance guidelines and added patient and financial benefits lead to the elimination of FOBT in our ED.

Evidence based practice is a rapidly expanding approach in the field of emergency medicine, as the practice patterns of many providers are shaped by the latest literature and published works. In collaboration with the Department of Gastroenterology at our institution, we decided to review the literature surrounding FOBT and the overall utility of this test as it pertained to the emergency setting. It is well documented that FOBT carries high false positive and false negative rates. For instance, false-positive results can occur with non-gastrointestinal bleeding sources such as epistaxis, certain meats and vegetables containing peroxidase and toxins such as alcohol. The exam can also pick up clinically insignificant bleeding caused by anti-inflammatory drugs. Moreover, false-negative results, such as those caused by slow or intermittent bleeding, ingestion of antioxidants, and upper gastrointestinal bleeding secondary to globin denaturation, preclude this test’s ability to convincingly rule out important pathology. It is imperative that we evaluate the role of FOBT in the ED given the unreliable nature of this exam and its potential to lead to unnecessary downstream testing.

Patients who present to the ED with symptoms and/or laboratory abnormalities suggestive of a GI bleed have a high pretest probability precluding the use of FOBT. An audit of FOBT in hospitalized patients over a one year period demonstrated that this test may have little beneficial impact on clinical management. In a retrospective chart review for all FOBTs conducted over a three-month period in 2011, it was determined that FOBT is often used inappropriately within the hospital setting. Accordingly, FOBT is mainly recommended for cancer screening in asymptomatic outpatient cases. FOBT is not recommended in the evaluation of acute GI bleeding or iron deficiency anemia. Of note, our GI department “forbids” its trainees from carrying guaiac cards inside of the hospital. Literature repeatedly demonstrated that FOBT in the acute setting does not enhance the therapeutic approach and supports eliminating the routine use of this test as a diagnostic adjunct.

Additionally, FOBT is a point of care test that is subject to many compliance guidelines. As with any other bedside point of care test, providers must be educated on the respective regulatory mechanisms in an effort to minimize non-compliance and to avoid non-adherence violations. New hires who plan to utilize FOBT require an official education process as per the Department of Health (DOH). Providers who utilize FOBT are also required to complete an annual competency check by department leaders to ensure that proper technique is utilized during the testing process. In regards to FOBT result documentation within the medical record, providers must document the identification and/or “Lot” number of the specimen card as well as the guaiac “Solution Number” utilized for the exam. Moreover, it is advised that the solution be applied onto the specimen card in a controlled laboratory setting under the appropriate safety controls. The aforementioned compliance guidelines for FOBT are detailed and time consuming. Therefore, this promotes non-compliance and unnecessary regulatory violations. If done correctly, this process can take up to 10 minutes to complete. This time could be better utilized in a busy ED setting and should not be wasted on activities that do not add legitimate value to patient care.

There are several other additional benefits
to eliminating routine FOBT testing in the ED. False positive results can initiate a cascade of unnecessary downstream testing. On the financial side, there are cost savings on FOBT kits and training sessions for staff. It is critical to emphasize that the available literature and this article do not advocate for the discontinuation of digital rectal exams (DRE) as part of the evaluation process. In contrast, our gastroenterology colleagues advised our group to become even more attentive and reliant on the results of digital rectal examinations as these findings are clinically more informative than a positive FOBT. The goal of this article was to highlight the importance of evidence based medicine, regulatory concerns and interdepartmental collaborations and how it affects our daily practices in the ED.

References

Calendar

June 2019
4  Lobby Day, 10:30 am - 4:00 pm, Albany, New York
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 Emergency Medicine Resident Committee Conference Call, 2:00 pm
19 Research Committee Conference Call, 3:00 pm
20 EMS Committee Conference Call, 2:30 pm

July 2019
9-11 Scientific Assembly, Sagamore Hotel, Bolton Landing, NY
9 Board of Directors Meeting, 11 am-12 pm, Sagamore Hotel
10 Annual Membership Meeting, 12:45 pm-1:45 pm, Sagamore Hotel
10 Committee Meetings, 1:45 pm-2:15 pm, Sagamore Hotel
10 Annual Resident Volleyball Tournament, 3 pm, Sagamore Hotel
11 Board of Directors Meeting, 7am-8am, Sagamore Hotel

August 2019
21 Emergency Medicine Resident Career Day, 8 am-12:30 pm, New York Academy of Medicine

September 2019
11 Education Committee Conference Call, 2:45 pm
11 Professional Development Conference Call, 3:30 pm
12 Practice Management Conference Call, 1:00 pm
18 Government Affairs Conference Call, 11:00 am
18 Emergency Medicine Resident Committee Conference Call, 2:00 pm
18 Research Committee Conference Call, 3:00 pm
19 EMS Committee Conference Call, 2:30 pm

October 2019
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 Emergency Medicine Resident Committee Conference Call, 2:00 pm
16 Research Committee Conference Call, 3:00 pm
17 EMS Committee Conference Call, 2:30 pm
25-26 ACEP Council Meeting, Denver, CO
27 New York ACEP Reception Denver, CO

Board of Directors Election
This June, New York ACEP members will receive the 2019 Candidate Profile. Through this proxy, members will elect four board candidates to serve three-year terms on the New York ACEP Board of Directors.

Members can cast their vote on board positions by proxy no later than July 5. Proxies will be sent by email to all New York ACEP member in June. Members may cast a proxy in person at the New York ACEP Annual Meeting Wednesday, July 10 at 12:45 pm at The Sagamore Resort on Lake George in Bolton Landing.
I had the pleasure of gaining insight from Dr. Muehlbauer who, last year, was named Chairman of Emergency Medicine at St. Francis Hospital in Roslyn, NY. Stefan has previously been an attending physician and Director of Emergency Department Infection oversight at St. Francis. He has also served as core faculty at North Shore University Hospital and was academic faculty at Harvard affiliate hospitals.

**What Was it About ED Administration that Interested You?**

I think that I have always wanted to impact the department I work in on a more “macro” scale than is possible by purely focusing on clinical practice. ED administration is a satisfying way to support and improve patient care for an entire department. By running an emergency department, compared to pure clinical practice, you get to use and build a different set of skills.

**What Did You Find Most Challenging Stepping Into the Role of ED Chairperson?**

As a new chairperson, you need to earn the respect and collaboration of all of your staff. I stepped into the shoes of my former boss, who had competently run the department for over 20 consecutive years. I found myself suddenly in a leadership position, overseeing physicians with many more years in practice than me, several of whom were actually former administrators themselves. It is a challenging balance to project confidence, competence and clarity, while making sure to avoid arrogance. I needed to build consensus without being governed by it. Similarly, as the newest chairperson in the hospital, I needed to support and advocate for my department and staff, without antagonizing the administrators and staff elsewhere in the institution.

**Can You Comment on the Positives/Negatives of Working in Administration Over Straight Clinical Work?**

Clinical emergency medicine has an unmatched intensity to it, which is relieved and balanced by the unburdened nature of the time off in between shifts. Administration changes all of this, for both good and bad. Time spent overseeing a department provides the satisfaction of caring for a department and its patients without the intensity of the clinical shifts. It is also enormously rewarding to work at making improvements that have broad impact throughout the department and hospital. Instead of finding job satisfaction one patient at a time, you can paint with a much broader brush. The other side of it is that your unburdened time off becomes much more scarce. The key EM adage “when you’re on you’re on and when you’re off you’re off” does not apply to the department chair, and I really miss having “a real day off.”

**Do You Have Recommendations for Residents/New Graduates and/or Mid to Late Career Emergency Physicians Who are Interested in Transitioning Into Administrative Roles?**

First and foremost, make sure you are the best, hardest working doctor that you can be. There is nothing more valuable than your clinical reputation, and the way to build this is by good old-fashioned hard work. Take great care of patients, see as many as you can, and take the shifts nobody else wants. At the same time, try to establish yourself as a resource for your department, and never turn down an opportunity to take on more responsibility. There are great opportunities for education in administration, ranging from leadership classes to earning a MBA. I would recommend exploring these, but there is no substitute for actually taking on real administrative responsibilities in your hospital. If you are serious about pursuing an administrative track, I would highly recommend taking on a key responsibility with a title in your department. This will likely be uncompensated at first, but it is the best way to prove yourself. I would also recommend being forward and honest about your goals and ambitions with your colleagues and administrators. Applying for any available administrative positions is a great way to show your interest, and to gain experience at seeking advancement, even if you do not get the jobs right away. Lastly, make sure that you are a good colleague.

**What Has Been Most Rewarding in Your Role as Chair Thus Far?**

I have had the enormous privilege of leading my department during a period of growth, both in the department’s patient visits and the scope of the services that we provide. Despite numerous challenges and frustrations that I have faced in the job, being able to hire additional staff and expand the department is enormously rewarding.
Sound Rounds -continued from page 4

- Measure the optic nerve sheath diameter at a distance 3mm posterior to the optic nerve sheath (Figure 1). An optic nerve sheath diameter > 5mm may be suggestive of central retinal artery edema from occlusion or other causes of elevated intraocular or intracerebral pressure.
- Repeat the above technique for the other eye.

**Case Conclusion**
The patient had an emergent ophthalmology consultation in the ED which confirmed the diagnosis of CRAO. Given that the symptoms had been present for 72 hours and her vision was not recoverable, no emergent ophthalmologic intervention was performed. The patient was admitted and a stroke work-up was unremarkable. An ESR was 96 mm/hr (normal range 0-24 mm/hr) but temporal artery biopsy was negative for giant cell arteritis. The patient was discharged with outpatient follow-up.

**Acknowledgements**
The authors would like to acknowledge Andrew Mastanduono, MD for his contribution to this article.

**References**
New York State Stroke Designation Program Recap

There have been vast changes in the way acute stroke care is delivered over the past few years. Advances have been made in treatment of acute stroke patients, advances in protocols of how to triage and transport acute stroke patients and advances in hospital stroke designation for treatment of acute stroke and large vessel occlusion. Here is a recap of the recently released guidelines and protocols in New York State.

On April 5, 2019 the New York State Stroke Services Guidance Document for Hospitals and Health Systems Version 19.2 was released. It is a guidance document on meeting the requirements of the New York State Stroke Designation Program and Title 10 NYCRR 405.34: Stroke Services. The intention of the guidance document is to establish a system of stroke care in New York State where patients receive appropriate and timely medical care. Data reporting requirements are established for monitoring systems of stroke care. Regional frameworks for transporting suspected stroke are being established.

Hospitals in New York State will be required to receive certification as a Primary, Thrombectomy Capable or Comprehensive Stroke Center from approved organizations with authority to certify stroke centers in New York State including:

- Healthcare Facilities Accreditation Program (HFAP)
- The Joint Commission (TJC)
- Center for Improvement in Healthcare Quality (CIHQ)
- Det Norske Veritas Healthcare (DNV-GL)

After receiving certification as a Primary, Thrombectomy Capable or Comprehensive Stroke Center, the facility must apply to the New York State Department of Health (NYSDOH) for Stroke Designation on the Department of Health webpage via the ‘Request for Stroke Designation’ form. There will be a three-year grace period to receive designation.

During this time-frame, the stroke center will receive stroke patients and report performance measures through the Health Electronic Response Data System (HERDS). After the three-year grace period, if designation is not obtained, the facility will no longer be recognized by EMS as a designation for stroke patients. This three-year grace period allows for two years to contract with a certifying organization and one more year to apply to the NYSDOH for designation. If accreditation was received by the facility prior to the effective date, the facility will need to recertify after adopting Title 10 NYCRR 405.34 and apply to the NYSDOH for stroke center designation within the three-year grace period.

