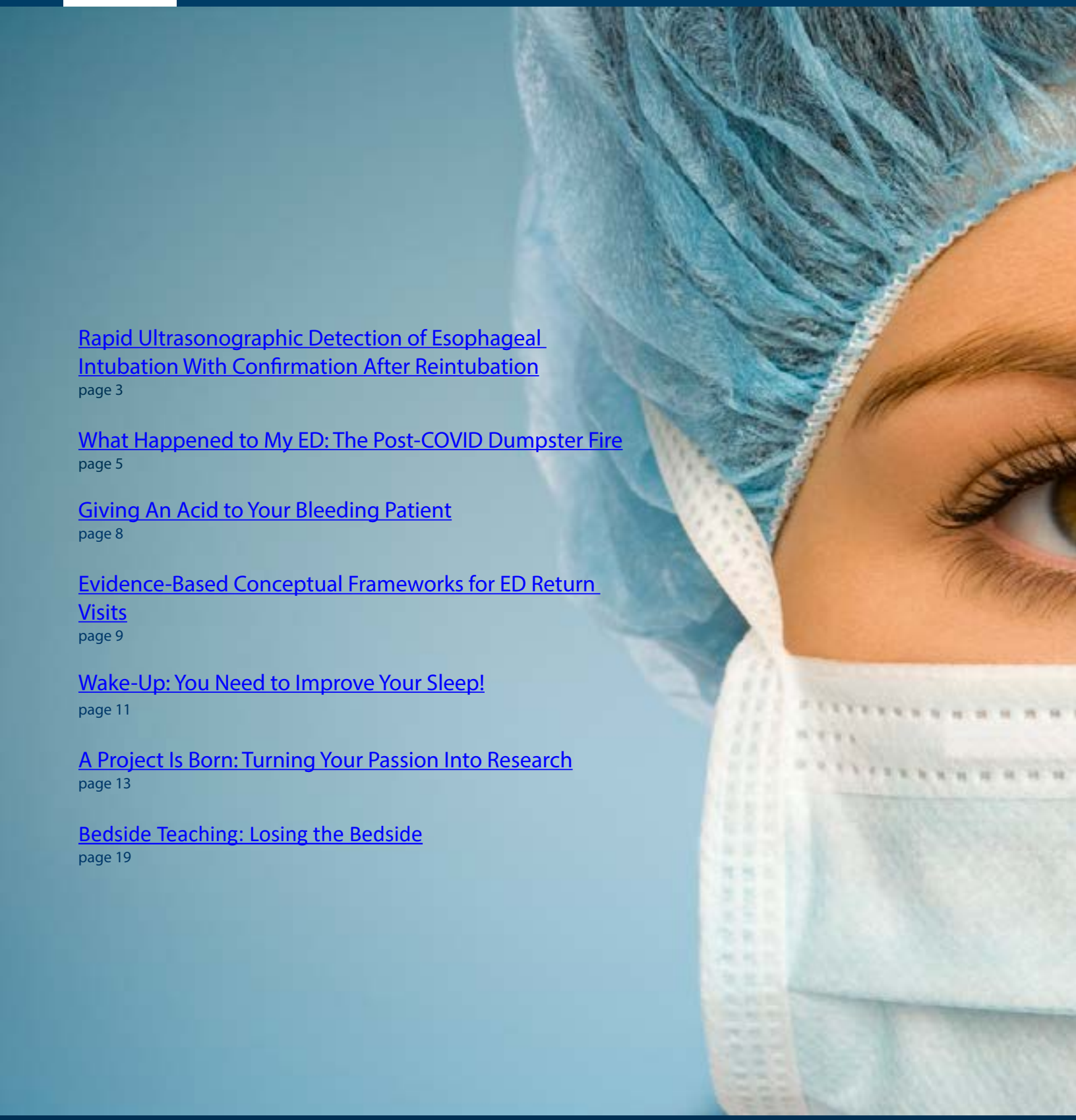
New York American College of Emergency Physicians



Empire State EPIC

VOL 39-01:21 EMERGENCY PHYSICIANS' INTERIM COMMUNIQUE

National Physician Suicide Awareness Day

National Physician Suicide Awareness Day

Shine a Light. Speak its name.

September 17, 2021

WHAT'S INSIDE

PRESIDENT'S MESSAGE

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No Fate But What We Make

Shiftwork is pretty nice. A start time. A stop time (often very malleable in emergency medicine). Wrapping things up and checking off that list as you walk out the door. When I started in medicine years ago, nice and ignorant, I recall the shiftwork component as quite an appeal for emergency medicine. I relished the idea that I could walk away, turn off the medical brain and take a break from patient care until the next time in the department (save for those lingering cases that we all know about). A nice tidy set of bookends encasing our medical responsibilities.

Though as time has gone by, I have finally realized this is not what emergency medicine is all about. Working on the frontline amidst the chaos of a shift is only a part of what we do. You see, very few people understand what we and the team do daily. Frankly, outsiders cannot even imagine some of the situations that you work through on a daily basis. Even the most creative would fail to comprehend it all.

And that is our next responsibility. Looking on the other side of those bookends. Taking the necessary steps to make emergent care safer for our patients, better for our communities, more efficient for the health care team and perhaps lucky enough to even make our job a bit easier. To meet this "quadruple aim" we need to be out there educating anyone who will listen about how things can be better. This takes our time and effort, as history has shown us that no one else will advocate for these goals. Sure… there is an occasional report on the state of affairs, or perhaps a noteworthy news article. But both are quickly forgotten as a short time passes.

I believe this is the greatest strength of New York ACEP. A continued, unwavering focus on this quadruple aim. With that, I would like to offer a personal thanks to all that share this work. Thanks to JoAnne and Tim in the New York ACEP office – keeping us all organized and helping to churn out volumes of results, rivalling any chapter. Thanks to all that serve on committees and to our board members. These individuals volunteer their time to help further emergency care in New York, and I am truly grateful. This is what fuels New York ACEP and makes all the magic happen.

Though we can use more help. There is always more to do. All of New York ACEP's accomplishments truly require everyone's involvement. It is up to each of us to get involved and help guide the future. It is up to us to reach out to our patients and communities in efforts to improve their care. We are the ones that can communicate the great parts of our departments, as well as to illuminate the challenges we face. At times we may even need to reach out to a local legislator who may be under the belief that emergency department care is "all protocol based and anyone can do it" (yes… that has happened). While we rely heavily on the entire team, we need to get a bit boisterous and highlight the true value of what we bring to the table. That emergency department care should be directed by an expert, an emergency medicine board certified physician.

A void of information is quickly filled with limited or even completely false information. We need to be out there whenever possible. But that means a bit of your off time, after punching the clock, outside that bookend. You are your best advocate. It is up to you to reach out and get involved. Our committees are always looking for invested folks with new ideas. It is up to you to help get New York ACEP to the next level. It is up to you to help us make our fate.

Leadership Elected

Congratulations are extended to the newly elected Board members.

Arlene S. Chung, MD MACM FACEP
Maimonides Medical Center

Mark Curato, DO FACEP
NewYork-Presbyterian
Weill Cornell Medicine

Robert F. McCormack, MD MBA FACEP
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SOUND ROUNDS

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Rapid Ultrasonographic Detection of Esophageal Intubation With Confirmation After Reintubation

Case

A middle-aged male was brought in by EMS for an unwitnessed cardiac arrest. ACLS protocol was initiated and the patient was intubated in the field. Upon arrival, the patient was noted to have a distended abdomen. The high-frequency linear ultrasound probe (Zonare ZS3, Mindray, Mahwah, NJ) was placed transversely over the patient's trachea. The "double tract" sign was noted in the patient's esophagus (Figure 1). The endotracheal tube was removed and replaced under direct laryngoscopy. The transtracheal ultrasound was repeated and showed a single air-filled lumen consistent with a successful tracheal intubation (Figure 2). Bilateral breath sounds were auscultated and the oxygen saturation immediately improved from the 50's to the 90's. The resuscitation continued, however the patient remained in asystole and was pronounced deceased.

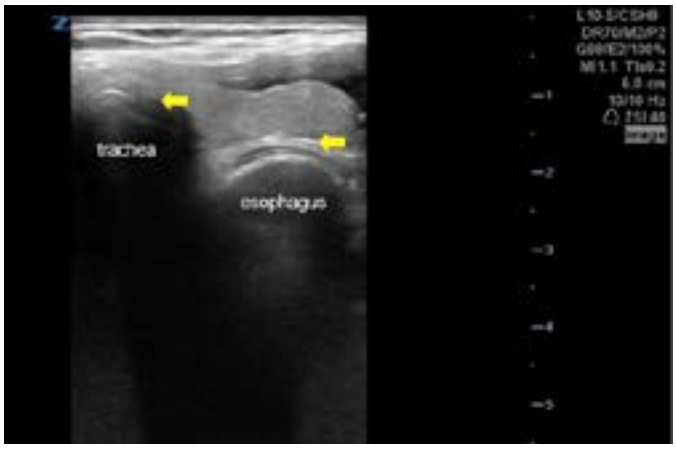

Figure 1. Linear ultrasound probe place transversely on the patient's neck identified an inadvertent esophageal intubation with the "double tract" sign (yellow arrows).

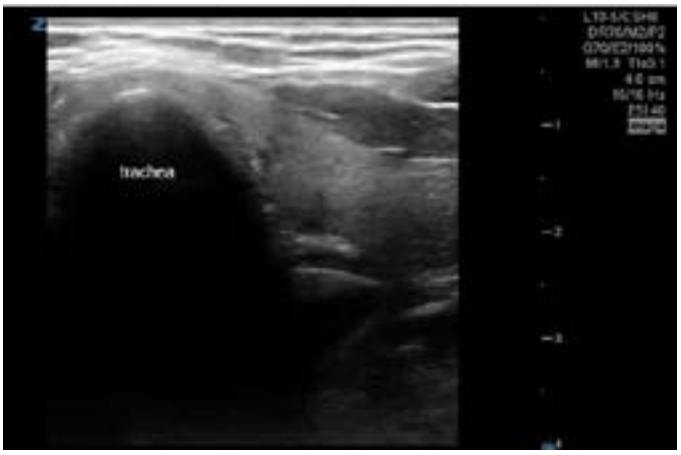

Figure 2. Ultrasound confirmation of a successful tracheal intubation.

Discussion

There are several methods for confirming correct endotracheal tube (ETT) placement after intubation - tube condensation, bilateral breath sounds with lack of abdominal breath sounds, direct visualization, colorimetric capnometry, and quantitative capnography, which is largely considered the most reliable.[1] Quantitative capnography indirectly reflects real-time changes in CO2 production in the tissues, along with the circulatory system's delivery of that CO2 to the lungs. However, this method has its limitations in situations such as cardiac arrest, recent return of spontaneous circulation (ROSC), or other states of decreased circulatory and pulmonary perfusion. Quantitative end-tidal CO2 measurement may be unreliable in obese patients, those with air in the esophagus or stomach, and those with significant amounts of gastric or pulmonary secretions, all of which are commonly present in patients in cardiac arrest.[2] Point-of-care ultrasound (POCUS) for ETT confirmation is best utilized when traditional confirmation methods are inaccurate, x-ray is unavailable, the patient arrives intubated and requires airway confirmation or the patient does not respond as expected after intubation.[3]

SOUND ROUNDS

To assess the presence of an endotracheal intubation by POCUS, the high frequency linear probe is placed in the transverse plane on the anterior neck superior to the suprasternal notch with the index marker to the patient's right (Figure 3). The main structures of interest are the trachea and the esophagus. The trachea is identified by its hyperechoic cartilaginous rim casting an acoustic shadow and comet-tail artifact. Reverberation rings in the trachea are produced by air within the trachea. When the trachea is intubated correctly, there is an increase in acoustic shadowing just beneath the tracheal semicircular hyperechoic rim. This has been called the **bullet sign**.[4] To confirm placement, the endotracheal tube may be twisted to see movement within the trachea. If color doppler is used during the movement of the ETT, color doppler will be evident within the trachea. The esophagus is located to the right of the trachea on the image (patient's left). It is usually collapsed and therefore may be difficult to visualize.