Certification requirements were derived from multiple entities. These entities include the American Heart Association, the American Stroke Association, Guidelines of the Brain Attack Coalition and recommendations from the New York State Department of Health and the New York State Stroke Advisory Group.

Thrombectomy Capable Stroke Center requirements build on Primary Stroke Center Certification Requirements. Comprehensive Stroke Center Certification Requirements build on Primary and Thrombectomy Capable Stroke Certification Requirements.

A summary of Primary Stroke Center Certification Requirements begins with a hospital with resources and processes to care for acute stroke patients, including administering intravenous thrombolytic therapy. Leadership includes a full-time nurse stroke coordinator and a medical director. The role of the stroke coordinator includes acting as the EMS liaison, submission of data to EMS and collection of data for quality improvement of the stroke program. The Medical Director will be a physician on staff, licensed in New York State and Board Certified in Internal Medicine, Emergency Medicine, Neurology, Neuroradiology or Neurosurgery. The medical director will perform eight hours of CME annually and be available 24 hours a day, seven days a week (24/7) for guidance.

The Primary Stroke Center will track EMS notifications and give timely feedback to EMS regarding transported stroke patients.

The 24/7 providers who must be available include the Acute Stroke Team (at least one physician and one RN required to be at the bedside within 15 minutes of patient arrival/activation) with eight hours of stroke CME annually. A Neurologist must be at the bedside physically or via telemedicine within 15 minutes of the request. Emergency Medicine providers, including physicians, physician assistants, nurse practitioners and nurses all must have been trained in stroke recognition, assessment and acute stroke team activation protocols. The Diagnostic Radiologist must be privileged to interpret CT, CTA and MRI of the brain and be able to read images within 20 minutes of their completion. Stroke Unit Nursing Staff must be trained in stroke patient care and complete eight hours of stroke-centered continuing education annually. Physical Therapy, Occupational Therapy and Speech Therapy must be a available as needed, and bedside swallow evaluations performed by trained staff performed 24/7. Neurosurgical coverage must be available or a protocol for transfer to an appropriate facility must be documented.

There are transfer agreement requirements including: agreement with one facility capable of providing neurosurgical, cerebral endovascular and neuro ICU services 24/7, one transfer agreement with a Comprehensive Stroke Center (CSC) and optionally also with a Thrombectomy Capable Stroke Center (TSC). The transfer agreements
must include target timeframes for timely transfer of neurosurgical and endovascular services; 24/7 emergency contact of the receiving team; the ability to transfer and the receiving facility to receive the patient 24/7; clinical criteria for transfer; criteria for advanced imaging prior to transfer (including who will image, the sending or receiving facility, and plans for sharing images); triage and transport protocols of stroke patients including possible large vessel occlusions.

Neuroimaging requirements include performing a read of a CT of the brain 24/7, performed within 25 minutes of arrival and read within 20 minutes of completion. MRA availability is recommended but should not delay IV tPA administration or transfer for definitive care. If teleradiology is used, access to images and patient charts is recommended. CTA head and neck is recommended, must be read within 45 minutes of arrival but should not delay IV tPA administration. CTAs are not required for initial Primary Stroke Center certification but will be required to be available 24/7 at the time of recertification. MRA is recommended when clinically indicated but should not delay IV tPA. Echocardiogram should be available when clinically indicated.

Laboratory and Pharmacy requirements include routine lab testing to be performed and communicated to the provider within 45 minutes of patient arrival. Pharmacy must have 24/7 IV tPA available for use when indicated. There must be a stroke unit or stroke beds to continuously monitor stroke patients equipped with telemetry and monitoring of blood pressure, pulse, respiration and oxygenation.

Training and education requirements include eight hours of CME that is stroke-focused continuing education annually for Acute Stroke Team and Stroke Leadership. Training of stroke assessment, management and protocols must be provided for the acute stroke team, nurses, physicians, midlevels providing care in the emergency department, acute stroke unit, ICU and catheterization lab.

Performance measures and quality improvement is a part of the Primary Stroke Center designation. The PSC must participate in a stroke registry that uses criteria determined by the NYSDOH. The NYSDOH must be granted access to the PSC data for program evaluation. There must be an internal quality improvement group that meets monthly and reviews benchmarks, indicators, best practices, patient outcomes and delays in care and takes appropriate action necessary. There must be a peer review process made up of an interdisciplinary team, the medical director, stroke coordinator and quality facilitator. A stroke log that maintains diagnosis, treatment, outcomes and response times will be kept. Quarterly reporting will occur on pre-determined measures and will be used for ongoing performance improvement (Appendix 1).

These are robust requirements for Primary Stroke Center certification, but how does Thrombectomy Capable Stroke Center criterial for certification differ? To begin, Thrombectomy Capable Stroke Centers (TSC) perform endovascular thrombectomy procedures, provide post-procedural care and are hospital-based programs. They must meet all the PSC requirements PLUS they must have performed mechanical thrombectomy and post-procedure care for at least 15 patients with ischemic stroke over 12 months, or 30 over 24 months. There is leeway if historical data does not meet these requirements if by end of year one the center has performed 12 cases of mechanical thrombectomy and by the end of year two, the volume requirements have been reached.

There are some added requirements to the PSC. To begin, in provider availability, the TSC must have a fellowship trained vascular neurologist, as well as a diagnostic radiologist with complex stroke experience and/or a physician privileged to interpret CT/CTA head/neck and brain MRI. Radiology Technicians must be available 24/7 to perform CT/CTA/MRI/MRA/CA. There must be a 24/7 intensivist for post procedure care and monitoring. Each Neurointerventional must perform 15 in one year and 30 in two years mechanical thrombectomies. There must be an endovascular team of (one endovascular RN, one endovascular catheterization laboratory technicians, and a mechanical thrombectomy credentialed physician). The Neurointerventionalist must access images within 10 minutes and the team arrive on site within 30 minutes. General Neurosurgery coverage must be available 24/7 for any complications. Additionally, one written transfer agreement with a Comprehensive Stroke Center must be in place for transfer out and transfer agreements with referring PSC in the catchment area.

Neurointerventionists must be CAST certified or meet certain training/ fellowship/ residency criteria and have the required minimum mechanical thrombectomies performed yearly as stated above. Imaging requirements are more robust as well. The TSC must be able to perform and read MRA/ CA/ CTP 24/7 is required as well. Echocardiogram, carotid duplex ultrasound, extracranial ultrasonography, trancranial doppler, TEE, TTE as indicated. In addition to 24/7 IV tPA capabilities, the TSC must have 24/7 mechanical thrombectomy and IA thrombolytic availability. Performance measures are different as well (Appendix 2).

Comprehensive Stroke Center (CSC) requirements build on PSC and TSC requirements. In addition to the above, a CSC must provide care for 20 or more patients per year with subarachnoid hemorrhage, perform 10 or more aneurysm endovascular coiling or surgical clip procedures, administer IV tPA to 25 patients a year or 50 patients in 2 years (transfers or follow-up monitoring of patients who received IV tPA at other facilities would count), and perform 15 in one year or 30 in 2 years mechanical thrombectomy with post-procedure care.

The leadership requirements are the same as PSC and TSC centers with the additional stipulation that the Medical Director cannot concurrently be the Stroke Medical Director at another hospital. The timeframe of availability of services and providers remains the same as well. Though, the Cerebrovascular Neurosurgeon cannot be on-call concurrently at another hospital, and the Neurointensivist must be available 24/7 for post procedure care and monitoring and for ICU/ NICU coverage.

The neuro-rehabilitation requirements are more robust, requiring six out of seven-day coverage for post-acute stroke assessment and available by call on the seventh day with a director experienced in neuro-rehabilitation. Telehealth capabilities must be available 24/7 to assess PSC and TSC patients within the catchment area. The operating room availability must be there 24/7 with a 30-minute response time for the surgeons, neurosurgeons and other neurosurgical staff with the capacity to handle one general neurosurgery and one stroke patient at the same time.

Transfer agreements must be in place with one other CSC for high volume times or when case complexity warrants transfer. Additionally, there must be transfer agreements to receive patients from PSCs and TSCs within the CSC catchment area. CSCs must contract with a transportation vendor for with expeditious ground and air ambulance transport.
Diagnostic imaging requirements remain unchanged from TSC. Though additional procedures are required of CSC, besides IV thrombolitics, mechanical thrombectomy, IA thrombolitics, CSCs are required to perform microsurgical neurovascular clipping of aneurysms, neuroendovascular clipping of aneurysms, stenting of extracranial carotid arteries and carotid endarterectomy. The Stroke/ICU Unit must not only have 24/7 neuro intensive care beds but also an onsite Neurointensivist for the beds 24/7.

Quality improvement includes PSC and TSC requirements but also includes how the CSC will engage PSCs and TSCs in regional quality improvement initiatives. The CSC must participate in IRB approved patient-centered stroke research. Performance measures are the same as PSCs and TSCs with some additional measures (Appendix 3).

For EMS directed transport, when large vessel occlusion is suspected based on screening protocols in some regions of New York State, those ambulances are directed to specialty centers. For example, Albany REMAC developed a large vessel occlusion protocol based on FAST-ED Stroke Score. Patients with a FAST-ED Score >3 are transported to a CSC if transport time is <30 minutes (Figure 1).

In New York City, large vessel occlusion directed transport to TSCs and CSCs began April 1, 2019. There is a New York City Stroke Triage Protocol that has gone into effect as well that takes into account the New York City S-LAMS score, based on facial droop, arm drift, speech deficit and grip strength. A New York City S-LAMS score >=4 who meet criteria are transported to an approved CSC/TSC if transport time is <=30 minutes (Figure 2).

Parts of the state have Mobile Stroke Units (MSU). MSUs have the protocols to transport to the most appropriate facility, which would be the closed PSC, TSC or CSC based on the diagnosis of the patient. MSUs in New York State currently include one in Rochester, two in Suffolk and three in New York City.

Acute stroke care has rapidly advanced over the past few years obviating the need to change hospital and EMS protocols. The treatment of the most severe strokes, in-particular large vessel occlusions, have made vast advances. The integration of Primary Stroke Centers, Thrombectomy Capable Stroke Centers and Comprehensive Strokes Centers plus EMS protocols, when logistically feasible, takes these advances to another revolutionary level.