Figure 3: Linear ultrasound transducer placed on the patient's neck superior to the suprasternal notch. The index marker of the transducer is pointed to the patient's right side (black line).

The esophagus can be visualized more distally and to the right of the trachea as an oval structure with a hyperechoic wall and an anechoic or hypoechoic center, usually appearing collapsed unless occupied (i.e. by a tube). When the esophagus is inadvertently intubated, an adjacent hyperechoic curvilinear structure with shadowing will appear posterolateral to the trachea.[5] An inadvertent esophageal tube has been referred to as the **double tract sign**.[4] If the esophagus is located directly posterior to the trachea, POCUS may not be able to identify an inadvertent esophageal intubation as this second hyperechoic structure will be obscured by the shadowing from the trachea. Transtracheal identification of an esophageal intubation can be performed dynamically during intubation or statically as a confirmatory study after the intubation.

The American Heart Association (AHA) updated their guidelines for CPR and emergency cardiovascular care in 2015 to include POCUS as an additional method for confirmation of ETT placement.[1] As mentioned previously, cardiac arrest presents a unique scenario in which traditional methods of ETT confirmation are limited and POCUS is beneficial as an adjunct. Chest compressions prevent proper visualization of chest rise. Gastric contents or blood can mask tube condensation and can cause falsely positive colorimetric capnometry. The low flow state during cardiac arrest significantly decreases the sensitivity of quantitative waveform capnography because it relies on adequate pulmonary circulation.[2] Additionally, ventilation is necessary to obtain a reading which may be accompanied by significant complications in the setting of an esophageal intubation. Altogether, there are many pitfalls when confirming an endotracheal intubation. Although POCUS cannot be used in isolation as a confirmatory method, it can be an accurate and quick initial step when combined with traditional methods, especially during chest compressions in a cardiac arrest when other methods may be more difficult to assess.[6]

POCUS is fast, portable, and widely available in many emergency departments. It can be used statically or dynamically to immediately identify an esophageal intubation, thereby avoiding gastric insufflation and worsening hypoxemia. Transtracheal visualization of an endotracheal intubation can be used to visualize either the bullet sign or the double tract sign and assist with optimal resuscitation of our patients.

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What Happened to My ED: The Post-COVID Dumpster Fire

In the wake of the Affordable Care Act, hospitals have been faced with new reimbursement reality, based on outcomes, not interventions. While some hospitals adapted quickly, others are in the midst of a transformation. Decreased reimbursement incentivized personnel contraction and consolidation of services. Incentive structures also increased inefficiencies in the context of service line consolidation and resulting increased transfers, boarders.

Meanwhile, emergency departments (EDs) have seen increasing patient volumes and acuity over time related to aging population, ongoing barriers to primary care access, treatments prolonging life (and specifically the very expensive last few weeks of life). Inpatient and ED nursing shortages have been heightened in the setting of increasing health care volumes/acuity.

Then COVID Hit

In the first wave of COVID, ED volumes plummeted (all comers, but especially lower acuity patients and pediatrics).[1] According to the CDC, ED volumes dropped by 42% nationwide (late March-April 2020 as compared to 2019) and up to a 66% in New York City.[2] Institutions began hemorrhaging money as they had personnel and supplies to support their historical volume, but the actual volume shrank with the demand for services. Elective surgeries, the lifeblood of many institutions with favorable payor mixes, were canceled or significantly curtailed in many hospitals. Overall staffing hours were cut and individuals furloughed, in some cases permanently. Silver linings included the luxury of low volume shifts, hero status and evening clap outs for hospital workers and the ability to be more present with quarantining family members and remotely-schooled children. However, there was widespread anxiety and stress related to the possibility of (and in many cases, actual) COVID infection, or the worry or guilt of bringing it home to family members. In short, we had an oxymoronic situation where despite shrinking overall volumes, there are high levels of stress and burnout related to the unprecedented mental and emotional toll of a pandemic on individual clinicians.

As patient volumes returned to our EDs, the hero treatment abruptly ended and many of us are back in environments where impatience, disrespect and entitlement are rampant. Prior patterns of arrival and acuity were no longer apparent, making it a challenge to match supply to demand. In the COVID era, everything took longer: decontamination, isolation, PPE donning/doffing, waiting for screening test results before bed assignment and operations and throughput were adversely impacted. Some staff who may have been furloughed opted to exit the workforce, thereby further exacerbating nursing shortages both in EDs and throughout hospitals. Attrition may have been accepted or encouraged as a short term cost-saving strategy, given that emergency funds were largely insufficient to bridge the gap between assets and expenses.[3] Growing dissatisfaction over staffing paradigms, workload and acuity combined with fears related to the possibility of illness and death due to COVID likely caused many to consider or fast-track retirement planning. Now as hospital census starts to come back, as do ED volumes, they can not ramp up hiring staff fast enough. The staff that would be available is less and there is increased competition for those coveted bodies.

The house of medicine began to adapt. Primary care providers (PCPs, including pediatricians) and specialists started to use telehealth. This meant there were new ways for patients to avoid coming to the ED. It also meant our facilities lost some acute care clinicians to telehealth platforms due to competition and increased demand, as well as perceived attractiveness of remote work.[4] Women clinicians were also more likely to seek reduction in hours, transition to remote work or leave the workforce entirely in the aftermath of the pandemic. Facilities who saved money in the short run may be faced with significant difficulties identifying and attracting adequate staff. Millennials make up 35% of the workforce; they are educated consumers when it comes to being employees; they value work-life balance and are likely to demand flexible hours and deferential treatment.[5] Progressive staffing shortages have further disincentivized retention. Furthermore, clinicians who work short staffed consistently are likely to experience burnout and have increased rates of callouts/absenteeism.[6] There is also the moral injury of caring for COVID patients with little support, only to be paid with endless short-staffed shifts, while many of our colleagues in the house of medicine turned their back on direct patient care.

As volume has returned, we are seeing an even older and sicker population, beyond what the demographic shifts would have suggested; given our PCP colleagues' increasing comfort with telehealth capabilities and adding capacity for sick visits, much of our traditional pediatric and low acuity volume may not be back.[7] Those pre-COVID patterns have changed, some likely permanently. Many of us struggle with increased boarding, inadequate nursing and ancillary services to support optimal operation, poor patient satisfaction and perhaps increased rates of patients leaving without being seen. The whole dumpster has gone up in flames—we can either watch it burn and lament the loss of the dumpster or utilize the unique opportunity to perhaps (re)define how we work in emergency medicine and emergency departments in a post-COVID world.

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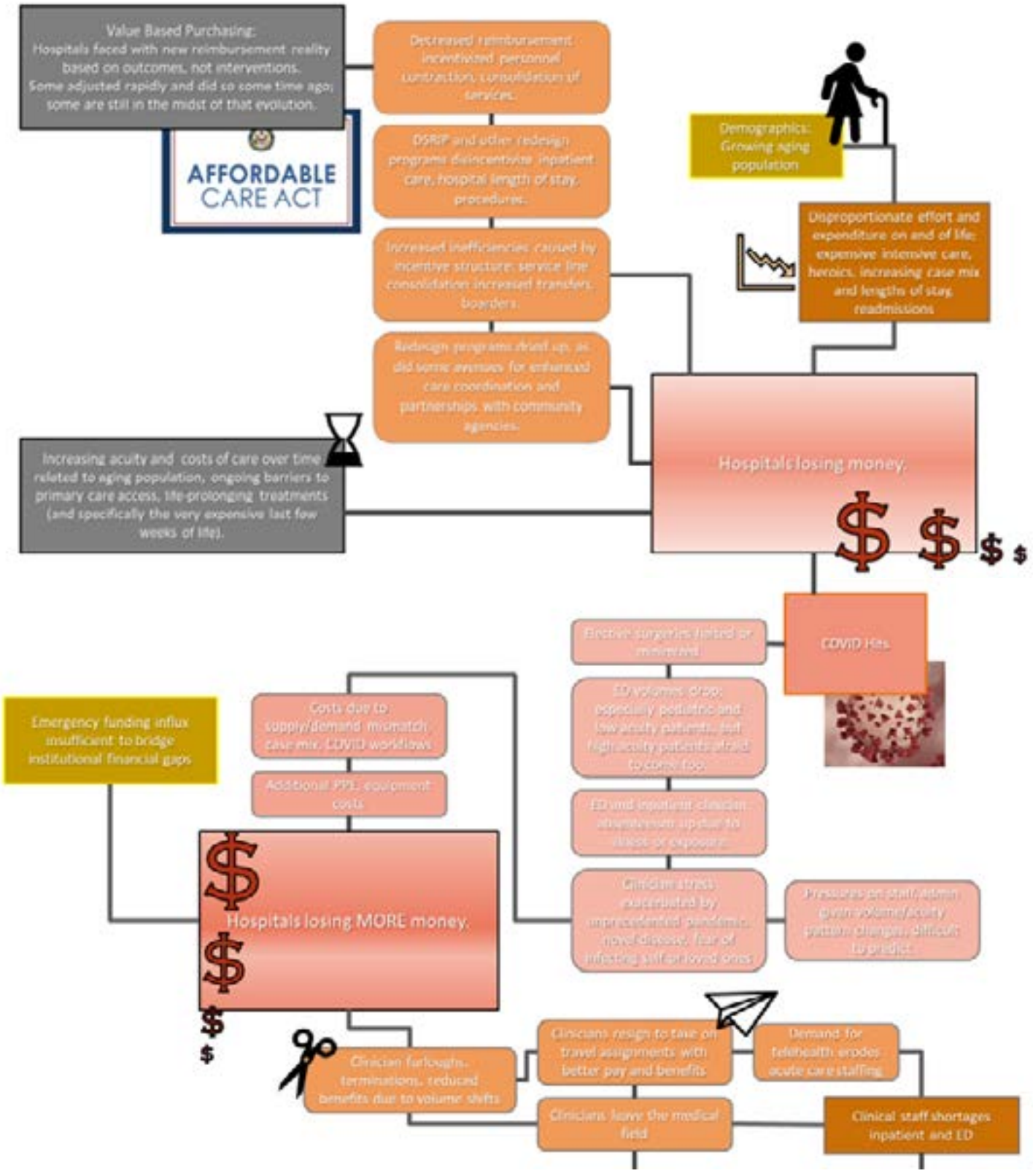

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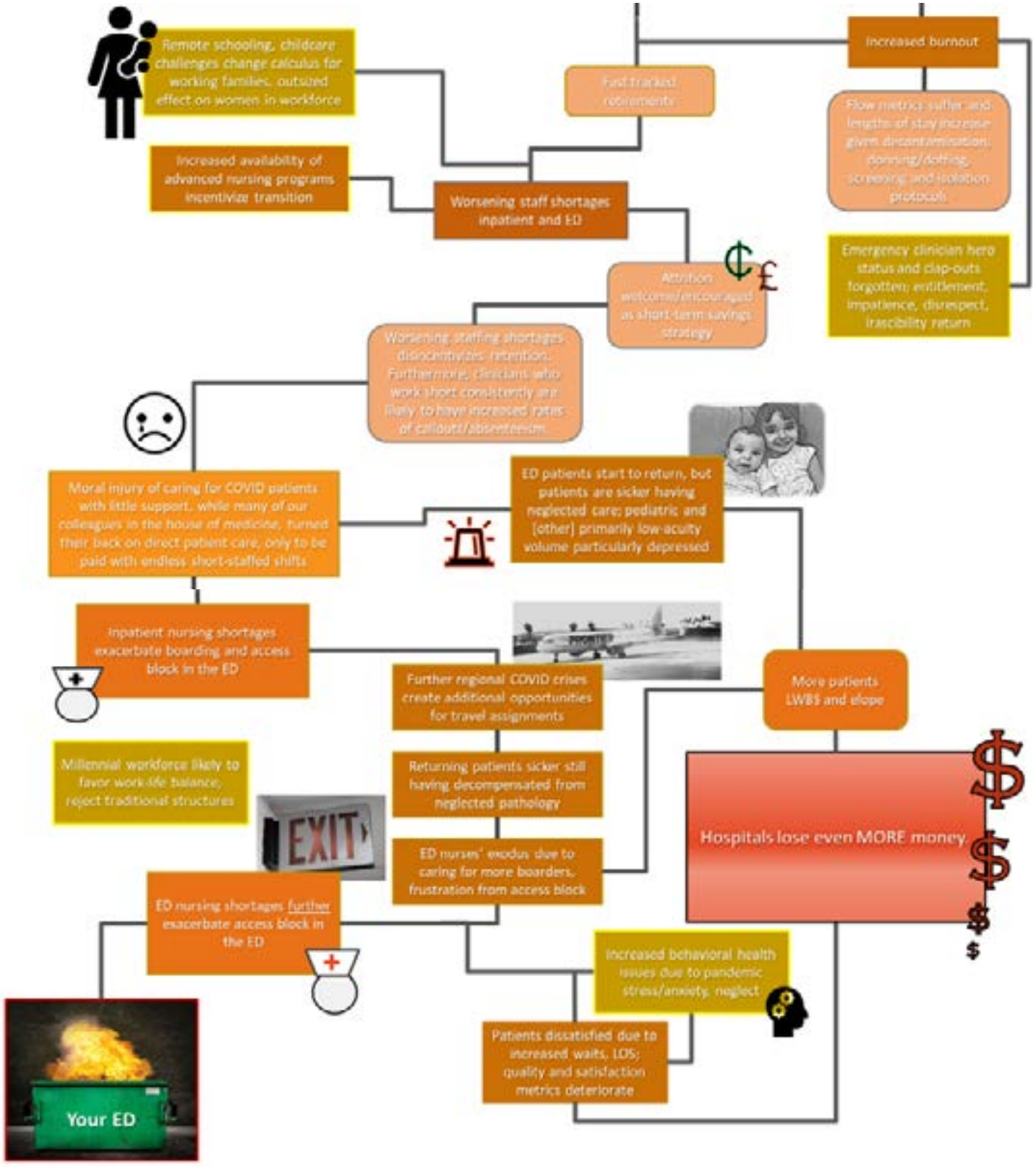
Remote schooling, childcare challenges change calculus for working families, outsized effect on women in workforce
Increased availability of advanced nursing programs incentivize transition
Fast tracked retirements
Increased burnout
Flow metrics suffer and lengths of stay increase given decontamination, donning/doffing, screening, and isolation protocols
Worsening staff shortages inpatient and ED
Attrition welcomed/encouraged as short-term savings strategy
Emergency clinician hero status and clap-outs forgotten; entitlement, impatience, disrespect, irascibility return
Worsening staffing shortages disincentivize retention. Furthermore, clinicians who work short consistently are likely to have increased rates of callout/absenteeism
Moral injury of caring for COVID patients with little support, while many of our colleagues in the house of medicine, turned their back on direct patient care, only to be paid with endless short-staffed shifts
ED patients start to return, but patients are sicker having neglected care; pediatric and [other] primarily low-acuity volume particularly depressed
Inpatient nursing shortages exacerbate boarding and access block in the ED
Further regional COVID crises create additional opportunities for travel assignments
More patients LWBS and elope
Millennial workforce likely to favor work-life balance, reject traditional structures
Returning patients sicker still having decompensated from neglected pathology
EXIT
ED nurses' exodus due to caring for more boarders, frustration from access block
Hospitals lose even MORE money
ED nursing shortages further exacerbate access block in the ED
Increased behavioral health issues due to pandemic stress/anxiety, neglect
Patients dissatisfied due to increased waits, LOS; quality and satisfaction metrics deteriorate
Your ED

EMS

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Giving An Acid to Your Bleeding Patient

TXA, or tranexamic acid, is an anti-fibrinolytic agent that has been found to be very useful in the reduction of propagation of hemorrhage after injury. TXA is a synthetic lysine derivative that works by inhibiting local fibrinolysis by binding to the lysine site on plasminogen and thereby limiting the cascade of activation. TXA is **not** a pro-coagulant but instead is an anti-fibrinolytic. While the agent gained immense popularity following the recent CRASH-2, MATTERS I and MATTERS II trials, studies on TXA's ability to reduce bleeding and the need for transfusions have been ongoing since the 1960s and 1970s. In 1986, the FDA approved the intravenous infusion of TXA for the prevention or reduction of bleeding in individuals with hemophilia undergoing dental treatments.[1] In 2009, the FDA approved the oral version of TXA for the treatment of excessive menstrual cyclic bleeding. Today, TXA is used for a variety of conditions including traumatic injury, post-partum hemorrhage, epistaxis, hemoptysis, gastrointestinal bleeding and many others. The latest research on the efficacy of TXA in the aforementioned ailments is described below to identify the clinical opportunities that TXA provides to ED (emergency department) providers.

Trauma is the number one cause of death among those under the age of 40. Moreover, in 30% of these cases, hemorrhage is the cause of mortality.[2] As a result, there is a lot of interest in the best way to deal with hemorrhage in trauma. CRASH-2 was a randomized, placebo-controlled trial with intention-to-treat analysis that showed a mortality benefit in trauma patients with significant hemorrhage. The intention-to-treat analysis is considered the greatest level of clinical research evidence, further strengthening the results of this study. In the study, TXA or placebo were given as a loading dose of 1 g over 10 minutes followed by an infusion of 1 g over eight hours to 20,211 adult trauma patients in 274 hospitals in 40 countries who had or were at risk of substantial bleeding. TXA use was found to result in a nine percent reduction in the relative risk (RR) of all-cause death. This 1.5% absolute risk reduction demonstrated approximately 67 trauma victims would have to be treated with TXA to prevent one person from dying from any cause. CRASH-2 showed us that TXA's impact was greatest in patients with severe shock (SBP 70mmHg) and also when administered within three hours of damage. This study put TXA "on the map" in emergency medicine and trauma and led to several heated discussions about its optimal deployment and use in medicine. Given that TXA is safe and inexpensive, it would not be unreasonable to administer TXA to adult trauma patients with severe hemorrhagic shock (SBP > 75 mm Hg), known fibrinolysis predictors or known TEG-induced fibrinolysis (LY30 > 3%).[3]

The CRASH-2 trial found that treating patients with extracranial hemorrhage with tranexamic acid (TXA) within three hours after injury reduced mortality by 1.5% (NNT = 67). However, because patients with intracranial hemorrhage (ICH) were excluded from the experiment, CRASH-2 could not provide a response to the question of effect on mortality in patients with ICH. TXA in patients with traumatic brain injury (TBI) theoretically makes sense because it should prevent or minimize ICH expansion, thereby preventing brain herniation and death. To confirm this theory emerged the CRASH-3 trial. This randomized, placebo-controlled trial done in 175 hospitals in 29 countries administered either tranexamic acid (loading dose 1 g over 10 minutes then infusion of 1 g over 8 hours) or matching placebo (0.9% normal saline) to adults with TBI who were within three hours of injury, had a GCS score of ≤12 or any intracranial bleeding on CT scan and no major extracranial bleeding.[4] This trial found the overall effect of TXA on ICH was not particularly outstanding nor was it statistically significant. There was no difference in primary outcome, which was the rate of head injury related death in hospital within 28 days of injury. However, in a particular subset of patients, which excluded those with devastating neurological injury, the authors did note a statistically significant 1.5% absolute reduction in head injury-related death. Still, this reduction did not translate into a difference in all-cause mortality at 28 days or functional status at follow-up. This study's biggest strength may be its in-depth examination of potential adverse events among 12,639 individuals: TXA was determined to be safe, with no increased risk of adverse effects (including thrombosis, seizure and stroke).[4] Accordingly, given the results of this study in addition to its safety profile, one can consider TXA in TBI patients with mild to moderate injury, though TXA should not be the prioritized intervention.

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PRACTICE MANAGEMENT

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Evidence-Based Conceptual Frameworks for ED Return Visits

An Overview of Research

Unscheduled emergency department (ED) return visits (RV) have been a focus of emergency medicine (EM) research for the past three decades and are commonly used as surrogate outcomes in both EM and non-EM literature. However, the multifactorial etiology of RVs, combined with the clinical uncertainty inherent in many ED encounters complicate the interpretation of RVs as a singular outcome in operations, quality and research domains. Moreover, up to 30% of RVs are to another (non-index visit) ED, limiting the interpretation of studies not using state or federal data sets.[1] Time parameters of clinically meaningful ED returns also remain unclear, with 48 and 72 hour RVs frequently being cited, as well as returns seven and 30 days after index visit. Rising et al. explored this issue using 4.7 million ED visits from the disparate states of Florida and Nebraska, proposing a conceptual hinge point at nine days post-index, when 99% of *acute* ED returns have occurred, although 75% were within 72 hours.[2] This study also reported the frequency of RVs, with 7.5% of ED patients experiencing a RV within 72 hours; 22% at 30 days.

Early quality-based RV research includes Pierce et al.'s influential *Bounces*, a retrospective analysis of ED RVs within 48 hours of index visit.[3] This single site US study reported that while *patient-related factors* were responsible for the majority of RVs, 18% were the result of *physician-related factors,* which were more than twice as likely to require admission. Other retrospective single site studies have found lower rates of quality issues, ranging from 7-12%[4,5], and only one study demonstrated higher rates of physician error compared to control (non-RV) cases.[6] Further, Pham et al. utilized US National Hospital Ambulatory Medical Care Survey data to demonstrate lower resource utilization and acuity in ED RVs, as well as equivalent admission rates compared to index visits. Although the sample size was too small to evaluate mortality, this paper and growing expert consensus (see Table 1) concluded any consideration of using unscheduled RVs as an EM quality and patient safety (QPS) metric.

Table 1. Common Causes of Unscheduled ED Return Visits

Disease-based Factors	Patient-based Factors	Physician-based Factors	Healthcare System-based factors:
○ Disease progression ○ Disease Recurrence ○ Unforeseen Therapeutic Complications ○ New unrelated Disease	○ Non-compliance with discharge plan ○ Cognitive impairment ○ Non-urgent medical needs / Overuse ○ Left AMA ○ Shared Decision Making / Declined Admission	○ Diagnostic error ○ Therapeutic error ○ Inadequate discharge plan ○ Prognostic error ○ Premature discharge	○ Lack of primary or specialty care outpatient appointment availability ○ Lack of insurance coverage

The conversation has subsequently shifted towards ED return visits resulting in acute hospital admission (RVA). A focus of quality-based work has explored ED RVA within 72 hours to nine days post index visit,[2,7-13] including in older adults.[14-16] Studies have reported increased mortality and critical care unit admissions in geriatric RVA, as well as a higher need for surgical intervention and longer hospitalizations.[8,9,17,18] Infections and delirium are common RVA diagnoses,[7,8,10,13] conditions for which delays in appropriate care significantly increase mortality.[19-22] These findings complement research on the longer term post-ED risk in the geriatric population, with 27% of older adults discharged from the ED experiencing RV, hospitalization or death within three months. [16,23] However, other work has challenged the hypothesis that RVAs are inherently adverse events. Using a large multistate data set from the Healthcare Cost and Utilization Project, Sabbatini et al. reported significantly lower rates of in-hospital mortality, ICU admission and costs in RVA compared to hospital admissions on index ED visits, although inpatient lengths of stay were significantly higher.[13]

Conceptual Frameworks

Enhance Tacit Clinical Knowledge Through 72 Hour RV Reviews

As reducing total ED RVs is not considered a high value QPS goal, mandatory RV review is not a judicious use of most department's resources. However, RVs may offer valuable education to *early career* EM physicians. The longitudinal care provided by many outpatient and inpatient physicians facilitates their clinical maturation: knowledge of individual patient responses to and compliance with care plans and

their subsequent outcomes, serves to further refine physician judgement, skill and practice decisions long after formal training is complete. Unlike a surgeon who observes most post-operative patient outcomes first hand, EM physician's tacit knowledge acquisition is uniquely disadvantaged by our episodic care model and associated shift work.