**APPENDIX 1**

**Performance Measures**

NYS PSC 1: VTE prophylaxis

NYS PSC 2: Discharge on antithrombotic therapy

NYS PSC 3: Anticoagulation therapy for AFIB/Flutter

NYS PSC 4: Thrombolytic therapy (arrive by 2 hours, treat by 3 hours)

NYS PSC 5: Antithrombotic therapy by end of hospital day two

NYS PSC 6: Discharged on statin medication

NYS PSC 7: Stroke education

NYS PSC 8: Smoking cessation

NYS PSC 9: Assessed for rehabilitation

NYS PSC 10: Dysphagia screening

NYS PSC 11: NIHSS on admission

NYS PSC 12: mRS on discharge

NYS PSC 13: Pre-notification

NYS PSC 14: Pre-notification content:
   a. Last Known Well communicated
   b. Stroke scale findings communicated

NYS PSC 15: Stroke team activated prior to arrival

Time Targets and Benchmark Goals

NYS PSC 16: Door to MD evaluation (10 minutes) – 85%

NYS PSC 17: Door to stroke team (15 minutes)– 85%

NYS PSC 18: Door to brain image taken (25 minutes)– 85%

NYS PSC 19: Door to brain image read (45 minutes)– 85%

NYS PSC 20: Door to IV tPA (60 minutes)– 85%

NYS PSC 21: Door to IV tPA (45 minutes)– 50%

NYS PSC 22: Door-in-door-out time at first hospital prior to transfer for acute therapy

**APPENDIX 2**

**Performance Measures (all PSC plus the following)**

NYS TSC 1: mRS at 90 days: documented

NYS TSC 2: mRS at 90 days: following mechanical endovascular reperfusion therapy, favorable outcome

NYS TSC 3: Hemorrhagic transformation (overall rate)

NYS TSC 4: Mechanical Endovascular Reperfusion Therapy for Eligible Patients with Ischemic Stroke

NYS TSC 5: Thrombolysis in Cerebral Infarction (TICI post treatment reperfusion grade)

NYS TSC 6: Timeliness of reperfusion: arrival time to TICI 2B or higher (120 minutes)

NYS TSC 7: Timeliness of reperfusion: skin puncture to TICI 2B or higher (60 minutes)

NYS TSC 8: NIHSS Post Procedure

Time Targets (all PSC plus the following)

NYS TSC 9: Door to Arterial Puncture Time (IA and Mechanical)

NYS TSC 10: Imaging to Puncture Time

**Appendix 3**

**Performance Measures (all PSC and TSC measures plus the following)**

NYS CSC 1: Severity measurement for SAH and ICH

NYS CSC 2: Nimodipine Treatment Administered

**References**


REMO Destination Algorithm
Suspected Large Vessel Occlusion Stroke

Perform FAST-ED score > 3?  
YES  
<30 minutes additional travel time to Comprehensive Center?  
NO  
YES  
Wake up or > 3.5 hours since onset?  
Presumed onset < 24 hours

*Comprehensive Stroke Center: patient may benefit from endovascular treatment options

*Primary or Comprehensive Stroke Center - patient choice

*Suggested treatment facility – if any destination concerns contact physician at requested destination hospital

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NYC Stroke Triage Protocol

EMS Arrives to Patient

NEW neurological deficit
Administer oxygen
Check for, and treat, FSBG < 60 mg/dL

NEW neurological deficit and FSBG ≥ 60 mg/dL?

Transport to PSC or to appropriate ED**

Exclusion Criteria
- Trauma Cause
- Wheelchair/Bedbound
- Loss of Consciousness ≥ 12h
- Seizure Cause
- Last Known Well (LKW) > 5 hours

Exclusion Criteria Met?

Transport to approved CSC/TSC*

Figure 1

Figure 2
Teaching Old Dogs New Tricks From the Other Side of the Leash, or How to Get Seasoned Faculty on Board with #FOAMed

Dr. Joshua Haratz (PGY-3) is an emergency medicine resident at Mount Sinai Beth Israel and will be starting his career at Bronx Lebanon Hospital after graduation. He attended Drexel University College of Medicine. His interests include traveling, chess, and Australian Rules Football. Despite being a heavy consumer of FOAM, he is most definitely a grouchy old dog at heart.

Dr. Eric Steinberg (PGY-8) is currently the Assistant Program Director at Mount Sinai Beth Israel. He is pursuing his Masters Degree of Education in the Health Professions (MEHP) at Johns Hopkins University. He contributes to EMRA, CORD, ACEPT, and MDCalc’s educational resources. His passions include innovative curriculum development, optimizing point-of-care teaching, hiking, and building forts with his two-year-old son.

Dr. Michael Heller (PGY-45) is a Professor of Emergency Medicine and a pioneer in the area of point-of-care ultrasonography (just don’t call him the “Grandfather” of us). He is consistently recognized and awarded for his excellence in teaching. During his tenure as an academic emergency physician, he has worn many hats: Medical Director, Ultrasound Director, Research Director, and Residency Director. The title he remains most proud of however, is the simplest: Core Faculty.

Unfortunately, this scene is all too common across EDs, even in 2019. We enjoy self-driving cars and our refrigerators can order pizza. Yet many seasoned physicians still seem to distrust FOAMed (Free Open Access Medical Education) and anything that varies from the traditional educational approach. Why? Young emergency physicians are clearly experiencing a paradigm shift in how they obtain educational content. For example, residents endorse podcasts as the most beneficial in their education (70.3%), over textbook or traditional learning. So why are some of our older colleagues so skeptical?

To answer this question, we must be like the famous dog whisperer himself, Cesar Milan, and try to view the perspective of our attendings “from the other side of the leash.” There are several frequently voiced complaints by those who oppose our radical FOAMed agenda, each of which we shall address:

1. “Nothing can replace my bedside teaching!”
First, it is important to convey that FOAM was never intended to, and ultimately cannot replace traditional forms of education. Bedside teaching, rounds, and traditional conference didactics (yes, even the one-hour lecture!) all still have their place in 2019 and beyond. FOAM does not so much break the status quo of content, as it does embrace technology to form new modalities of learning that the next generation of physicians are using to aid in developing their practice. Therefore, we must acknowledge FOAM as a supplement—i.e., “AND, not OR” in relation to other modalities. It is a different medium for the medicine of physicians are using to aid in developing their practice. Therefore, we must acknowledge FOAM as a supplement—i.e., “AND, not OR” in relation to other modalities. It is a different medium for the medicine.

2. “You can’t trust what you’re hearing on those blogcasts!”
One of the most legitimate hesitations regarding the use of FOAM is the perception that there is a lack of consistent evidence to back up certain claims. There is no “internet police” that prevents people from posting embellished, false or even offensive information, right? The fact that we cannot trust everything we read on the internet will never change. And indeed some of “FOAM” consists of unreferenced tweets with more hashtags than facts, or controversial, unfounded opinion. However, we are not living in early 2000s “Wikipedia days” anymore.
There is a form of checks and balances in the FOAMed universe—the expert peer-review. A majority of well-respected FOAM sites comprise renowned experts’ reviews of both cutting-edge literature and bread-and-butter medicine. Sources lacking references or expert peer-review should be utilized cautiously. Ultimately, it is up to the learner to review the primary literature, use critical thinking, and apply the evidence to form his/her own practice. In addition, the “feedback marketplace” of learners commenting on FOAM articles is critical to sussing out fact from fiction; interestingly quite similar to how customer reviews of restaurants, products, services, etc. are crucial in determining good widgets from bad.

3. “I don’t know how to use the Twitter! RSS? What the heck is that?!”

One does not need to be a huge social media presence, or even tech-savvy at all, to absorb FOAM. News aggregators and podcast aggregators are applications for various web browsers and mobile devices that allow us to follow all our websites and podcasts in one location. These huge timesaving apps allow us to personalize content that matters to us most. In addition, they automatically update favorite sources without having to individually check different websites day to day. All blogs and podcasts, even if they promote their own site or app, have personalized URLs to enter into these apps. Likewise, for Twitter, one can simply follow the accounts they like the most without posting or otherwise being active. Even if that is too much, one can intermittently search popular hashtags like #foamed, #meded, or #emconfer to see what the latest buzz is about. At the least, even the most grumpy, anti-FOAM attendings out there can find a couple of websites they like and bookmark them for easy access.

With these common concerns addressed, what are the actual steps you – as a resident or junior faculty – can take to get your seasoned colleagues involved and make #FOAMed part of the fabric of your residency program?

First, encourage more teaching and integration of FOAM on shift. Have some sort of writing apparatus (e.g., a whiteboard or post it notes) within arm’s reach in the ED, especially during times with a dedicated teaching resident present. Several residency programs do this already and disseminate them via their Twitter accounts after shift. What a perfect combination of both old- and new-school! In addition, playing a brief podcast or two on shift can be a nice way to break up a quiet overnight and get discussion stirring. And really, who’s going to open a textbook on shift these days?

Second, have your chiefs or administration persistently send out FOAM updates/reminders and resources to the entire faculty. It is essential to consider that we cannot expect everyone in our faculty to go searching for FOAM themselves on a consistent basis. When sharing a podcast or blog post with an update on a certain topic, be sure to include the chapter of the relevant textbook material. Furthermore, advocate for your institution to obtain group discounts toward the most popular resources to support their involvement.

Lastly, make FOAMed part of the fabric of the didactic curriculum at your institution. Several programs are already doing this, crediting time dedicated to out-of-classroom “asynchronous” assignments toward conference hours. Beyond just simply studying with FOAM, we encourage its use for development of critical appraisal and evidence-based medicine skills – skills that our seasoned attendings are usually proud of. In addition, several high-quality conferences (e.g. EMCrit, Essentials of EM, and more) now offer livestreams, either for free or reasonable prices. What a way to have a change-of-pace conference day: stream a conference, get everyone involved on social media and of course order in some lunch for the residents and faculty.

In conclusion, education – like medicine itself – is rapidly evolving. In particular, the way in which we learn has transformed as much as anything else. Like Cesar’s dogs, humans are pack animals as well. As educators, we must assume the role of pack leaders and guide our seasoned attendings in making the transition to a new world of medical education as smooth as possible.

Response from a PGY-45, Dr. Michael Heller

First of all, if it’s a 7 AM shift, I wouldn’t be there -- having given up nights during the Carter administration. (He was a President). Second of all, the question of which IV fluid to use in the ED was a hot topic in 1974 when I did my first ED shifts.

Now, about trusting FOAM: it’s not that you can’t trust anything, it’s that you don’t know what to trust. Is 10 mg of ketorolac really so much better than a higher dose if it only lasts two hours? Is oral morphine (which releases more histamine than any other narcotic) really the best choice for outpatient opioid analgesia? And don’t even get me started on push-dose pressors!

Well, now that you mention it…there is not one single piece of evidence that they have ever done anyone any good in an ED setting. Even in anesthesia (where they have been used forever) there is no outcome data. Yes, I can make the BP look better, but this is akin to physically moving the speedometer needle on an old car and thinking the car is going faster. (Note to residents: speedometers were not always digital). And have you read about the dosing errors? I have seen pressors given at the wrong dose (usually 10 times as much) maybe half a dozen times (this was BEFORE we had the critical care gurus recommend them as boluses). Not pretty. And you really think norepinephrine is superior to phenylephrine which is superior to ephedrine which is superior to dopamine which is… Really? In my career all of those have been touted as the “best” regimen usually on the basis of a lead article in NEJM or Lancet. None have stood the test of time and usually not the test of the next study. I cannot see how vasoconstriction at the microvascular level makes shock (which is too little perfusion at that level) better. And there is no study showing it does. Think of that. No study. After 60 years. And don’t tell me you “can’t” do the study: the disease, shock, has a high mortality rate; the study could be done in any busy ICU and would take a month or two, maybe.

References

3. Carley S. How to integrate #FOAMed into #MedEd • St Emlyn’s. 2016 Apr;89(4):598.
Sepsis Presenting in Hospitals Versus Emergency Departments: Demographic, Resuscitation, and Outcome Patterns in a Multicenter Retrospective Cohort.


BACKGROUND: Differences between hospital-presenting sepsis (HPS) and emergency department-presenting sepsis (EDPS) are not well described.

OBJECTIVES: We aimed to (1) quantify the prevalence of HPS versus EDPS cases and outcomes; (2) compare HPS versus EDPS characteristics at presentation; (3) compare HPS versus EDPS in process and patient outcomes; and (4) estimate risk differences in patient outcomes attributable to initial resuscitation disparities.