This disconnect between provider decisions and many patients' post-ED healthcare trajectories can in part be addressed through early career review of individual 72 hour – nine day RV cases (a 30 day return parameter would likely produce an overwhelming volume of cases). Many EM physicians can attest to the value of reviewing their own RVs, especially during the early stages of their career. Some even follow up with discharged patients via telephone in their first months of independent clinical practice, until the desired clinical confidence is achieved. Separate from formal professional performance evaluations and quality review processes, this non-judgmental, self-monitoring practice during the early stages of post-residency practice may accelerate the development of multidimensional EM expertise and disposition confidence.

72 Hour RVA Screening Reviews to Identify QPS Issues

Quality issues associated with 72 hour RVA have been described in both US and international studies, with frequency ranging between 3.5 - 32% of cases, largely due to variable interpretation of physician error.[12,24-26] Using a consensus quality framework, EDs across the entire province of Ontario, Canada performed a staggering 12,000 chart reviews of 72 hour RVA and identified *quality issues* in 23.4% of cases.[7] Although further research is required to determine if this program leads to improved outcomes, the authors reported it has already generated hundreds of quality improvement projects.

Although none of the aforementioned study designs included comparative control group case reviews to substantiate the hypothesis that QPS issues are more common in RVA cases, the broad consensus is that RVAs represent a reasonable subgroup to perform screening audits. Depending on the resources available, EM leaders should consider a departmental process of RVA reviews using either QPS leadership and/or frontline providers. As many RVAs are the result of unforeseen disease progression, patient non-compliance and shared decision making for trial home care, EM leaders are encouraged to coach providers through the value of this process, to avoid misperceptions of punitive scrutiny. However, some of these reviews will likely generate formal QPS reviews and, given the mortality associated with ICU-bound RVAs, particular focus on these cases is warranted.[8,9,17,25,26] Provider acceptance of RVAs as a key education and QPS tool can be optimized with thoughtful leadership messaging and tone.

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Wake-Up: You Need to Improve Your Sleep!

Physicians, particularly emergency physicians, have erratic sleep. Some of it may be due to our love of life and high energy personalities but it's probably mostly a direct consequence of our erratic work schedules. It is ideal to go to bed and wake up at around the same time each day but that is likely impossible given our 24-7 specialty. It is a fact that as a society, we are not getting enough sleep; as a profession, I am fairly confident we are getting even less sleep than the general population. For these reasons, it is critical for emergency physicians to consider the evidence-based recommendations below to improve both sleep and wakefulness.

1. Don't drink caffeine after 2 pm and avoid it on overnight shifts altogether.

Caffeine is the most commonly consumed central nervous system stimulant in existence. There is no doubt it has an impact on our brains (see Figure 1 for the fascinating effects on a spider's ability to create a web[1]). Without getting too deep into the pharmacology, the feeling of wakefulness an individual may experience from a cup of coffee can be at least in part attributed to the antagonistic action of caffeine on adenosine receptors. Build up of adenosine plays a role in the regulation of the sleep-wake cycle and is responsible for the feeling of sleepiness. Adenosine is not able to trigger that feeling when caffeine blocks these receptors but once the caffeine wears off, all the adenosine that has been floating around floods the receptors - hence we feel the crash. The mean half-life of caffeine in plasma for the average healthy person is about 5 hours[2], so for this reason, it is not recommended to consume anything that contains caffeine after 2 pm (if consumed at 2pm, only half of the caffeine will be metabolized by 7 pm). If you feel the need to have coffee on an overnight shift, stop drinking by midnight, otherwise it will affect your sleep in the morning.

2. Don't drink alcohol (realistic recommendation: drink significantly less).

The effect of alcohol on your sleep is profound. Having even a couple of alcoholic drinks in the evening may facilitate you falling asleep and waking up later but it is not high-quality sleep. Whether you notice it or not, sleep, under the influence of alcohol, is fragmented with a reduced amount of Deep Sleep and virtually no REM sleep. You spend the night in the Light Sleep stage with frequent mini-awakenings, leading to non-restorative sleep.

In addition to not feeling alert the next day, you may also be hampering your learning and memory. Here is an illustrative study[3]: a large group of college students were taught an aspect of grammar in a new language and then divided into three groups: Group A was allowed to sleep normally; Group B was liquored up the first night; Group C was allowed to sleep normally the first night but then liquored up the next night. On day 7, Group A remembered the grammar as expected and even integrated the new knowledge; Group B forgot more than 50% (not surprising because of loss of REM sleep); and Group C forgot 40% which is unexpected but reveals the brain is still processing new information days later.

3. In the last few hours before you sleep, avoid large meals, strenuous exercise and screen time.

In addition to indigestion and GERD, meals before bedtime keep the body in metabolism mode rather than shifting completely to sleep mode. Similarly, after strenuous exercise in the evening, your body takes time to relax. In both instances, your heart rate stays elevated and the natural cyclical stages of sleep are disrupted. Screen time floods your brain with blue light and blocks the rising melatonin levels in your body; basically your brain is tricked into thinking you are not that sleepy. That is why you are exhausted when you get into bed, but you still do not want to turn off Netflix 30 minutes later. Choose a book (or a journal article!) instead of a screen and you will be asleep in no time.

4. Keep your bedroom dark and cool.

During the day, exposure to bright light and 20-30 minutes of exercise will keep you wakeful and energized. In the evening, however, your brain needs the darkness cue to prepare for sleep. Dim the lights if you can. A cool room is ideal for sleeping; believe it or not, some recommend setting your thermostat to 65 degrees Fahrenheit.[3] That may be extreme, but we recommend just keeping it cool rather than warm.

5. Consider melatonin and low-dose doxepin, but not much else for medication sleep aid options.

When behavioral interventions are not helping and medications are necessary, there are several options available such as antihistamines, melatonin, so-called "z-drugs" (zolpidem, zaleplon, eszopiclone), and doxepin. Benzodiazepines are not recommended as sleep aids due to risk of dependence and abuse. Antihistamines such as diphenhydramine and doxylamine are only recommended for insomnia in pregnancy since they have many adverse effects and can make you feel groggy the next day. Low-dose doxepin, melatonin and ramelteon (selective melatonin receptor agonist) are considered first line agents for the general population, with z-drugs as the alternative for those who have difficulty staying asleep.

Melatonin

It is not clear exactly how melatonin induces sleep aside from signaling darkness to the body but we know that it does not have any direct

hypnotic effects. Melatonin has also been shown to decrease nocturnal core body temperature[4], which helps to facilitate sleep. The mean elimination half-life of oral melatonin is 45 minutes[5], so though it may help you fall asleep it will not stick around long enough to help you stay asleep. Melatonin supplements have become a popular sleep aid over the years since they are widely available, inexpensive, do not cause dependence and are well tolerated. Melatonin supplements are not regulated by the Food and Drug Administration (FDA) so we cannot be certain all supplements are of high quality and contain the amount of melatonin advertised. Consider reviewing third-party product evaluations prior to selecting a supplement. It is also important to note that evidence on the efficacy of melatonin for sleep disorders is mixed, so certain guidelines such as those from the American Academy of Sleep Medicine do not recommend it. Melatonin receptor agonists such as prescription medication ramelteon (Rozerem) are FDA regulated alternatives recommended by these guidelines.

Doxepin

The often-forgotten tricyclic antidepressant doxepin (Silenor) is actually a first line agent for treatment of insomnia, particularly if there are issues with sleep maintenance. It has a favorable side effect profile compared to placebo[4] but it does have several drug-drug interactions and should not be taken with food (within three hours of the dose) to avoid next day sedative effects.[6]

Nonbenzodiazepine hypnotics (aka Z-drugs)

Numerous trials have demonstrated nonbenzodiazepine hypnotics zolpidem (Ambien), zaleplon (Sonata) and eszopiclone (Lunesta) are effective for decreasing sleep latency and for sleep maintenance (except zaleplon due to its short half-life). These medications can have undesirable adverse effects such as hallucinations, dizziness and memory loss. Also, complex sleep disorders such as sleep-driving or sleep-eating have been reported. They can also cause euphoria and anxiolysis at higher doses thus have abuse potential and are classified as Schedule IV controlled substances.

The benefits of sleep are broad and amazing (e.g., better memory/learning, creativity, prevention of dementia, to name a few) and the dangers to sleep deprivation are real (e.g., increased car collisions, sports injuries, immunosuppression and irritability). It is worth considering some of the above recommendations to improve the quality of your sleep.

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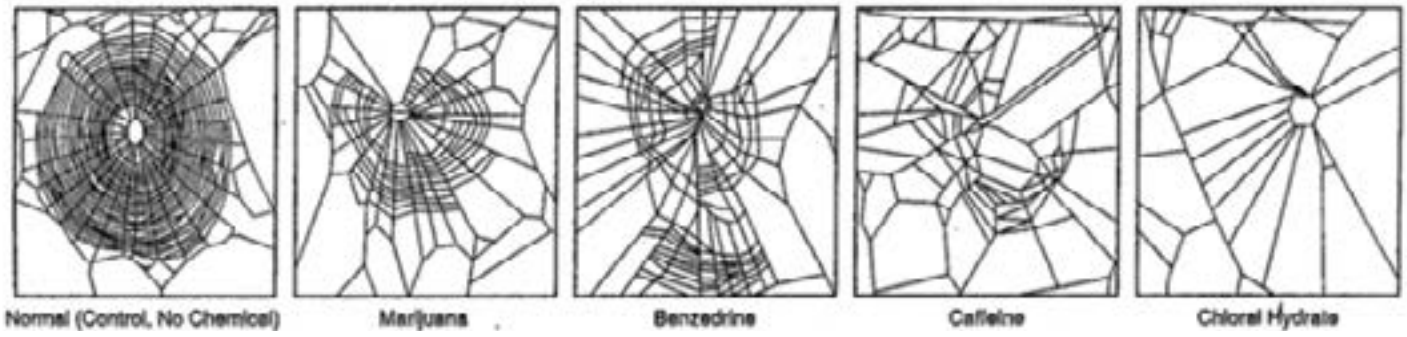
Figure 1



RESEARCH

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A Project Is Born: Turning Your Passion Into Research

This one's for all the residents and junior faculty out there who love the idea of research, but don't know where to start. This isn't a how-to guide, but rather a story about my own research journey; I started with nothing more than a passion and a good idea.

When I started, I had no formal research training. I'd been fortunate enough to join a few projects, enjoyed them immensely, and built a small but supportive network. I'd gained knowledge from experience and found success alongside my teams. Helping colleagues complete their projects – and helping to answer *their* research questions – was rewarding, educational and helpful to the medical community. But I felt something was missing… these weren't my brainchildren. I have *so many* of my own questions about emergency medicine, medical education and the world around me. I wanted to build a research project around my own passions, but I didn't know where to start.

Identifying a Passion

The emergency physician is the "Jill-of-all-trades" and I'm no exception. I have so many interests and truly do end every clinical shift with a new PICO question. (You know, PICO… the core of every research project: Population, Intervention, Comparison and Outcome.) But every PICO question is not necessarily a passion. The first step for me was pinpointing what topic occupied my mind every day. What did I always want to talk about at work *and* at home? If I walked past a group of strangers chatting, what topics of conversation would stop me in my tracks and make me so bold as to chime in? What themes in my life kept popping up?

One theme I have thought about for decades is weight bias. That's right – implicit and explicit bias regarding weight and obesity. I myself had been a target of this bias and had loved ones who were targets. I lost the weight and kept it off, but those feelings don't disappear and studying the bias became greatly interesting to me. This intensified when I became a physician; I saw both patients and colleagues targeted in much the same way that I used to be. Oftentimes fellow physicians and other team members were the source of this bias, and that was surprising to me. So, I knew this was definitely a passion.

Getting Inspired

One of the biggest reasons I go to conferences is to get inspired. At the 2018 FemInEM Idea Exchange, I watched TED talk-style narratives from incredible speakers around the world. They tapped into a wide range of poignant topics from their own clinical experiences to personal trauma to professional ventures. One after another – talk after talk – I saw how the audience was captivated and I myself was captivated too. I wanted to be like those speakers! In the middle of the second day of the conference, I started thinking about proposing a talk for the following year. But what in the world could I, a second-year resident at the time, speak about that would be half as impactful as what these amazing people had delivered?

It hit me right then. Weight bias is a theme we don't regularly discuss, it's something I had experience with and it's a topic around which I already wanted to create a research project. That day, I visualized myself in those speakers' shoes, talking about weight bias and my own experience. It was terrifying – not only the prospect of speaking to a large group but also of divulging these intimate details of my life. But it was also exciting because the idea seemed so perfectly unique. I knew I wanted to do it, and I knew I'd need more than just my own personal story to discuss. I'd need data that hadn't ever before been collected.

Making a Commitment

Deadlines help me get things done, so I first made a commitment. My amazing partner helped me create and submit a quick video proposal for the following year's FemInEM Idea Exchange. In that video, I committed to conducting an original research project so that I could present preliminary results alongside my own personal story. I put myself out there and it was a long shot, but a few weeks later the FemInEM board accepted my proposal… I was speechless! I also knew it was time to put my head down and do the hard work. This commitment (with the hard deadline of the conference) was the catalyst I needed to start my project on Interphysician Weight Bias.

Forming a Team

Very few research projects can be a one-woman show. You must build the right team of qualified, committed people with whom your topic resonates. The foundation of our team was established early: I actually invited my two sisters, both of whom have similar lived experiences to myself and who are very successful researchers, one of whom has a PhD in developmental psychology (highly relevant to the project we were beginning to plan), and the other of whom is an oral pathologist with close ties to medicine. I also looked to mentorship and guidance in my professional world: within my program and through my work with New York ACEP. I clearly remember carpooling to Albany for Lobby Day and chatting Dr. Husain's and Dr. Melville's ears off about this idea! In this way, I was able to ensure the project could actually get done and was methodologically sound.

Conducting the Investigation

Going through all the proper channels and conducting the investigation was a many-months process and was exhausting but doing it correctly from the beginning was crucial. It passed the Institutional Review Board reviews at both involved institutions, we created a beautiful (albeit long but very interesting) survey that incorporated our own adapted weight bias

RESEARCH

implicit association test as well as two explicit weight bias scales and demographic information. We went through many iterations, sent it to a pilot group (shoutout to ALL NYC EM!), and finally were ready to send it out across North America. Several amazing organizations (ACEP, AMWA, CORD, FemInEM and SAEM) helped us to disseminate it. For me, this was a new exercise in being comfortable contacting thousands of physicians whom I did not know. I learned as a community, physicians are willing to give a significant amount of their free time for research that may better their field and the medical workplace in general.

Presenting

We had a solid preliminary data analysis completed by the 2019 FemInEM Idea Exchange, which was our first big deadline. So much of myself and my mentors went into this 12-minute talk, for which I am tremendously grateful (this is a wonderful story for another time). *The Weighting Room* was very well-received and audience members wanted to talk more about our findings and our topic. This was impactful to me because inspiring deeper thought and conversation was an overarching goal of the project! After final analyses, we presented our work in abstract form several times (CORD, SAEM, AAEM, RSEM and finally at the New York ACEP Scientific Assembly this summer) to further spread the word about our surprising findings.

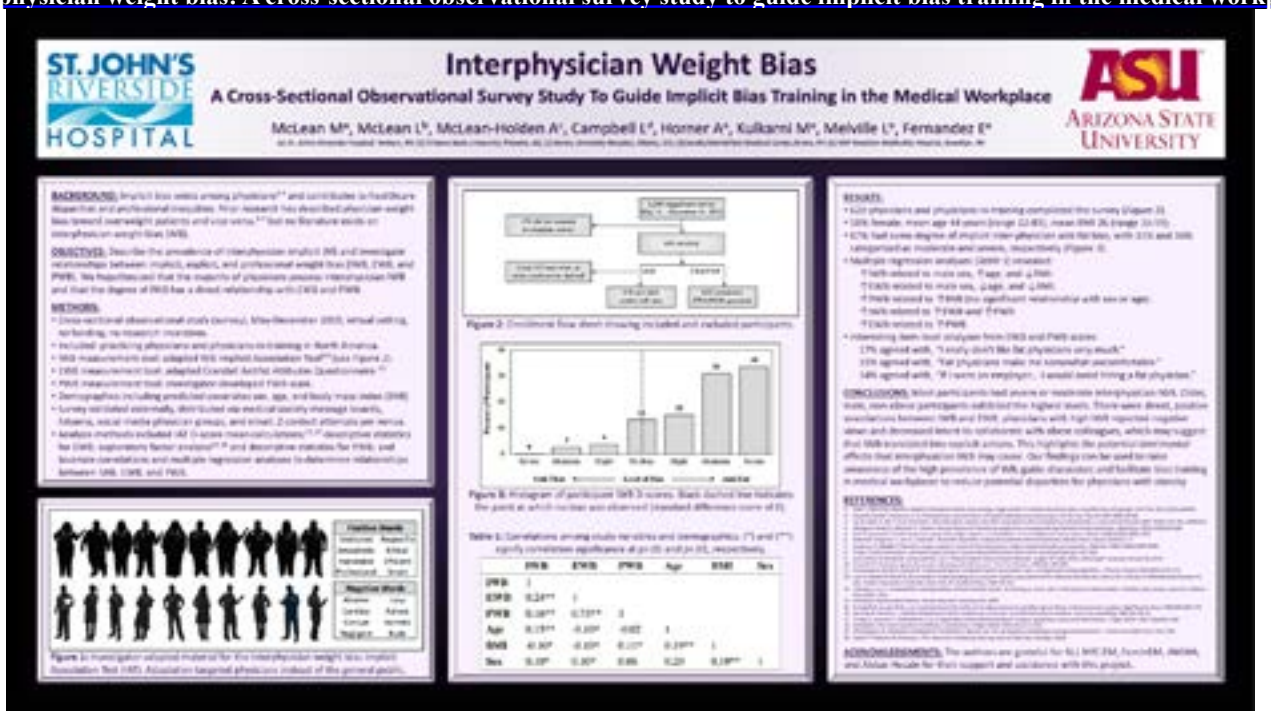
Writing the Manuscript

The first step for the manuscript was choosing our target journal (in our case, we discussed as a team and ultimately decided on Academic Emergency Medicine). Doing this early - before starting the writing process - avoided headaches for us later because journals require different writing formats, sections, and subsections. Not to mention that after making the big decision, we were able to customize our original manuscript writing to our target journal's specific themes and values and to their readership's focus. This may have improved our chance of acceptance and publication. In this vein, there *is* a bit of an art to choosing the best-fitting journal for a specific project. Being an avid reader helps. Authors can also browse each journal's website for their aims and scope. Online tools such as the Journal/Author Name Estimator may also offer ideas, although these recommendations are algorithm-based and should be taken with a grain of salt!

It was important for our team to break up the writing work as much as possible, although oftentimes those team members with specific skill sets (such as methods and analysis) are far better qualified to write a big chunk of this material. We assigned manuscript sections and specific tasks wherever possible, edited thoroughly for flow, submitted and spent a great deal of time on revisions which was tedious but drastically improved the quality of the paper. After incorporating all the guidance offered by Academic Emergency Medicine (for which we were very grateful), we were immeasurably proud of our final manuscript. I can still remember that incredible excited-jittery feeling from the day we received the acceptance email and the day we first saw the piece online – I wanted to shout it out to everyone I knew!

Conceiving an original project from my own deep-rooted passion and seeing it through to publication is the most fulfilling research I've done. It was intense work, there were obstacles along the way and oftentimes it was hard to see the light at the end of the tunnel. As a physician without additional research training at the time, building a team with different but complimentary areas of expertise was crucial. With the right team, we jumped over these hurdles and found immense success. The best part is that it has raised awareness about this near-ubiquitous bias and has prompted much conversation. This makes it all worth it. I'm in my early career, but I expect this original passion-driven project will be one of the most rewarding accomplishments in my life. I hope this story inspires you to translate your passion into a research project. Just remember that anyone can do it!

If you would like to see the final product of our research, here it is!
Interphysician weight bias: A cross-sectional observational survey study to guide implicit bias training in the medical workplace



ALBANY UPDATE

Reid, McNally & Savage

New York ACEP Legislative & Regulatory Representatives

The New York State Legislature finished the 2021 Legislative Session in the early hours of Friday, June 11. New York ACEP and Reid, McNally & Savage worked throughout the year on a variety of legislative proposals impacting the practice of emergency medicine and patients. Two virtual lobby days were held, the one held March 9 focused on State Budget issues, and the one held May 11 covered non-fiscal issues.

This year New York ACEP was successful in:

- Defeating legislation to provide Nurse Practitioner Independent Practice.
- Defeating legislation to expand financial damages in a medical malpractice wrongful death action.
- Passage of a one-year extension of the Excess Medical Malpractice Insurance Program to provide an extra layer of protection for physicians.
- Defeating a State Budget proposal to make physicians responsible for 50% of Excess Medical Malpractice Insurance costs.
- Defeating a State Budget proposal to reduce physician due process rights in Office of Medical Professional Conduct proceedings.
- Defeating a State Budget proposal to reduce Medicaid reimbursement by 1% across the board for all providers.
- Defeating legislation to prohibit a physician or other provider with any financial or contractual relationship with a hospital from separately billing a patient for services provided at a hospital.
- Defeating numerous bills to mandate continuing medical education and coursework for physicians.

Other legislation of Interest to New York ACEP That Passed Both Houses

Repeal of COVID-19 Medical Liability Reforms (S5177 Biaggi/A3397 Kim, Chapter 96 of Laws of 2021)

Legislation was signed into law by Governor Cuomo April 6, 2021 to repeal Article 30-d of the Public Health law (Emergency or Disaster Treatment Protection Act) which provided immunity from criminal and civil liability for physicians, hospitals and other health care facilities treating or diagnosing confirmed or suspected cases of COVID-19 in patients.

Article 30-d had provided important but limited immunity to frontline health care workers. The liability protections applied only to harm or damages alleged to have been sustained as a result of treating or diagnosing suspected or confirmed COVID-19 patients. New York ACEP strongly opposed this legislation and worked closely with the Medical Society of the State of New York (MSSNY) and other physician specialty societies to try to defeat it.

Cannabis Regulation and Taxation Act (S854-A Krueger/A1248-A Peoples-Stokes Chapter 92 of the Laws of 2021)

Overview

Legislation was signed into law March 31, 2021 to legalize adult-use cannabis and create a consolidated Office of Cannabis Management within the State Liquor Authority responsible for governing and regulating medical cannabis, adult-use cannabis and cannabinoid hemp.

The new law sets an effective date of the tax structure for retail sale of adult-use cannabis for April 1, 2022, however, it is anticipated that implementation of the legislation may take 18 months to two years at which point retail sales may commence. Medical patients may begin growing cannabis six months following the bill's enactment and adults over the age of 21 may begin 18 months following the first date of retail sale in the State.