DESIGN: Retrospective consecutive-sample cohort.


PATIENTS: All hospitalized patients with sepsis or septic shock, as defined by simultaneous (1) infection, (2) ≥2 Systemic Inflammatory Response Syndrome (SIRS) criteria, and (3) ≥1 acute organ dysfunction criterion. EDPS met inclusion criteria while physically in the emergency department (ED). HPS met the criteria after leaving the ED.

MEASUREMENTS: We assessed overall HPS versus EDPS contributions to case prevalence and outcomes, and then compared group differences. Process outcomes included 3-hour bundle compliance and discrete bundle elements (eg, time to antibiotics). The primary patient outcome was hospital mortality.

RESULTS: Of 11,182 sepsis hospitalizations, 2,509 (22.4%) were hospital-presenting. HPS contributed 785 (35%) sepsis mortalities. HPS had more frequent heart failure (OR: 1.31, CI: 1.18-1.47), renal failure (OR: 1.62, CI: 1.38-1.91), gastrointestinal infection (OR: 1.84, CI: 1.48-2.29), euemorhea (OR: 1.45, CI: 1.10-1.92), hypotension (OR: 1.85, CI: 1.65-2.08), or impaired gas exchange (OR: 2.46, CI: 1.43-4.24). HPS were admitted less often from skilled nursing facilities (OR: 0.44, CI: 0.32-0.60), had chronic obstructive pulmonary disease (OR: 0.53, CI: 0.36-0.78), tachypnea (OR: 0.76, CI: 0.58-0.98), or acute kidney injury (OR: 0.82, CI: 0.68-0.97). In a propensity-matched cohort (n = 3,844), HPS patients had less than half the odds of 3-hour bundle compliant care (17.0% vs 30.3%, OR: 0.47, CI: 0.40-0.57) or antibiotics within three hours (66.2% vs 83.8%, OR: 0.38, CI: 0.32-0.44) vs EDPS. HPS was associated with higher mortality (31.2% vs 19.3%, OR: 1.90, CI: 1.64-2.20); 23.3% of this association was attributable to differences in initial resuscitation (resuscitation-adjusted OR: 1.69, CI: 1.43-2.00). CONCLUSIONS: HPS differed from EDPS by admission source, comorbidities, and clinical presentation. These patients received markedly less timely initial resuscitation; this disparity explained a moderate proportion of mortality differences.


BACKGROUND: Awareness about food allergy and food-induced anaphylaxis (FIA) has increased dramatically over the past decade. It remains unclear, however, whether concurrence with guidelines for FIA management has improved over time.

OBJECTIVE: Our objective was to describe changes in emergency department (ED) concordance with guidelines for FIA management.

METHODS: We analyzed data from two multicenter retrospective studies of patients with food-related acute allergic reactions seen in one of 17 EDs during two time periods: 1999-2001 and 2013-2015. Visits were identified similarly across years - e.g., using ICD-9-CM codes 693.1, 995.60, 995.61-995.69, 995.0, and 995.3. Anaphylaxis was defined as an acute allergic reaction with involvement of >2 organ systems or hypotension. We compared concordance between time periods for four guideline recommendations: 1) treatment with epinephrine, 2) discharge prescription for epinephrine auto-injector (EAI), 3) referral to an allergist/immunologist, and 4) instructions to avoid offending allergen.

RESULTS: We compared 290 FIA patients during 1999-2001 and 459 during 2013-2015. Any treatment with epinephrine (pre-ED or in the ED) for patients with FIA increased over time (38% vs. 56%, P<0.001). Prescriptions for EAI at discharge (24% vs. 54%, P=0.001) and documentation for referral to an allergist/immunologist (14% vs. 24%, P=0.001) approximately doubled, while instructions to avoid the offending allergen did not change significantly (37% vs. 43%; P=0.08). Receipt of >3 guideline recommendations remained low but almost quadrupled over the study interval (6% vs. 23%; P<0.001).

CONCLUSION: Over the nearly 15-year study interval, we observed clinically and statistically significant increases in ED concordance with epinephrine-related guidelines for FIA. Management gaps remain and interventions to standardize care still appear warranted.

Incidence and Risk Factors for Hyperlactatemia in ED Patients with Acute Metformin Overdose.

Taub ES, Hoffman RS, Manini AF; Division of Medical Toxicology, Ronald O. Perelman Department of Emergency Medicine, NYU School of Medicine, NY; Am J Emerg Med. 2019 Mar 23. pii: S0735-6757(19)30184-6. 3; doi:10.1016/j.ajem.2019.03.033. [Epub ahead of print]

INTRODUCTION: The goals of this study are to describe clinical characteristics and risk factors for metabolic acidosis with hyperlactatemia in emergency department (ED) patients with acute metformin overdose.

METHODS: This was a secondary analysis of data from a retrospective observational cohort of adult ED patients presenting with acute drug overdose at two tertiary care hospitals over 5 years. The primary outcomes were: (1) hyperlactatemia, defined as a lactate concentration ≥2 mmol/L at any point during hospital admission and, (2) metformin...
associated lactic acidosis (MALA), defined as a lactate concentration ≥ 5 mmol/L and pH < 7.35 at any point during hospital admission.

RESULTS: We screened 3,739 acute overdoses; 2,872 met eligibility, 56 self-reported metformin overdose (57% female, mean age 55.8). Of these, 39 had measured lactate values. There was a high incidence of hyperlactatemia (56.4%); MALA was less frequent (17.9%). There were no deaths. Low serum bicarbonate was an independent clinical risk factor for hyperlactatemia (adjusted p < 0.05). Acetaminophen co-exposure was an independent clinical risk factor for MALA (OR 24.40, 95% CI 1.6-376.4).

CONCLUSIONS: In ED patients with acute metformin overdose, initial hyperlactatemia is common but MALA is unusual. Acetaminophen co-exposure is a novel independent risk factor for the occurrence of MALA that deserves further investigation.

A Checklist Manifesto: Can a Checklist of Common Diagnoses Improve Accuracy in ECG Interpretation?

Nickerson J(1), Taub ES(2), Shah K(2); Mount Sinai School of Medicine, Department of Emergency Medicine, New York; Am J Emerg Med. 2019 Mar 29. pii: S0735-6757(19)30214-1.

OBJECTIVE: To determine whether a checklist of possible etiologies for syncope provided alongside ECGs helps Emergency Medicine (EM) residents identify ECG patterns more accurately than with ECGs alone.

METHODS: We developed a test of 10 ECGs with syncope-related pathology from ECG Wave-Maven. We reviewed the literature and used expert consensus to develop a checklist of syncope-related pathologies commonly seen and diagnosed on ECGs. We randomized residents from three New York EM residency programs to interpret ECGs with or without a checklist embedded into the test.

RESULTS: We randomized 165 residents and received completed tests from 100 (60%). Of those who responded, 39% were interns, 23% PGY2s, and 38% were PGY3s or PGY4s. We found no significant difference in overall test scores between those who read ECGs with a checklist and those who read ECGs alone. In post-hoc analysis, residents given a checklist of syncope related etiologies were significantly more likely to recognize Brugada (96% vs. 78%, p = 0.007), long QT (86% vs. 68%, p = 0.03) and heart block (100% vs 78%, p = 0.003) as compared to those without a checklist. Those with a checklist were more likely to overread normal ECGs (72% vs 35%, p = 0.0001) compared to those without a checklist, finding pathology where there was none.

CONCLUSION: Using a checklist with common syncope-related pathology when interpreting an ECG for a patient with clinical scenario of syncope may improve residents’ ability to recognize some clinically important pathologies; however, it could lead to increased interpretation and suspicion of pathology that is not present.

Intranasal Hydromorphone for Treatment of Acute Pain in Children: A Pilot Study.


OBJECTIVES: We aimed to describe the analgesic efficacy, duration of analgesia, and adverse event profile associated with intranasal hydromorphone in children with acute pain presenting to an emergency department.

METHODS: Prospective dose titration pilot study of otherwise healthy children 4 to 17-years-old with moderate to severe pain who required a parenteral opioid. All patients received an initial intranasal hydromorphone dose of 0.03 mg/kg. The need for additional analgesia was assessed at 15 and 30 min; an additional 0.015 mg/kg was given at each assessment, if required. Need for rescue analgesic, pain intensity and adverse events were assessed until 6 h after hydromorphone administration or until patients were discharged, underwent a procedure to treat their painful condition, or received a rescue analgesic.

RESULTS: We enrolled 35 children. Fifteen, 11, and 9 children required a total dose of 0.03, 0.045, and 0.06 mg/kg, respectively. Patients in each dose group experienced an absolute decrease in pain score of ≥ 3/10 and percent reduction > 40% within 5-15 min of completing dose titration administration of hydromorphone. Duration of analgesia (i.e. time until rescue analgesic administered) > 1 h was observed in 85.7% of patients. Patients not requiring rescue analgesics had mild or no pain until discharged or their painful conditions were treated. Three (8.6%) patients required a rescue analgesic < 1 h after hydromorphone administration. There were no major adverse events.

CONCLUSIONS: Intranasal hydromorphone led to rapid, clinically significant and frequently sustained decreases in pain intensity in children. No major adverse events were observed in this preliminary sample. ClinicalTrials Registration Number: NCT02437669.

Latent Class Analysis of Barriers to Care Among Emergency Department Patients.


INTRODUCTION: Emergency department (ED) patients experience a variety of barriers to care that can lead to unnecessary or repeated visits. By identifying the patterns of barriers experienced by subsets of the ED patient population, future researchers might effectively design interventions to circumvent these barriers and improve care. This study sought to identify classes of individuals with regard to perceived barriers to care.

METHODS: Over a 10-week period, two medical students distributed surveys to eligible patients ≥ 18 years who presented to the ED. After consent, patients provided demographics data and rated their perceived access to care on nine specific items (scored 1-5). We used latent class analysis (LCA), a parametric clustering method, to determine patient groups. Demographic characteristics were then compared across classes.

RESULTS: We enrolled a total of 637 patients. Results of the LCA indicated that a six-class solution fit best: 1) low barriers (60%); 2) “work responsibility” barriers (13%); 3) economic-related barriers (10%); 4) “appointment difficulty” barriers (8%); 5) “illness and care responsibilities” barriers (6%); and 6) diverse barriers (2%). Patients in the low-barriers class were the oldest across classes (p<.001). Individuals in the low-barriers class were also more likely to be White (p<.015) and have private insurance (p<.001) than those in the “appointment difficulty,” “illness and care responsibilities,” and diverse barriers classes.

CONCLUSION: LCA suggests there are six distinct classes of patients with regard to perceived access to care. These classes may be used as a potential starting point in designing targeted interventions for ED patients to improve access to care.
improve continuity of care.

Comparison of Intravenous Lidocaine/Ketorolac Combination to Either Analgesic Alone for Suspected Renal Colic in the ED.


STUDY OBJECTIVE: To compare analgesic efficacy and safety of intravenous lidocaine and ketorolac combination to each analgesic alone for ED patients with suspected renal colic.

METHODS: We conducted a randomized, double-blind trial comparing analgesic efficacy of a combination of intravenous lidocaine (1.5 mg/kg) and ketorolac (30 mg), to ketorolac (30 mg), and to lidocaine (1.5 mg/kg) in patients aged 18-64 presenting to the ED with suspected renal colic. Primary outcome included difference in pain scores between the groups at 30 min. Secondary outcomes included a comparative reduction in pain scores in each group from baseline to 30 and 60 min as well as rates of adverse events and need for rescue analgesia at 30 and 60 min.