There will be a 13% tax on adult-use retail cannabis sales, with 9% going back to the State and 4% split between cities and counties. Once mature, tax revenue from retail sales is estimated to bring in $350 million annually to New York. All cannabis taxes would be directed to the "New York State Cannabis Revenue Fund." The revenue will cover the costs to administer the program. 40% of the remaining money will go to a community grants reinvestment fund, 40% to education and 20% to drug treatment and public education programs.

The law includes a Municipality Opt-Out provision which allows cities, towns and villages to opt-out of allowing adult use cannabis retail dispensaries or on-site consumption licensees by passing a local law by December 31, 2021 or nine months after the effective date of this legislation.

Recertification of Emergency Medical Technicians (S7062 Rivera/A7670 Sayegh, Chapter 233 of Laws of 2021)

Legislation was signed into law to make permanent the pilot program allowing an individual that is an EMT, Advanced EMT, EMT-Critical Care, or Paramedic to renew their certification without taking a traditional recertification course and the State exam.

First Responders in Communication (S7121 /Brooks/A7366-A Abbate)

This bill defines "First responder in communication" as any individual who is a: public safety dispatcher; emergency responder; emergency operator; emergency complaint operator and emergency services dispatcher who meets the minimum requirements established by a local government; department or agency including but not limited to, police, sheriff's and fire departments; and rescue and emergency services departments. To the extent practicable, employers of a first responder in communications must provide training. The bill has not yet been acted on by the Governor.

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Your Voice Matters - Advocate for Your Career and Your Patients

New York ACEP provides several critical functions to its membership. This work is largely accomplished by our various committees in the areas of education, emergency medical services, government affairs, professional development, practice management, emergency medicine residents and research.

Over the last decade, I have personally engaged with these committees and currently as President-elect, I have the opportunity to chair the Government Affairs Committee. The primary goals of this committee are to promote New York ACEP issues to legislators and to communicate legislative and regulatory issues to the New York ACEP community. As Chair, I try to understand the barriers to engagement in our advocacy efforts and how to engage you, our membership in this vital function.

Physicians are taught to serve both individual patients and the community; still, it seems the potential for advocacy is underrepresented. At the patient level, I believe emergency physicians advocate for their patients on every shift. But I also believe outside of that intimate relationship, as a group we can do more. Perhaps this is because physicians are trained to be objective and apolitical. Perhaps it is a sense that physicians should stay in their lane; just take care of their patients and leave the politics to the politicians. Likely, this rationale results in hesitancy to join the realm of advocacy. However, physicians are uniquely qualified to advocate for their patients and our medical specialties. We understand the vulnerabilities in the system that affect patients and physicians alike. Joining medical organizations like ACEP/New York ACEP can align physicians with groups who can advocate on their behalf. But to that I say, you are ACEP, you are New York ACEP and we need to hear your voice.

Medical societies agree and recognize physician advocacy as a critical part of medical professionalism. The American Medical Association, in its declaration of professional responsibilities, said physicians must "advocate for the social, economic, educational, and political changes that ameliorate suffering and contribute to human well-being."[1] The American Board of Internal Medicine called for a "commitment to the promotion of public health and preventive medicine, as well as public advocacy on the part of each physician."[2] The American College of Surgeons are dedicated to advocacy and stated, "Because surgeons believe responsibility to our patients extends beyond the operating room, advocacy and health policy continues to remain a top priority of the American College of Surgeons".[3] ACEP's policy statement states, "Physicians should be free to exercise their personal and professional judgment in voting, speaking, and advocating on any matter in regard to patient care interests, the profession, health care in the community, and the independent exercise of medical judgment."[4]

New York ACEP partners with other medical associations and societies, as well as our parent organization, and we need to partner with you. Your voice matters as it is part of our collective voice. New York ACEP's advocacy efforts focus on the issues impacting emergency patients and physicians and our partners in the delivery of medical care in New York State. Over the last decade, I have met with many members of the New York State Assembly and Senate and from these conversations I have learned non-physicians, non-healthcare providers, often do not understand the implications of their well-intended proposed legislation. I have found our opinion matters. When we show up, we find opportunities to close knowledge gaps that left unaddressed could result in dangerous legislation. I have seen this time and again, our voice being heard and valued. I have seen our unique knowledge base impact sensitive language that if unedited would have allowed policies to pass that surely would have had negative impact on our patients and you, the physicians who serve them. To say it conservatively, our advocacy efforts have great success.

I hope at this point you are asking yourself, how can I be involved? How can I advocate for emergency physicians and patients in New York State? Stay up to date on the issues here in our quarterly newsletter or check out our website: https://www.nyacep.org/advocacy/legislation. To take action, New York ACEP makes that easy for you. Check your "Action Alert" e-mails and click through to contact your local representatives. This process takes seconds! And better, pick up the phone and call your district leaders. Other ways, join us for our New York ACEP Advocacy Day held annually in the spring. It is a great way to get to know the issues, your local leaders and network with your fellow New York ACEP members. Know if you have questions about proposed legislation, reach out to us. We are here to help.

So, can we count on you? Who else is better to determine the future of emergency medical care in New York State.

Resources

- New York ACEP Advocacy: https://www.nyacep.org
- ACEP State Advocacy overview: https://www.acep.org/state-advocacy/state-advocacy-overview/
- ACEP Federal Advocacy overview: https://www.acep.org/federal-advocacy/federal-advocacy-overview/

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3. ACS Surgeons Voice Advocacy Guide; https://www.facs.org/media/files/advocacy/surgeons-voice/surgeonsvoice_advocacy_guide.ashx
4. Supporting Political Advocacy in the Emergency Department; Ann Emerg Med. 2019 Nov;74(5):e111

Giving An Acid to Your Bleeding Patientt
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Given its clear efficient role in preventing death in severe trauma patients, how else can we use TXA?

The main cause of maternal death globally is post-partum hemorrhage (PPH). The WOMAN trial looked at whether early TXA therapy reduces death and hysterectomy rates in individuals with PPH when compared with placebo.[3] This trial found that there did not seem to be a decrease in all-cause mortality when TXA was applied to women with PPH. However, TXA did reduce the risk of death from bleeding in patients with PPH by a small but considerable amount without increasing the risk of thromboembolic events. Hence, it is appropriate to think about utilizing TXA, a low-cost medicine, to treat this life-threatening condition. In fact, ACOG now includes the use of TXA in their recommendation for the management of PPH. Additionally, individual patient-level data of two randomized trials with over 1,000 patients each that tested the efficacy of antifibrinolytics in acute severe bleeding was examined in a meta-analysis of the CRASH-2 and WOMAN trials.[4] This investigation concluded that giving TXA as soon as bleeding is suspected in patients with major bleeding from trauma or post-partum hemorrhage lowers bleeding-related death. The majority of deaths from hemorrhage in trauma and postpartum occur within hours of the commencement of bleeding. TXA's benefit in terms of mortality appears to wane over time and it is no longer effective three hours after a severe hemorrhage occurs. Accordingly, treatment which is 1 g bolus given over 10 minutes, followed by 1 g over eight hours, should be reserved if the injury occurred within three hours of hospital presentation. This research outcome is similar to the findings and subsequent recommendations from the CRASH-2 trial.

On the topic of gastrointestinal bleeding (GIB), the HALT-IT trial was published last year studying whether tranexamic acid reduced five-day death due to bleeding in adult patients with acute gastrointestinal hemorrhage compared to placebo. The study, which enrolled 12,000 patients, found that administering TXA had no effect on five-day mortality in patients with acute GIB and there is actually a minor risk of harm from increased venous thromboembolism and seizures.[6] Accordingly, TXA is not advised for patients with acute GIB at this time. It should be noted that the HALT-IT trial gave TXA as soon as possible for its patients, but time from onset to administration was varied. Only 16% of subjects (both control and intervention) had TXA administration within three hours of onset of GIB. The control and intervention groups were similar in time to administration: 26-27% got TXA between three-eight hours and 57-58% got TXA after eight hours of GIB onset.

A common use for TXA in the emergency room occurs during cases involving epistaxis, a chief complaint drawing complaint with over 450,000 visits per year and a lifetime incidence of 60%.[7,8] Common current treatments for anterior bleeds includes holding pressure, use of local vasoconstrictors, topical application of silver nitrate and, if all else fails, placement of the dreaded and extremely uncomfortable anterior nasal pack. The NoPAC trial, currently the highest quality trial to date on epistaxis, concluded topical tranexamic acid is no more effective than placebo at controlling bleeding and lowering the requirement for anterior nasal packing in patients presenting to an ED with atraumatic epistaxis.[9] Accordingly, any evidence supporting the use of TXA during epistaxis remains anecdotal. A Cochrane Review found that TXA in addition to usual care reduces the risk of rebleeding in the low-quality evidence studies available, but that TXA is superior to other topical agents in better quality studies.

TXA has recently been studied as a primary medical treatment for hemoptysis. Of note, a randomized controlled trial comparing the effectiveness of nebulized TXA (500mg/5mL TID) vs. placebo (5mL of 0.9 percent normal saline) for the treatment of non-massive hemoptysis was conducted and concluded that in patients with non-massive hemoptysis, TXA inhalations can be administered safely and successfully to stop bleeding.[10] The study found the benefits of inhaled TXA versus placebo in patients with non-massive hemoptysis (200mL/24hrs) included faster hemoptysis resolution, lower hospital LOS and less invasive procedures. Accordingly, TXA appears to be well tolerated and beneficial in patients with non-massive hemoptysis. While it is certainly not a definitive therapy, it can be administered while the patient is awaiting further intervention.

Plasmin, XIIa, and kallekrine are all involved in Bradykinin angioedema. These proteins interact enzymatically, resulting in inflammatory kallekrine activity, which then goes on to produce edema by causing the production of bradykinin. TXA should theoretically be beneficial in any form of bradykinin-mediated angioedema as it inhibits the conversion of plasminogen into plasmin, a crucial step involved in amplification of kallekrine activation. Accordingly, TXA has been used for hereditary angioedema for decades. However, existing studies, while limited, show no role for TXA in the management of acute angioedema.

In summary...

- Trauma and severe bleeding: give TXA within three hours to reduce need for transfusion and mortality
- Postpartum hemorrhage: give TXA within three hours to reduce need for transfusion and mortality
- Acute GIB: TXA may not have an effect based on one trial where almost 85% of subjects were dosed after the three hour window
- Epistaxis: probably a reduction in the risk of rebleeding with either oral or topical TXA in addition to usual care based on available literature
- Hemoptysis: nebulized TXA is well tolerated and beneficial
- Angioedema: has basic science benefit with limited clinical research to support but anecdotally used without obvious documentation of harm

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EDUCATION

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Bedside Teaching: Losing the Bedside

Historically, the primary tool for medical education was the bedside. I have vivid memories of rounds at Grady Memorial Hospital as a medical student. Our attending would herd her horde of white coats, in every length and state of pressing (often in inverse correlation), through echoing hallways. This ritual dates back to the beginnings of medical education and, for much of the last century, has remained unchanged.

In the 1960s, this style of teaching was estimated to represent as much as 75% of all clinical training.[1] However, even before we were hit with a pandemic, the tenets of bedside teaching had started evolving - increased reliance on testing for diagnosis, shortened admission times and concern for being a burden to patients has all driven down the time learners are spending at the bedside.[1] The number has gone from 75% in the 1960s to an estimated 10-19% of all patient encounters.[2]

Now, "post" pandemic, we have to re-evaluate the safety of the bedside - both for our learners and our patients. Two previous installments "*A New Era of Bedside Teaching for the Resident Learner*" and "*Counterpoint to Bedside Teaching: The Evolution of Medical Education*" have looked at this issue. In the former, Dr. Dimitry Danovich made an argument for grounding ourselves in educational theory. In the latter, Dr. Sophia Lin discussed how medical education is evolving and replacing the bedside model with new alternatives such as simulation, FOAM, gamification and virtual reality.

As a former simulation fellow and current simulation faculty, I have a bias. I think simulation is a particularly powerful educational tool. By using concrete examples from my own simulation experience, I want to propose a framework for how simulation can be used to teach lessons that used to be taught at the bedside (see table 2). However, the larger point I want to make is this: bedside teaching is evolving but continues to remain an important part of our residents' education.

We all have a patient that sticks with us. For me, it was my first HIV diagnosis. I was a MS4 and he was a 22 year old immigrant. He came to the ED for weakness and vision loss and was subsequently found to have CNS lymphoma, a CD4 count of 15, and a new diagnosis of AIDS. I will never forget him. Bedside rounds were formative in my understanding of how to speak to him about his diagnosis and how to interpret my physical exam findings. These moments should be captured for our learners, but we should also acknowledge the proportion of learning that comes from these moments is decreasing. As Dr. Danovich discussed, these are important parts of our learning. However, as Dr. Lin illustrated, effective educators must augment the bedside experience with tools like simulation, virtual reality and FOAM. As these moments for bedside education are limited we must maximize their utility. *See the table below for a few resources on how to maximize your effectiveness on shift - both at and away from the bedside.*

"I want to be a more effective bedside teacher"	**"How can I more effectively teach on shift away from the bedside?"**
A nice summary of ways to tighten up your bedside teaching rounds: [3] https://cordemblog.com/2015/10/09/is-bedside-teaching-dead/	Try the one minute preceptor: [4] https://www.aliem.com/pv-card-one-minute-preceptor-nerds-mnemonic/
SUMMARY • **Prepare:** Plan teaching sessions before shift. • **Know your team:** Understand education level and expectations for your learners. • **Timing:** Try bringing learners along when you are spending extra time with patients (i.e. shared decision making, goals of care conversations) • **Start low... go slow:** focus your session (don't go overboard). • **Be a role model.** Emulate the behavior you want your residents to learn. • **Socratic method.** Pimping can be humiliating and detrimental to learners, be careful with this tool. • **Closing.** Summarize learning points - helps to make sure your learners follow the lesson.	SUMMARY **Use the NERDS mnemonic** • **N: Nickel Down.** Have the learner commit to an aspect of the case. • **E: Evidence.** Explore your learners frame and probe to understand rationale. • **R: Rules.** Teach general rules related to the encounter. • **D: Do.** Reinforce what was done right. • **S: Stop.** Always correct mistakes and identify ways to improve.

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But what if I want to find ways to replace the bedside? Can simulation help?

I am so glad you asked…

Simulation at its core is a game of pretend. But the key to the game is maximizing the reality of certain aspects of the case that are relevant to re-creating the learner's frame of reference for decision making in the clinical setting. If my learning objective for a case is to help my residents identify strategies for communication during a hectic pediatric trauma resuscitation, then the key to the scenario is to find a way to recreate the "hectic." This may be a yelling family member, an interrupting consultant or both, depending on the skills of my learners and the resources available. However, if the objective is to develop an approach to managing massive hemoptysis, then I need to build a case around the key clinical decisions that occur. If my learners attempt to go straight to surgery, maybe the OR is "not available," forcing them to consider alternatives. If they give an appropriate medication like nebulized TXA, maybe there is transient improvement prior to a decompensation to make sure that the case feeds back positively to the learner for appropriate interventions.

These ideas of designing a simulation based on a specific objective are truly the key to utilizing simulation effectively.

So give me some examples . . .

Problem	Learning objective	Simulation Methodology Applied	Why?
We keep having central line complications! What can I do?	Demonstrate appropriate sterile technique	Task Trainer	If the issue is the process rather than identifying the appropriate patient, then the decision to place a central line isn't in question, rather appropriate technique is the issue. So focus your education on technique. This may be a good place to incorporate evaluation or checklist practice.
My residents may one day have to deal with an active shooter. How do I teach them how to make the moral and ethical decision to protect themselves?	Develop an understanding of the run, hide, fight algorithm outlined by the Hartford consensus.	High fidelity team based simulation using a combination of faculty and mannikins as patients.	Here the key issue is creating a safe environment for learners to question how to balance personal safety and duty to patients. One option is a team based simulation - the gun shots sound fake and come from a speaker but embedded faculty are playing the role of "patients" and can encourage debate, question decisions and create noise during the simulation to foster debate and personal decision making.
My PGY2s are all ACLS certified but still don't know how to run a code!	Demonstrate how to execute ACLS protocols.	Virtual Reality	Virtual reality is a specifically powerful tool for recreating scenarios. In this case, each resident can run through the same ACLS scenario as many times as needed in order to practice and ultimately effectively demonstrate ACLS protocols.
I am worried that my residents need more practice running traumas.	Develop teamwork and communication skills for trauma resuscitation	In situ mannikin based trauma simulation	Using your own resuscitation bay for in situ sim with a mannikin can be super powerful as it recreates the actual clinical setting. A thoughtful debrief after the simulation should focus on communication strategies - what worked, what could be improved on, and how to connect those lessons with real resuscitations.

The past year has brought us a lot of change - change for our patients, our practice and also change in how we educate. It challenges us as educators to be thoughtful and purposeful about the tools we use for education, with the bedside and simulation only being two of them. In this new post-COVID era, we must consider the risks to our patients and our learners when we utilize the bedside for teaching. The capabilities of simulation as a tool for education are developing rapidly with technology as mannikins become more realistic and virtual reality joins our cadre of equipment. Here I hope to spark a seed for this thoughtfulness and, if I am lucky, it will lead to some creative brainstorming sessions with your local simulation team. As we continue to use these tools to further develop effective education we need to evaluate the impact of these changes as the path toward improvement is an iterative process.

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NEW YORK STATE OF MIND

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The Impact of a Mobile Phone Application for Retention of Bleeding Control Skills.

Dadario NB, Felipes RCS, Cooney JV, Stephenson KM, Shleiwet NH, Liang T, Jafri FN; Department of Emergency Medicine, White Plains Hospital, White Plains; J Surg Res; 2021 Jul 14;267:669-677.

BACKGROUND: The American College of Surgeons Bleeding Control Course (B-Con) empowers bystanders with hemorrhage control skills to manage prehospital emergencies, but demonstrates poor skill retention. The point of care use of a free Stop the Bleed mobile phone application on the retention of hemorrhage control skills from the B-Con Course was explored.

METHODS: Convenience sample of college students previously trained in B-Con were randomized into mobile application (MA) or control groups. The use of a mobile application during a simulated emergency scenario with tourniquet and situational awareness skills was assessed. Wound packing skill retention without intervention was also assessed. Survey data allowed for comparison of participant perceptions of skills with actual performances.

RESULTS: MA (n = 30) was superior to control (n = 32) in correct tourniquet application (62.5% versus 30.0%; P = 0.01) with longer placement times (163 sec versus 95 sec; P < 0.001) and in calling 911 (31.3% versus 3.3%, P = 0.004). Participants maintain inflated perceptions of their skills, but generally feel underprepared for a future bleeding emergency.

CONCLUSIONS: Mobile apps improve tourniquet and situational awareness skills and may serve as potential aids to improve bystander hemorrhage control skills in real-time, but require further prospective investigation into its use.

Predictors of First Pass Success Without Hypoxemia in Trauma Patients Requiring Emergent Rapid Sequence Intubation.

West JR, O'Keefe BP, Russell JT; Emergency Medicine, NYC Health + Hospitals / Lincoln, Bronx; Trauma Surg Acute Care Open; 2021 Jun 30;6(1):e000588.

OBJECTIVE: The predictors of first pass success (FPS) without hypoxemia among trauma patients requiring rapid sequence intubation (RSI) in the emergent setting are unknown.

METHODS: Retrospective study of adult trauma patients requiring RSI during a 5-year period comparing the trauma patients achieving FPS without hypoxemia to those who did not. The primary outcome was FPS without hypoxemia evaluated by multivariate logistic regression adjusting for the neuromuscular blocking agent used (succinylcholine or rocuronium), hypoxemia prior to RSI, Glasgow Coma Scale (GCS) scores, the presence of head or facial trauma, and intubating operator level of training.

RESULTS: 246 patients met our inclusion criteria. The overall FPS rate was 89%, and there was no statistical difference between those receiving either paralytic agent. 167 (69%) patients achieved FPS without hypoxemia. The two groups (those achieving FPS without hypoxemia and those who did not) had similar mean GCS, mean Injury Severity Scores, presence of head or facial trauma, the presence of penetrating trauma, intubating operator-level training, use of direct laryngoscopy, hypoxemia prior to RSI, heart rate per minute, mean systolic blood pressure, and respiratory rate. In the multivariate regression analysis, the use of succinylcholine and GCS score of 13-15 were found to have adjusted ORs of 2.1 (95% CI 1.2 to 3.8) and 2.0 (95% CI 1.0 to 3.3) for FPS without hypoxemia, respectively.

CONCLUSION: Trauma patients requiring emergency department RSI with high GCS score and those who received succinylcholine had higher odds of achieving FPS without hypoxemia, a patient safety goal requiring more study.

Developing a Measure of Overall Intensity of Injury Care: A Latent Class Analysis.

Zebrowski AM, Hsu JY, Holena DN, Wiebe DJ, Carr BG; Department of Emergency Medicine, Icahn School of Medicine at Mount Sinai, New York; J Trauma Acute Care Surg; 2021 Jul 2.

While injury is a leading cause of death and debility in older adults, the relationship between intensity of care and trauma remains unknown. The focus of this analysis is to measure the overall intensity of care delivered to injured older adults during hospitalization.

METHODS: We used Centers for Medicare and Medicaid Services Medicare fee-for-service claims data (2013-2014), to identify ED-based claims for moderate and severe blunt trauma in age-eligible beneficiaries. Medical procedures associated with care intensity were identified using a modified Delphi method. A latent class model was estimated using the identified procedures, ICU length of stay, demographics, and injury characteristics. Clinical phenotypes for each class were explored.

RESULTS: A total of 683,398 cases were classified as low intensity (73%), moderate (23%), and high intensity care (4%). Greater age and reduced injury severity were indicators of lower intensity, while males, non-whites, and non-fall mechanisms were more common with high intensity. Intubation/mechanical ventilation was an indicator of high intensity and often occurred with at least one other procedure or an extended ICU stay.

CONCLUSIONS: This work demonstrates that although heterogeneous, care for blunt trauma can be evaluated using a single novel measure.

Trauma Takeaways: Reception and Utilization of a Postsimulation Newsletter.

Patel KJ, Williamson K, LaMaina L, Bullaro F; Department of Pediatric Emergency Medicine, Cohen Children's Medical Center, New Hyde Park; J Trauma Nurs; 2021 Jul-Aug 01;28(4):265-278.

BACKGROUND: Simulation is incorporated into medical education to reinforce practical skills. Instructor methodologies allow for reflective practice through debriefing; however, this is limited to real-time audiences. Few studies have described education via supplemental materials.

OBJECTIVE: This educational initiative demonstrates the reception and use of a postsimulation newsletter for both participating and nonparticipating trauma team members.

METHODS: After each case, the Trauma Takeaways newsletter was distributed to all trauma team members at our Level I pediatric trauma center. The newsletter included a brief case summary, objectives, and debrief highlights regarding communication, medical management, and practical logistics. A survey

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was conducted to assess its utility six months after its introduction.

RESULTS: Of 69 interdisciplinary respondents, 46 reviewed the newsletter. The majority (69%) reported their trauma education is directly from simulation sessions. Thirty-nine percent of respondents found the newsletter most useful as a review when unable to attend, and 35% found it equally useful as compared with being an active participant. The majority of respondents found the newsletter either very helpful or extremely helpful.

CONCLUSIONS: Medical simulation cases traditionally capture a select audience during educational debriefing sessions. However, because the majority of our respondents receive their trauma education from simulation sessions, the need for supplementation is paramount. Our team members found the takeaways similarly useful both as a direct participant or as an indirect participant as a helpful reference for communication, management, and practical logistics in pediatric trauma care.