RESULTS: We enrolled 150 subjects (50 per group). The difference in mean pain scores at 30 min between Lidocaine and Lidocaine/Ketorolac groups was -2.89 (95% CI: -4.39 to -1.39); between Ketorolac and Lidocaine/Ketorolac group was -0.92 (95% CI: -2.44 to 0.61); and between Ketorolac and Lidocaine was -1.98 (95% CI: -3.69 to -0.27). A comparative percentage of subjects in each group required rescue analgesia at 30 and 60 min. No clinically concerning changes in vital signs were observed. No serious adverse events occurred in either group. Commonly reported adverse effects were dizziness, nausea, and headache.

CONCLUSION: The administration of intravenous lidocaine/ketorolac combination to ED patients with suspected renal colic results in better analgesia in comparison to lidocaine alone but provides no analgesic advantages over ketorolac alone.

Use of Online Opioid Overdose Prevention Training for First-Year Medical Students: A Comparative Analysis of Online Versus in-Person Training.

Berland N, Lugassy D, Fox A, Goldfeld K, Oh SY, Tofighi B, Hanley K; Kings County Hospital, SUNY Downstate Medical Center, Brooklyn; Subst Abus. 2019 Feb 15:1-7.

PURPOSE: In response to the opioid epidemic and efforts to expand substance use education in medical school, the authors introduced opioid overdose prevention training (OOPT) with naloxone for all first-year medical students (MS1s) as an adjunct to required basic life support training (BLST). The authors previously demonstrated improved knowledge and preparedness following in-person OOPT with BLST; however, it remains unclear whether online-administered OOPT would produce comparable results. In this study, the authors perform a retrospective comparison of online-administered OOPT with in-person-administered OOPT.

OBJECTIVES: To compare the educational outcomes: knowledge, preparedness, and attitudes, for online versus in-person OOPT.

METHODS: In-person OOPT was administered in 2014 and 2015 during BLST, whereas online OOPT was administered in 2016 during BLST pre-work. MS1s completed pre- and post-training tests covering 3 measures: knowledge (11-point scale), attitudes (66-point scale), and preparedness (60-point scale) to respond to an opioid overdose. Online scores from 2016 and in-person scores from 2015 were compared across all 3 measures using analysis of covariance (ANCOVA) methods.

RESULTS: After controlling for pre-test scores, there were no significant differences across all measures for in-person and online-administered training. The estimated differences were knowledge: -0.05 (0.5%) points (95% confidence interval [CI]: -0.47, 0.36); attitudes: 0.65 (1.0%) points (95% CI: -0.22, 1.51); and preparedness: 2.16 (3.6%) points (95% CI: 1.04, 3.28).

CONCLUSIONS: The educational outcomes of online-administered OOPT compared with in-person-administered OOPT were not meaningfully different. These results support the use of online-administered OOPT. As our study was retrospective, based on data collected over multiple years, further investigation is needed in a randomized controlled setting, to better understand the educational differences of in-person and online training. Further expanding OOPT to populations beyond medical students would further improve generalizability.

Antibiotic Prescribing Practices: Is There a Difference Between Patients Seen by Telermicine Versus Those Seen In-Person?


BACKGROUND: Direct-to-consumer telemedicine is becoming part of mainstream medicine, but questions exist regarding the quality of care provided. We assessed antibiotic stewardship, one measure of quality, by comparing antibiotic prescription rates for acute respiratory infections (ARIs) between patients seen by telemedicine and patients seen in-person in two urban emergency departments (EDs).

METHODS: In two urban EDs where low-acuity patients in the ED have the option of being seen by telemedicine rather than in-person, we analyzed telemedicine and in-person visits of patients ≥18 years who received ARI diagnoses between July 2016 and September 2017. The identified ARI telemedicine visits were matched to in-person visits by diagnosis, treatment hospital, and Emergency Severity Index level. We compared antibiotic prescribing rates for telemedicine and in-person visits.

RESULTS: We identified 260 telemedicine visits and compared with 260 matched in-person visits. Antibiotics for ARIs were prescribed for 29% of telemedicine visits and 28% of in-person visits (odds ratio [OR] 1.038; 95% confidence interval [CI] 0.71-1.52; p = 0.846). This finding did not materially change after adjustment for age and gender (adjusted OR 1.034; 95% CI 0.70-1.53; p = 0.86).

CONCLUSIONS: Antibiotic prescribing rates for ARIs were similar for patients seen by telemedicine and patients seen in-person at two urban EDs. If differences in antibiotic stewardship between telemedicine and in-person encounters are found, contextual factors unrelated to the video-based evaluation should be investigated.

Poison Control Centers and Alternative Forms of Communicating With the Public: What’s All the Chatter About?


CONTEXT: Short messaging service (SMS
or text messaging) allows for the exchange of electronic text messages. Online chatting refers to internet-based transmission of messages for real-time conversation. Poison Control Centers (PCCs) in the United States communicate with the public primarily via telephone. However, people increasingly prefer the convenience of SMS and chatting. Our objective is to describe the use of SMS and chatting by PCCs in the United States.

**METHODS:** An electronic survey questionnaire was distributed to all 55 US poison control center members of the American Association of Poison Control Centers. The survey assessed protocols for SMS and chatting, inquiry volume, and staff satisfaction. Centers reporting use of SMS or chatting services were administered follow-up questions, which further documented SMS and chatting interfaces and startup and maintenance costs. Descriptive statistics were used to describe the data. No statistical analysis was performed.

**RESULTS:** Of the 55 PCCs, 51 (93%) responded to the survey, 6 (12%) of which currently use or formerly used SMS and/or chatting. Inquiry volume ranged from 0 to 1 per day for SMS and 0 to 20 per day for chats. Startup costs ranged from $0 to $25,000. The most beneficial aspect, reported by 4 of the 6 PCCs (66.6%), was providing an alternative communication channel. SMS and chatting interactions were completed within 10 and 30 min, respectively. All six centers completed telephone interactions within 10 min. The most disadvantageous aspects, reported by 2 of the 6 PCCs (33.3%), were staff apprehension and interaction length. Technology, such as syncing with existing call queuing software and databases, presented the greatest barrier to implementation.

**CONCLUSIONS:** A minority of PCCs in the United States use SMS and chatting. Further research may investigate the economic feasibility of these systems, if SMS and chatting effectively expands public access, and patient comfort in contacting PCCs.

**Respiratory Adjusted Shock Index for Identifying Occult Shock and Level of Care in Sepsis Patients.**


**OBJECTIVE:** Early identification of shock allows for timely resuscitation. Previous studies note the utility of bedside calculations such as the shock index (SI) and quick sepsis-related organ failure assessment (qSOFA) to detect occult shock. Respiratory rate may also be an important marker of occult shock. The goal of our study was to evaluate whether using a modified SI with respiratory rate would improve identification of emergency department sepsis patients admitted to an ICU or stepdown unit.

**METHODS:** A prospective, observational cohort study of the respiratory adjusted shock index (RASI), defined as HR/SBP × RR/10, was conducted. RASI was calculated from triage vital signs and compared to serum lactate. Primary outcome was admission to a higher level of care defined as ICU or stepdown unit. A multivariable logistic regression model including RASI, SI, lactate, age and sex was performed with disposition as the outcome variable. Areas under the curve (AUC) were calculated to detect occult shock and level of care for RASI, SI, and qSOFA.

**RESULTS:** 408 patients were enrolled, 360 were included in the analysis. Regression analysis revealed that lactate (OR 1.55, z = 4.38, p < 0.0001) and RASI (OR 2.27, z = 3.03, p < 0.002) were predictive of need for higher level of care. The AUC for RASI, SI, and qSOFA to detect occult shock were 0.71, 0.6, and 0.61 respectively. RASI also had an significant AUC in predicting level of care at 0.75 compared to SI (0.64) and qSOFA (0.62).

**CONCLUSIONS:** RASI may have utility as a rapid bedside tool for predicting critical illness in sepsis patients.

**Standardized Video Interviews Do Not Correlate to United States Medical Licensing Examination Step 1 and Step 2 Scores.**


**INTRODUCTION:** In 2017, the Standardized Video Interview (SVI) was required for applicants to emergency medicine (EM). The SVI contains six questions highlighting professionalism and interpersonal communication skills. The responses were scored (6-30). As it is a new metric, no information is available on correlation between SVI scores and other application data. This study was to determine if a correlation exists between applicants’ United States Medical Licensing Examination (USMLE) and SVI scores. We hypothesized that numeric USMLE Step 1 and Step 2 Clinical Knowledge (CK) scores would not correlate with the SVI score, but that performance on the Step 2 Clinical Skills (CS) portion may correlate with the SVI since both test communication skills.

**METHODS:** Nine EM residency sites participated in the study with data exported from an Electronic Residency Application Service (ERAS®) report. All applicants with both SVI and USMLE scores were included. We studied the correlation between SVI scores and USMLE scores. Predetermined subgroup analysis was performed based on applicants’ USMLE Step 1 and Step 2 CK scores as follows: (≥ 200, 201-220, 221-240, 241-260, >260). We used linear regression, the Kruskal-Wallis test and Mann-Whitney U test for statistical analyses.

**RESULTS:** 1,325 applicants had both Step 1 and SVI scores available, with no correlation between the overall scores (p=0.58) and no correlation between the scores across all Step 1 score ranges, (p=0.29). Both Step 2 CK and SVI scores were available for 1,275 applicants, with no correlation between the overall scores (p=0.56) and no correlation across all ranges, (p=0.10). The USMLE Step 2 CS and SVI scores were available for 1,000 applicants. Four applicants failed the CS test without any correlation to the SVI score (p=0.08).

**CONCLUSION:** We found no correlation between the scores on any portion of the USMLE and the SVI; therefore, the SVI provides new information to application screeners.

**Characteristics of Prior Emergency Departments Visits Associated with Subsequent Opioid Overdose.**

Youssef E, Gao HT, Russell C, Hassan S, Ardolic B, Hahn B; Department of Emergency Medicine, Staten Island University Hospital, Northwell Health, Staten Island; J Opioid Manag. 2018 Sep/Oct;14(5):327-333.

**OBJECTIVES:** In this study, we aim to identify and discuss the clinical and demographic characteristics of previous emergency...
department (ED) patient visits, at one of the only two medical centers in Staten Island, the epicenter of the opioid epidemic within Staten Island, who subsequently present to the ED with an opioid overdose.

**DESIGN:** This was a retrospective, observational study of all patients presenting to the emergency ED between July 1, 2010 and December 31, 2015.

**SETTING:** The study was conducted at Staten Island University Hospital. The ED has a census of 120,000 patient visits per year.

**PATIENTS:** All adult patients ≥ 18 years of age, with an ICD-9 code consistent with opioid intoxication and a history of intentional or unintentional overdose were included.

**MAIN OUTCOME MEASURE:** Clinical and demographic characteristics of previous ED patient visits who subsequently presented to the ED with an opioid overdose.

**RESULTS:** One hundred and twenty-four subjects with a median age of 30 years [interquartile range, 24-40] were reviewed. Eighty-seven (70 percent) were males. Fifty-five subjects were admitted, 68 discharged, and one death. Patients were not more likely to present at any specific time of day. The most common past medical history was anxiety (21 percent), depression (20 percent), back pain (15 percent), hypertension (14 percent), and seizure disorder (11 percent). The most common past surgical history was a prior orthopedic procedure (11 percent).

**CONCLUSIONS:** This study identified clinical and demographic characteristics of previous ED patient visits who subsequently present to the ED with an opioid overdose. These characteristics will be vital toward an increased understanding of subjects who subsequently experience an opioid overdose.

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New-Onset Psychosis?

Case
A 36 year-old male presents to the Emergency Department (ED) via EMS with agitation. The onset of his symptoms was over the last 48 hours, during which time his family noted he was having “conversations with himself.” He had no history of alcohol or drug abuse, and there was no history of mental illness in the family. The family called 911 as a last resort to have him evaluated. Initial vital signs were: HR 117, BP 165/99, RR 20, O2 Sat 99% on RA, Temp 99.5 F. Per EMS, he was given 10 mg IM midazolam without any significant improvement in his symptoms. On initial exam the patient was struggling against 4-point restraints, diaphoretic, tachycardic and tremulous. He was speaking in complete sentences, albeit to nobody in particular. His mental status exam seemed consistent with auditory and visual hallucinations. His HEENT, pulmonary and GI exams were unremarkable. He received another two doses of midazolam 10 mg, in addition to 5 mg haldol, which improved his agitation to the point where the restraints could be safely removed.

CT head, CBC, CMP and ethanol levels were within normal limits. ECG demonstrates sinus tachycardia; QRS 99, QTc 450; no ST-elevations or depressions. Venous blood gas showed a mild elevation in his lactate that cleared upon repeat evaluation two hours after sedation was administered.

Although his agitation and vitals improved after sedation, he continued to pace throughout the ED room with vivid auditory and visual hallucinations. An I-STOP check revealed no opioid prescriptions, but his family believes that he had been taking baclofen 20mg/day for the past six months to treat back pain due to herniated lumbar discs. His brother thinks he ran out of his prescription approximately two days prior to symptom-onset. A presumptive diagnosis of baclofen withdrawal was made, and he was admitted to the medicine floor on a CIWA-protocol.

Later that night, a rapid-response was called due to severe agitation and violent behavior. Medication reconciliation indicates that he received 12 mg lorazepam over the last 12 hours without any improvement in his symptoms. Midazolam 10 mg, and baclofen 20 mg are administered with near-resolution of his symptoms over the next four hours. He was then placed on a standing dose of baclofen 20 mg qday, without the need for any benzodiazepine supplementation, and returned to his normal baseline mental status 48 hours after his initial presentation.

Discussion
Baclofen is a GABA-B agonist, often prescribed for spasticity due to neuromuscular conditions such as MS and spinal cord injuries. Acknowledgement of the opioid epidemic has somewhat curtailed the prescription of opioids for musculoskeletal back pain in lieu of alternative agents, such as baclofen, gabapentin, cyclobenzaprine and carisoprodol. While baclofen may be a reasonable alternative to opioids, its use is not without risk. Baclofen dependence is not uncommon and withdrawal can be difficult to distinguish from other sedative/hypnotic withdrawal syndromes. The majority of cases occur after intrathecal pump malfunctions in patients with spasticity syndromes, and typically require ICU-level care. Autonomic instability, psychomotor agitation, hallucinations and psychosis are well-described consequences of baclofen withdrawal (BW). However, the onset of BW can occur after only a brief cessation of therapy and is often described as both precipitous and severe, with associated vivid visual hallucinations that have been misdiagnosed as psychosis, neuroleptic malignant syndrome or alcohol withdrawal. Furthermore, GABA-B withdrawal is often resistant to benzodiazepine and barbiturate administration, with high-doses of each being described in the literature. Baclofen replacement therapy, is the cornerstone of management for this withdrawal syndrome.1-3

Summary
The majority of baclofen withdrawal is due to intrathecal pump malfunction, but oral baclofen abuse, toxicity and withdrawal are on the rise. This may be due in part to an increased utilization of non-opioids for the management of back pain with alternative agents such as NSAIDs, gabapentin, cyclobenzaprine and GABA-agonists, such as benzodiazepines or baclofen. With increased baclofen use comes a concomitant increased incidence of dependence and withdrawal, which can prove difficult to manage with most Clinical Institute Withdrawal (CIWA) protocols. It is important for emergency providers to be cognizant of the severity of baclofen withdrawal, its resistance to benzodiazepines and barbiturates therapy and the utility of baclofen replacement to properly manage this syndrome.

References
Management of the Neonate After Unexpected Delivery in the Emergency Department

Case
The triage nurse calls over to you that a 28 year old female just came in to the waiting room complaining of contractions. She is reportedly 39-weeks pregnant with her second child. You examine her quickly and realize that not only is she in active labor, but the fetus is crowning. While asking for the appropriate services to be notified, you begin to prepare for a precipitous delivery, knowing that she will have to deliver in the Emergency Department….

Delivery and neonatal resuscitation are rare and high stakes events for the emergency medicine physician. Many providers find the idea of performing these skills in the community setting without subspecialist backup, anxiety provoking. The good news is that most neonates do well without significant intervention; 10% require some sort of intervention, while only about 1% need true resuscitation. We review the key steps and current guidelines for neonatal resuscitation in the emergency department (ED).

Prior to Delivery of the Neonate
Time permitting, it is important to consider a few things before beginning the delivery. Think about some questions you may want to ask the mother regarding the pregnancy, as the answers to these questions may be critically important to the next steps in your care.

Consider Two Broad Question Categories

1) Prenatal Care
---How many babies are expected?
You will need more resources - both in the delivery area and hospital wide - if there are multiple babies coming your way. Think about having your team contact a pediatric/neonatal team earlier as multiples often come pre-term and can be tricky to deliver vaginally.

---Approximately how many weeks is the baby?
If the neonate is pre-term, their lungs may be underdeveloped at the time of birth and you will need to be thinking about respiratory interventions. Post-term infants should raise concern for macrosomia, shoulder dystocia and meconium aspiration.

---Was an ultrasound done at some point? Were there any fetal or placental abnormalities?
Some important fetal abnormalities that may affect the delivery and immediate post-delivery care include a number of structural anomalies such as congenital heart disease, anterior abdominal wall defects and congenital diaphragmatic hernia. It is also important to ask if there were issues with the placenta, like a placenta previa or placenta accreta.

2) Maternal Factors
---Have you ever been diagnosed with diabetes?
Both gestational and non-gestational diabetes should raise concern for neonatal hypoglycemia, shoulder dystocia and macrosomia.

---Have you had any bleeding during the pregnancy?
Bleeding during the second or third trimester may indicate a placenta previa, placenta accreta or even a placenta abruption. It is also important to ask about any recent abdominal trauma that resulted in bleeding. Either can indicate a more likely need to resuscitate both mom and baby.

---Have you been diagnosed with any infections during the pregnancy?
You may want to specifically ask about the “TORCH” infections (toxoplasmosis, syphilis, rubella, cytomegalovirus, herpes simplex virus) as they are known to cause significant fetal and neonatal morbidity and mortality.

Team Preparation
It is also critical to use the few minutes you may have to prepare for the delivery and possible resuscitation by assembling your team, assigning roles and gathering tools including a neonatal airway kit, the pediatric crash cart and a Broselow tape. Consider the basic principles of delivery and possible complications that may require resuscitation.

Equipment
There is a minimum of equipment required to manage a normal vaginal delivery, sterile gloves, towels and gown, scissors, clamps and a suction bulb should be sufficient. Neonatal resuscitation requires more specialized equipment. At a bare minimum, a neonatal-sized ambu bag, small bore flexible suction catheter and warm dry blankets. A radiant warmer,
After Delivery: Evaluate the Baby

Once the neonate is born, the provider should determine the approximate gestational age of the baby while simultaneously evaluating tone and breathing. If it is decided that the infant is full term with good tone and breathing spontaneously, then the newborn should stay with its mother to keep warm and ensure normothermia. If there is any concern about tone or breathing, the baby should be immediately brought under a warmer for further evaluation and possible resuscitation.

Case Continued

The delivery occurs rapidly and a full term neonate is born within a few minutes of arrival. You have assembled your teams and supplies, but find that on initial evaluation of the baby, she is limp, cyanotic and with poor respiratory effort. In the warmer, you and the team begin resuscitation while another provider monitors the mother.

First Steps

Thermoregulation

The first step after delivery, whether there is need for resuscitation or not, is to warm, dry, and stimulate the infant. Hypothermia increases oxygen consumption and metabolic demand and is associated with increased morbidity and mortality in all-comers, but especially in low-weight and preterm infants. Hypothermic neonates are at higher risk for complications such as intraventricular hemorrhage, hypoglycemia, respiratory distress and late onset sepsis (AHA). Thus, thermoregulation (goal 36.5C to 37.5C) is critical after birth, and all resuscitation should be maintained under a warmer when possible. If a radiant warmer is not immediately available, other warming interventions include plastic wrap, thermal mattresses, increasing the room temperature, and use of warmed humidified resuscitation gases. If you are in a resource limited environment, normothermia may be achieved through either skin-to-skin contact with the mother or the use of warmed blankets to dry and swaddle the infant.

Airway

In a newborn with signs of obstruction or inadequate ventilation, the next step is to use a jaw thrust or chin lift to reposition the airway. Remember that neonates have large occiputs and may require a shoulder roll to achieve adequate sniffing position. Gentle suctioning of secretions is advised, with either a bulb suction or a suction catheter. Providers should be cautious, however, to avoid excessive suctioning, as there is a risk of inducing a vagal response causing reflex bradycardia. In the setting of a depressed neonate with meconium present, routine tracheal intubation is no longer recommended, but ventilation should be initiated if the infant is not breathing well (AHA guidelines).

Breathing

If the infant continues to have poor respiratory effort despite adequate positioning and suctioning or has a heart rate less than 100 bpm at first minute of life, begin positive pressure ventilation (PPV) via bag valve mask (BVM) at a rate of 40-60 breaths per minute (AHA). Monitor oxygen saturation by placing pulse oximeter on the right upper extremity (prechondral). Oxygen saturation will naturally rise over the first minutes of life, and may be as low as 60-70% during the first minute of life. The saturation should climb into the low 80% by five minutes, and reach a somewhat normal range (85-95%) within 10 minutes of birth. If supplemental oxygen is needed, start with low concentrations (around room air) and titrate to match the target saturation based on the minutes of life. Avoid excessive oxygenation to limit the negative effects of hyperoxia (AHA).

Providing Positive Pressure Ventilations & Consideration of Advanced Airways

After PPV is initiated, frequently reassess the neonate. Look for signs of improved breathing or increase in heart rate, as this is the most sensitive indicator of effective ventilation. PPV efficacy should be evaluated by watching for equal chest rise; if ventilation is difficult, consider adjusting the mask, repositioning the airway, suctioning or oral airway placement. Most neonatal bag-valve masks will have a ‘pop-off’ valve that limits the peak inspiratory pressure, usually to 35-45 cm H2O. Some infants may require higher peak pressures for the first few breaths in order to expand collapsed alveoli, which will require transient occlusion of the pop-off valve. If the bag being used is equipped with a manometer, monitor peak pressures to avoid barotrauma. Titrate volume of breaths to the minimum required to achieve chest rise; excessive volume may contribute to lung injury. Adding a PEEP valve attachment set to 5 cm H2O may also improve ventilation. If neither the heart rate increases nor the respirations improve despite bagging, consider placing an advanced airway. If spontaneous breaths occur and the heart rate improves, but there are still signs of respiratory distress, provide supplemental oxygen (blow by).

Case Continued

The team begins positive pressure ventilation without a response. On initial evaluation, the heart rate is slow, around 40 bpm. Despite corrective maneuvers including adding a shoulder roll and positive pressure, the baby remains cyanotic and bradycardic. While you prepare the tools for intubation, the team begins chest compressions.

Circulation

The most effective method to evaluate the heart rate is to auscultate the chest or palpate at the base of the umbilicus. If available, place a three-lead monitor in addition to a pulse oximeter. If the heart rate is below 100 bpm after the first minute of life, begin PPV via BVM at a rate of 40-60 breaths per minute and monitor for effect. Prepare for additional interventions as they will be imminent if the heart rate does not improve over 30-60 seconds.

Initiating CPR

If the heart rate is below 60 bpm despite adequate ventilation, consider this a coding infant. Neonatal cardiac arrest is typically secondary to asphyxia, thus the focus of resuscitation is on effective ventilation. Place an advanced airway and initiate chest compressions, delivering at a ratio of 3 compressions to 1 breath for total of 120 events per minute. Allow full recoil of the chest between compressions to optimize lung expansion. The two-thumb technique is the most effective technique and associated with less rescuer fatigue.
“Ketamine: The Old, New Wonder Drug”

Introduction
The opioid epidemic has caused us to re-evaluate our use of narcotics for pain. It has also challenged us to find new ways to treat pain. In both the Emergency Department (ED) and inpatient setting, use of adjuncts and alternatives to opioids have become a topic of extreme interest and research. Ongoing efforts are aimed at finding ways to address pain without relying on opioids.

History
Ketamine, a phencyclidine derivative, was first used in 1964 to induce a dissociative anesthesia. Since that time it has continued to be used as an anesthetic, but over recent years it has become increasingly common to use sub-dissociative, or low dose ketamine for acute pain management. Further research is continuing to study the use of ketamine in multiple areas including chronic painful conditions, headache, suicidality and Opioid Induced Hyperalgesia. Not all applications of ketamine apply to the ED. However, patients with disease processes causing acute or chronic pain will continue to be seen in the ED, and it is worth considering Low Dose Ketamine, LDK, when attempting to treat their pain.

Pharmacology
Ketamine’s mechanism of action is primarily through the NMDA receptor. Binding at the phencyclidine site of the NMDA receptor causes a decrease in channel opening as well as time spent in the active state. This decreases downstream signaling cascades. This is likely the major pathway through which Ketamine’s analgesic properties work, but Ketamine also works at a variety of other receptors. These include opioid, nicotinic, D2 dopamine, muscarinic and GABA-A receptors. Because of the multitude of receptors that Ketamine acts on it is no surprise that it is being investigated for a myriad of conditions.

Acute Pain
Multiple studies in anesthesia literature show that Ketamine is beneficial in the treatment of acute pain. These studies were performed in surgical patients, and treatment algorithms varied between bolus vs infusion as well as dosage of ketamine given. The most recent Cochrane review of Ketamine for post-operative pain included 130 studies and supports the conclusion that Ketamine reduced both postoperative opioid consumption as well as pain at 24 hours. The review was unable to comment on effects of rate or bolus/infusion effects on pain. These studies also showed that patients receiving ketamine required lower doses of narcotic medication compared to patients that did not receive Ketamine. In recent years, studies on ED patients have shown that ketamine is efficacious in both acute traumatic and non-traumatic pain. A study comparing morphine to ketamine showed equivalence in pain reduction to that of 0.1mg/kg of morphine. Given the abundance of literature in both inpatient and ED patients, it is clear that Ketamine is useful in treating acute pain and lowers the need for additional opioid analgesia.

Chronic Pain
An additional benefit of low dose ketamine is its anti-hyperalgesic property. This is especially pertinent in patients with a history of chronic opiate use. These patients often suffer from Opioid Induced Hyperalgesia, OIH, which makes their pain difficult to control. There are several proposed mechanisms of OIH. One primary theory is through the activation of the central glutamnergic system. Opioid administration is thought to inhibit the glutamate transport system. This increases the amount of glutamate available to activate NMDA receptors. The cascade that follows upregulates the NMDA receptor creating a cycle which causes the patient to experience worsening hyperalgesia. By antagonizing the NMDA receptor, Ketamine counteracts the downstream cascade which is responsible for increased nociceptive signaling. It is important to note that human studies demonstrating the antihyperalgesic effects were seen in the inpatient population who often received infusions of Ketamine over periods of time longer than the typical ED stay. It is unclear if a single bolus dose of Ketamine exhibits antihyperalgesic properties.

Headache
Headache is a common chief complaint in the ED. Refractory headaches are often difficult to treat, and after multiple rounds of different medications, patients often continue to have pain. As LDK continues to show efficacy in treating acute and chronic pain it would seem intuitive to use it as a treatment for headache.

Low dose ketamine has been studied in the treatment of refractory chronic headaches and there are reports of decreasing headache severity with the use of ketamine infusion. However, these infusions were over the course of multiple days in an inpatient setting. A study by Zitek et al compared LDK to prochlorperazine in the ED and found that LDK was inferior to Prochlorperazine in the treatment of headache. Additionally, Etchison et al found that Ketamine did not improve pain in patients with migraine in the ED compared to placebo. Both of these studies were randomized, double blinded studies, but both had relatively small sample sizes of 54 and 34 subjects respectively. The limited data available does not support the use of ketamine for headache in the ED setting. However further research is still needed to determine if there is a more effective dose, route or if there is a subset of headache patients that would benefit from LDK.

Sickle Cell Pain Crisis
Sickle cell patients present to the ED in severe pain after home therapies are unsuccessful in controlling their pain. Since a majority of sickle cell patients receive narcotics for pain control, ketamine’s anti-hyperalgesic properties in addition to its analgesic effect make it a logical choice for pain control. Reports and retrospective studies examining LDK have seen positive results with respect to pain scores when treating sickle cell pain. Currently, there is a lack of prospective studies evaluating if LDK changes outcomes such as use of opioids, time in the ED, need for...
admission or return visits in patients with Sickle cell disease. However, with its favorable side effect profile and what is known of its analgesic and antihyperalgesic effects, it is reasonable to consider for the treatment of vaso-occlusive crisis.

**Suicidality**

There have been several small studies showing that LDK can decrease suicidality in the acute setting. However, these studies are limited by their sample size, and while they did show a decrease in suicidality immediately post infusion, the majority of studies did not have complete resolution of suicidal ideation (SI).\(^6,17,18\) A single study showed that one bolus of LDK in patients with Major Depressive Disorder and suicidal ideation had a rapid decrease in SI within 24 hours post infusion. This decrease in objective levels of suicidality was maintained as far out as six weeks.\(^19\) These promising results must be interpreted with caution as the study was conducted in a psychiatric facility where patients were continued on pharmacotherapy post infusion, making generalizability to the ED difficult.

These small trials suggest that LDK does benefit patients with SI. Despite this, it remains unclear how LDK can be used in the ED or if it affects the management and disposition of suicidal patients presenting to the ED.

**Dosing And Side Effects**

ACEP’s LDK policy paper recommends a bolus dose range of 0.1-0.3mg/kg with the option of an infusion at 0.15-0.2mg/kg/hr.\(^20\) Interestingly, the consensus guidelines from the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists recommend a dose range of 0.3-0.5mg/kg for the treatment of acute or chronic pain.\(^1,21\)

The LDK studies reviewed for this article had varied doses, but they were at or below 0.5mg/kg for pain management. The majority of ED studies used doses between 0.1-0.3mg/kg. The use of higher doses has not adequately been studied in ED patients, but provides an area of further research.

LDK has a relatively safe safety profile at these dosage ranges. The most common side effects noted were dysphoria, nausea, and dizziness. Using doses of 0.1-0.3mg/kg and infusing the ketamine over a short period of time instead of an IV bolus likely mitigates these effects.\(^22\) Serious complications such as respiratory compromise and CNS depression are unlikely to occur at these doses.

The uses of LDK continues to be investigated and future research may discover additional benefits and indications for LDK administration. Current literature supports the use of LDK in the treatment of acute and chronic pain, and it should be considered in patients presenting to the ED with painful conditions.

**References**


Opioid Crisis: ED Interventions

The opioid crisis is impacting Emergency Departments (EDs) across the country. The Centers for Disease Control and Prevention (CDC) reported the opioid epidemic worsened in the United States with ED data showing suspected opioid overdoses increasing 30 percent from July 2016 through September 2017. Further, it is estimated that in 2014 ED visits for unintentional, nonfatal opioid overdoses was in excess of 92,000. New York State is far from exempt from the impacts of this national crisis. The New York State Department of Health (DOH) 2018 Opioid Annual Report informed that opioid overdose deaths among New York State residents “increased sharply in 2015 and 2016… (the) rate of overdose deaths involving any opioid in New York State was almost three times higher in 2016 (15.1 deaths per 100,000 population) than it was in 2010 (5.4 per 100,000).”

Emergency physicians likely do not find these statistics shocking, given the frequency with which we encounter opioid related complaints in our departments. Per the DOH 2018 report, there were more than 11,000 ED visits for opioid overdose among New York State residents in 2016, with a statewide crude rate of 56.9 per 100,000 population. This does not include the various other opioid related visits including withdrawal, seeking addiction services, infectious complications, psychosocial issues and others. Nor does it speak to the innumerable patients who present for medical issues who suffer from opioid use disorder, but this is not their presenting problem.

Though studies have shown the ED contribution of opioid prescriptions to be modest, limiting the impact to the prescription opioid crisis, it behooves us to be part of the solution and advance the healthcare of these patients. A variety of programs and processes have been described that can be implemented in an ED setting, several of which are described here.

As Chair of two EDs that sees over 125,000 visits a year, in Staten Island, NY, a borough of New York City considered the epicenter of the opioid crisis, I can vouch for these programs and plans. Collaborating with partners in our institution and community we are changing the conversation around the disease and offering much needed services to our community. For patients with opioid use disorder an ED visit may be a critical moment to engage them in care. Implementing new processes and decreasing the stigma associated with this disease will get us where we need to go.

There are many avenues to consider, starting with treating pain. A balance must be struck to ensure that we manage pain compassionately while exercising prudent decision making regarding opioid prescribing. Emergency department opioid prescribing guidelines have been shown to change prescribing patterns with a significant reduction in opioid prescriptions. The goal here is to eliminate unnecessary prescriptions while not compromising care. We initiated prescribing guidelines in 2010, which was later updated to incorporate the tenets of the New York State I-STOP Prescription Monitoring Program. In the initial phase, buy in from staff was a challenge. We found providing scripting for staff as well as offering to share the policy with patients helpful in the transition. When it comes to pre-discharge treatment options, similar efforts can be made. Thoughtful conversation with a patient can be fruitful in setting appropriate expectations. Having a shared understanding of the risks and benefits of available treatments and discussing alternatives to opioids often bears more fruit than anticipated. This can include a discussion on the safety profile of the medication options, and might include data that supports exposure to opioids, which even in a limited fashion may contribute to addiction later.

Perhaps one of the most valuable processes we implemented was the adoption of an ED based medication assisted treatment (MAT) program with buprenorphine. When it comes down to it, prior to offering MAT, ED physicians were limited in their treatment of opioid withdrawal. This type of program may not look the same in all departments. For us having dedicated outpatient resources available and allowing the ED to provide a direct connection to outpatient care after initial treatment makes it work. This set up offers the opportunity for the ED to engage the patient in treatment, provide the initial dose of buprenorphine and facilitate the next stage of their care. The implementation of this program has not only helped in the medical management of the patient but has contributed to the destigmatization of opioid use disorder. Implementing this program required a paradigm shift for us as it may for others, but the benefits became clear quickly.

Other avenues to pursue in the fight against the opioid crisis include naloxone distribution, whether through the ED directly, providing a prescription as an adjunct to an opioid prescription, or informing patients that they can obtain naloxone without a prescription. In addition, we found having peer support and screening, brief intervention and referral to treatment (SBIRT) programs to be beneficial.

Emergency physicians are in a unique situation. We have the opportunity to interact with patients in many stages of their opioid use. Sometimes we are the source of the first exposure of an opioid. We must use our judgment in caring for each individual. There is more science, evidence and experience every day. We need to leverage this in order to offer optimal programs to our patients.

References

Management of the Neonate - continued from page 22

Access & Medications
In the case of persistent bradycardia, despite appropriate ventilation through an advanced airway, oxygenation with 100% FiO2, and chest compressions, it may be time to think about establishing access and giving medications such as epinephrine and/or a volume expander. Access can be obtained via peripheral venous catheter, umbilical venous catheter, or intraosseous line. The dose of intravenous epinephrine is 0.01 to 0.03 mg/kg of 1:10,000 concentration. Consider endotracheal (ET) epinephrine (0.05 to 0.1 mg/kg) if vascular access is challenging (AHA). Once venous access is obtained, intravenous epinephrine should be administered immediately, regardless of when last ET dose was given. If there is a known history of blood loss or signs of hypovolemic shock (such as a placenta previa or abruption, uterine rupture, umbilical cord avulsion or maternal trauma), administer 10 mL/kg isotonic crystalloid or emergency blood. Use extra care with premature infants, as volume expanders can increase the risk of intraventricular hemorrhage if given too rapidly.

Case Continued
After intubating the baby, placing an umbilical vein catheter to deliver epinephrine, and two rounds of chest compressions, the baby’s heart rate begins to rise. The baby is no longer cyanotic and the heart rate rises to 120 bpm. The neonate has stabilized and mom is still doing well. You safely transfer the baby to the NICU for further care and workup.

Key Points
- Neonatal cardiac arrest is predominantly respiratory in nature; thus, initiation of effective ventilation is the mainstay of neonatal resuscitation.
- If the infant has inadequate respiratory effort or the heart rate is below 100, adequate ventilation should be delivered via bag valve mask.
- When administering PPV, the provider should frequently assess heart rate, spontaneous respiratory effort, effectiveness of assisted breaths, and preductal oxygen saturations.
- If the heart rate is below 60 despite delivering adequate ventilation (including intubation), chest compressions should be initiated at a rate of 3 compressions to 1 ventilation.
- If heart rate remains below 60 despite adequate ventilation and chest compressions, provider should administer epinephrine (0.01-0.03 mg/kg 1:10,000 IV) and/or a volume expander bolus (10 mL/kg) if there is concern for hypovolemia.

References
The New York State legislature passed a $175 billion State Budget on April 1 for the 2019-20 State Fiscal Year. Legislators are scheduled to complete the business of the 2019 Legislative Session by June 19.

New York ACEP’s advocacy efforts on behalf of emergency medicine were successful in a number of areas. Provided below is a summary of final State Budget actions and other issues of interest to New York ACEP members.

2019-20 State Budget
On March 5, New York ACEP Board members, Government Affairs committee member and residents from across the State traveled to Albany for a Lobby Day to meet with their Senate and Assembly representatives on the Governor’s proposed State Budget. Meetings were also held with senior staff to the new Senate Democratic leaders, including the Chairman of the Senate Health Committee, Gustavo Rivera, Chairwoman of the Senate Finance Committee, Liz Krueger, and Senate Majority Leader, Andrea Stewart-Cousins. In the Assembly, we met with the offices of Assembly Health Committee Chairman, Richard Gottfried and Assembly Speaker Carl Heastie.

Elimination of Prescription Monitoring Program (PMP) Exemption in ED Rejected
New York ACEP and contract lobbyists Reid, McNally & Savage, worked to successfully eliminate a proposal from the final budget package to repeal a provision of the original I-STOP law that exempts prescribers from checking the PMP for controlled substance prescriptions written in hospital emergency departments (EDs) when the dose does not exceed five days.

Lobby Day participants stressed that emergency physicians highly value the use of the PMP as a tool to prevent inappropriate drug use. Prescribers in the ED who suspect drug seeking behavior frequently consult the PMP and utilize it to avoid prescribing controlled substances to such individuals. However, a mandate to consult the PMP for every patient treated for an overdose would be extremely difficult in the ED environment. It would interrupt clinical workflow and impair timeliness and access to patient care. Delegation is often impractical in the ED where a single physician may be working with dozens of different staff in a given day or week.

Furthermore, state and national studies as well as data collected by New York ACEP from 22 hospitals across the state demonstrate that hospital EDs are not the source of opioid prescriptions for patients.

Legislature Rejects Governor’s Proposal to Eliminate State Medicaid Part-B Co-Insurance for Ambulance Services
New York ACEP was successful in defeating the proposed elimination of Medicaid reimbursement for a 20% co-payment for ambulance services for individuals who are “dually eligible” for Medicaid and Medicare. This proposal would have had a crippling effect on ambulance services across the State by seriously diminishing their ability to maintain service levels for elderly and disabled individuals.

Excess Medical Malpractice Program Extended
The final State Budget includes the Governor’s proposal to fully fund the Excess Medical Malpractice program through June 30, 2020 at $127.4 million.

Hospital/Emergency Department Medication Assisted-Treatment (MAT)
The final State Budget includes the Governor’s proposal to require hospitals to include in their policies and procedures treatment protocols to be utilized by EDs for providing medication assisted-treatment, including buprenorphine, prior to discharge, or referral protocols for evaluation of medication-assisted treatment when initiation in an ED is not feasible.

New State Tax on Opioids Enacted
In February, the Governor initiated “30-day amendments” to his State Budget proposal, including a new tax on opioid manufacturers and distributors. The tax was widely seen as a response to new predictions of a $2.3 billion State revenue shortfall and was estimated to generate $100 million.

New York ACEP opposed the tax due to concerns about the dangerous precedent of taxing a necessary health care treatment for patients. Reid, McNally & Savage organized a press conference in Albany to voice these concerns. New York ACEP joined MSSNY, the New York State Academy of Physicians, patient groups, pharmacies, and Assembly members Rosenthal, Gottfried, and McDonald in a press release denouncing the tax and the potential for it to be passed along to consumers. Despite strong opposition, the opioid tax was included in the final budget deal.

Across-the-Board Medicaid Cuts
Across-the-board cuts to Medicaid to hospitals and nursing homes proposed by Governor Cuomo were rejected from the final budget deal. However, language is included to give the Governor the option of imposing cuts if there is an unexpected drop in revenue due to tax receipts or federal cuts.

Adult Regulated Cannabis Program Rejected
The Governor’s budget proposal to legalize and regulate the purchase of cannabis by adults age 21 and over was not included in the final budget. We expect discussions between the Governor and the Legislature to continue on this issue in May and June.

Pending Legislation
Now that the State Budget is finalized legislation will focus on non-fiscal legislation until they recess June 19. Members of New York ACEP will
travel to Albany June 4 to meet with legislators on proposed legislation impacting emergency medicine. The agenda for June 4 is summarized below

**Support: Community Paramedicine (S1805 Rivera/A1208 Gottfried)**

New York ACEP strongly supports the establishment of Community Paramedicine Collaboratives in the State to authorize hospitals, emergency medical services providers, physicians, and home care agencies to develop and implement a program for at-risk individuals living in the community to be served by EMS providers for care other than initial care and transportation to the hospital.

Community Paramedicine is an important step to decreasing hospital and ED utilization, improving access to resources that are already available and on stand-by, and improving access to care by taking advantage of already trained individuals using their current skill set but applied to a different environment of care.

**Oppose: Elimination of the Prescription Monitoring Program (PMP) Exemption in ED**

As reported, New York ACEP was successful in defeating a State budget proposal to eliminate the PMP exemption in this year’s State Budget. However, there is potential for this proposal to reemerge in another bill prior to the close of the Legislative Session in June. New York ACEP will underscore opposition to the proposal with Senate and Assembly leaders June 4.

**Oppose: Mandate to Consult the PMP and Notify Prescribers of Patient Overdose (S3271 Lanza)**

This legislation requires “every emergency room or hospital practitioner to consult the PMP registry when treating a patient for a controlled substance overdose and to notify the patient’s prescriber of such overdose.” This bill poses practical problems, making implementation in the ED extremely difficult and could impede timely access to patient care.

Locating a patient’s prescriber in off hours would be time consuming, and in some cases, impossible. In addition, patients often have multiple controlled substance prescriptions from multiple providers, making it impossible to carry out this mandate.

**Oppose: Mandate Practitioners who Administer Overdose Reversal Agents to Report it to the PMP (A3741 McDonald/S4482 Harckham)**

This bill requires a practitioner to report to the PMP within 72 hours of administration of an overdose agent. The information must include the name and address of the patient and time and place of administration. There is currently no mechanism in the PMP for practitioners to input the data required by the bill. Rather than mandating ED staff and ambulance providers to report this information to the PMP, the Department of Health could develop a mechanism for transfer of this information between their SPARCs data system and the PMP system, both of which they maintain.

**Update on Single Payer Legislation (S3755 Rivera/A5248 Gottfried)**

Discussions in Albany on establishing a single-payer health care system are expected to intensify during the closing months of the Legislative Session. The New York Health (NYH) plan passed the Assembly four times since 2015. The bill has never been brought up for a vote in the Senate due to opposition from the Republican leadership. This year, with the Senate Democrats in the majority, there is speculation that the bill could pass both houses.

However, the bill still faces major hurdles. Governor Cuomo has voiced concerns about the cost of the plan and the lack of success in other States who have tried to implement a “State-only” program. A study by RAND estimates that the State would need to raise $139 billion in tax revenue to cover the program by 2022, a 156% increase. In addition, federal waivers would have to be granted by the Trump administration in order to redirect all federal, state and Affordable Care Act funds, as well as marketplace tax credits, to the NYH plan.

Thank you to all of the members who responded to the Action Alerts to contact your State legislators on State Budget issues. We greatly appreciate all of your local efforts which are critical to New York ACEP’s success.
Come join us at New York ACEP’s Scientific Assembly at the Sagamore on Lake George and see our field through the eyes of those who imagine creative works from life in the ED.

Individuals interested in submitting a work of art such as photography, painting, sculpture, poems — contact Josh Schiller@js620@hotmail.com or Dan Lakoff@daniel.lakoff@gmail.com. You need not be at the conference to participate! Select pieces will be featured in this newsletter.

“The Opening” July 9, 2019
5:30 pm – 6:30 pm
2019 New York ACEP Scientific Assembly

Save The Dates

2019 Emergency Medicine Resident Career Day and Job Fair
Wednesday, August 21, 2019
New York Academy of Medicine

2019 Resident Research Conference
Wednesday, November 6, 2019
NewYork-Presbyterian Queens

Registration is FREE for Residents at BOTH events
Register online at www.nyacep.org

New York ACEP is offering a one-year mentorship program for women in emergency medicine who seek mentorship for career advancement. The program pairs mentors based on career interests and will involve networking opportunities and career development webinars.

Applicants will be selected from emergency medicine residents, junior faculty (<5 years post residency) and established faculty (≥5 years post residency).
Send your completed application by May 31, 2019.
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