Early Intubation and Increased Coronavirus Disease 2019 Mortality: A Propensity Score-Matched Retrospective Cohort Study.

Parish AJ, West JR, Caputo ND, Janus TM, Yuan D, Zhang J, Singer DJ; Department of Emergency Medicine, Lincoln Medical and Mental Health Center, Bronx; Crit Care Explor; 2021 Jun 15;3(6):e0452.

OBJECTIVES: There has been controversy about the timing and indications for intubation and mechanical ventilation in novel coronavirus disease 2019. This study assessed the effect of early intubation and mechanical ventilation on all-cause, inhospital mortality for coronavirus disease 2019 patients.

DESIGN: Multicenter retrospective cohort study.

SETTING: Eleven municipal hospitals in New York City from March 1, 2020, to December 1, 2020.

PATIENTS: Adult patients who tested positive for coronavirus disease 2019 in the emergency department were subsequently admitted. Patients with do-not-intubate orders at admission were excluded.

INTERVENTIONS: Intubation within 48 hours of triage and intubation at any point during hospital stay.

MEASUREMENTS AND MAIN RESULTS: Data from 7,597 coronavirus disease 2019 patients were included; of these, 1,628 (21%) were intubated overall and 807 (11%) were intubated within 48 hours of triage. After controlling for available confounders, intubation rates for coronavirus disease 2019 patients varied significantly across hospitals and decreased steadily as the pandemic progressed. After nearest neighbor propensity score matching, intubation within 48 hours of triage was associated with higher all-cause mortality (hazard ratio, 1.30 [1.15-1.48]; $p < 0.0001$), as was intubation at any time point (hazard ratio, 1.62 [1.45-1.80]; $p < 0.0001$). Among intubated patients, intubation within 48 hours of triage was not significantly associated with differences in mortality (hazard ratio, 1.09 [0.94-1.26]; $p = 0.26$). These results remained robust to multiple sensitivity analyses.

CONCLUSIONS: Intubation within 48 hours of triage, as well as at any time point in the hospital course, was associated with increased mortality in coronavirus disease 2019 patients in this observational study.

Increased Emergency Department Hallway Length of Stay Is Associated With Development of Delirium.

van Loveren K, Singla A, Sinvani L, Calandrella C, Perera T, Brave M, Becker L, Li T; North Shore University Hospital, Department of Emergency Medicine, Manhasset; West J Emerg Med; 2021 Apr 9;22(3):726-735.

INTRODUCTION: Our study aimed to determine 1) the association between time spent in the emergency department (ED) hallway and the development of delirium and 2) the hospital location of delirium development.

METHODS: This single-center, retrospective chart review included patients 18+ years old admitted to the hospital after presenting, without baseline cognitive impairment, to the ED in 2018. We identified the delirium group by the following: key words describing delirium; orders for psychotropics, special observation, and restraints; or documented positive Confusion Assessment Method (CAM) screen. The Control group included patients not meeting delirium criteria. We used a multivariable logistic regression model, while adjusting for confounders, to assess the odds of delirium development associated with percentage of ED LOS spent in the hallway.

RESULTS: A total of 25,156 patients met inclusion criteria with 1920 (7.6%) meeting delirium criteria. Delirium group vs. control group patients spent a greater percentage of time in the ED hallway (median 50.5% vs 10.8%, P<0.001); had longer ED LOS (median 11.94 vs 8.12 hours, P<0.001); had more ED room transfers (median 5 vs 4, P<0.001); and had longer hospital LOS (median 5.0 vs 4.6 days, P<0.001). Patients more frequently developed delirium in the ED (77.5%) than on inpatient units (22.5%). The relative odds of a patient developing delirium increased by 3.31 times for each percent increase in ED hallway time (95% confidence interval, 2.85, 3.83).

CONCLUSION: Patients with delirium had more ED hallway exposure, longer ED LOS, and more ED room transfers. Understanding delirium in the ED has substantial implications for improving patient safety.

Performance of Emergency Heart Failure Mortality Risk Grade in the Emergency Department.

Garg N, Pekmezaris R, Stevens G, Becerra AZ, Kozikowski A, Patel V, Haddad G, Levy P, Kumar P, Becker L; Northwell Health, Southside Hospital, Department of Emergency Medicine, Bayshore; West J Emerg Med; 2021 Apr 8;22(3):672-677.

INTRODUCTION: The purpose of this study was to validate and assess the performance of the Emergency Heart Failure Mortality Risk Grade (EHMRG) to predict seven-day mortality in US patients presenting to the emergency department (ED) with acute congestive heart failure (CHF) exacerbation.

METHODS: We performed a retrospective chart review on patients presenting to the ED with acute CHF exacerbation between January 2014-January 2016 across eight EDs in New York. We identified patients using codes from the International Classification of Diseases, 9th and 10 Revisions, or who were diagnosed with CHF in the ED. Inclusion criteria were patients ≥ 18 years of age who presented to the ED for acute CHF. Exclusion criteria included the following: end-stage renal disease related heart failure; < 18 years of age; pregnancy; palliative care; renal failure; and "do not resuscitate" directive. The primary outcome was seven-day mortality. We used mixed-effects logistic regression models to estimate C-statistics and continuous net reclassification index for events and nonevents.

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RESULTS: We identified 3,320 ED visits associated with suspected CHF among 2,495 unique patients. Of the 3,320 ED visits, 94.7% patients were admitted to the hospital and 3.4% were discharged. The median age was 78.6 (interquartile range 68.01 - 86.76). There was an overall seven-day mortality of 2%, an inpatient mortality rate of 2.4%, and no mortality among the discharge group. Adding EHMRG to the risk prediction model improved the C-statistic (from 0.748 to 0.772) and led to a higher degree of reclassification for both events and nonevents.

CONCLUSION: The EHMRG can be used as a valuable and effective screening tool in the US while considering disposition decision for patients with acute CHF exacerbation. Emergency medical services transport and metolazone use is much higher in the US population as compared to the Canadian population. We observed minimal to no short-term mortality among discharged CHF patients from the ED.

SARS-CoV-2 Infection and Associated Rates of Diabetic Ketoacidosis in a New York City Emergency Department.

Ditkowsky J, Lieber AC, Leibner ES, Genes N; Icahn School of Medicine at Mount Sinai, Department of Emergency Medicine, New York City; West J Emerg Med; 2021 May 25;22(3):599-602.

INTRODUCTION: In early March 2020, coronavirus 2019 (COVID-19) spread rapidly in New York City. Shortly thereafter, in response to the shelter-in-place orders and concern for infection, emergency department (ED) volumes decreased. While a connection between severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and hyperglycemia/insulin deficiency is well described, its direct relation to diabetic ketoacidosis (DKA) is not. In this study we describe trends in ED volume and admitted patient diagnoses of DKA among five of our health system's EDs, as they relate to peak SARS-CoV-2 activity in New York City.

METHODS: For the five EDs in our hospital system, deidentified visit data extracted for routine quality review was made available for analysis. We looked at total visits and select visit diagnoses related to DKA, across the months of March, April and May 2019, and compared those counts to the same period in 2020.

RESULTS: A total of 93,218 visits were recorded across our five EDs from March 1-May 31, 2019. During that period there were 106 diagnoses of DKA made in the EDs (0.114% of visits). Across the same period in 2020 there were 59,009 visits, and 214 diagnoses of DKA (0.363% of visits).

CONCLUSION: Despite a decrease in ED volume of 26.9% across our system during this time period, net cases of DKA diagnoses rose drastically by 70.1% compared to the prior year.

Utility of an Emergency Department Clinical Protocol for Early Identification of Coronavirus Infection.

Bonadio W, Jackson K, Gottlieb L, Legome E; Mount Sinai Medical Center, Department of Emergency Medicine, New York City; West J Emerg Med; 2021 Apr 5;22(3):587-591.

INTRODUCTION: We assessed the utility of an emergency department (ED) protocol using clinical parameters to rapidly distinguish likelihood of novel coronavirus 2019 (COVID-19) infection; the applicability aimed to stratify infectious-risk pre-polymerase chain reaction (PCR) test results and accurately guide early patient cohorting decisions.

METHODS: We performed this prospective study over a two-month period during the initial surge of the 2020 COVID-19 pandemic in a busy urban ED of patients presenting with respiratory symptoms who were admitted for in-patient care. Per protocol, each patient received assessment consisting of five clinical parameters: presence of fever; hypoxia; cough; shortness of breath/dyspnea; and performance of a chest radiograph to assess for bilateral pulmonary infiltrates. All patients received nasopharyngeal COVID-19 PCR testing.

RESULTS: Of 283 patients studied, 221 (78%) were PCR+ and 62 (22%) PCR-. Chest radiograph revealed bilateral pulmonary infiltrates in 85%, which was significantly more common in PCR+ (94%) vs PCR- (52%) patients ($P < 0.0001$). The rate of manifesting all five positive clinical parameters was significantly greater in PCR+ (63%) vs PCR- (6.5%) patients ($P < 0.0001$). For PCR+ outcome, the presence of all five positive clinical parameters had a specificity of 94%, positive predictive value of 98%, and positive likelihood ratio of 10.

CONCLUSIONS: Using an ED protocol to rapidly assess five clinical parameters accurately distinguishes likelihood of COVID-19 infection prior to PCR test results, and can be used to augment early patient cohorting decisions.

The Power of an Active Shooter Simulation: Changing Ethical Beliefs.

Janairo MP, Cardell AM, Lamberta M, Elahi N, Aghera A; State University of New York Downstate Medical Center, Department of Emergency Medicine, Brooklyn; West J Emerg Med; 2021 May 21;22(3):510-517.

INTRODUCTION: During a hospital-based active shooter (AS) event, clinicians may be forced to choose between saving themselves or their patients. The Hartford Consensus survey of clinicians and the public demonstrated mixed feelings on the role of doctors and nurses in these situations. Our objective was to evaluate the effect of simulation on ethical dilemmas during a hospital-based AS simulation. The objective was to determine whether a hospital-based AS event simulation and debrief would impact the ethical beliefs of emergency physicians relating to personal duty and risk.

METHODS: Forty-eight emergency physicians and physicians-in-training participated in this cohort study based in an urban academic hospital. Simulation scenarios presented ethical dilemmas for participants (eg, they decided between running a code or hiding from a shooter). Surveys based upon the Hartford Consensus were completed before and after the simulation. Questions focused on preparedness and ethical duties of physicians to their patients during an AS incident. We evaluated differences using a chi-squared test.

RESULTS: Preparedness for an AS event significantly improved after the simulation ($P = 0.0001$). Pre-simulation, 56% of participants felt that doctors/nurses have a special duty like police to protect patients who cannot hide/run, and 20% reported that a provider should accept a very high/high level of personal risk to protect patients who cannot hide/run. This was similar to the findings of the Hartford Consensus. Interestingly, post-simulation, percentages decreased to 25% ($P = 0.008$) and 5% ($P = 0.041$), respectively.

CONCLUSION: Simulation training influenced ethical beliefs relating to the duty of emergency physicians during a hospital-based AS incident. In addition to traditional learning objectives, ethics should be another important design consideration for planning future simulations in this domain.

Ethical Issues in the Access to Emergency Care for Undocumented Immigrants.

Brenner JM, Blutinger E, Ricke B, Vearrier L, Kluesner NH, Moskop JC; Department of Emergency Medicine SUNY-Upstate Medical University, Syracuse; J Am Coll Emerg Physicians Open; 2021 May 29;2(3):e12461.

Patients who are undocumented immigrants (UIs) frequently present to emergency departments in the United States, especially in communities with large immigrant populations. Emergency physicians confront important ethical issues when providing care for these patients. This article examines those ethical issues and recommends best practices in emergency care for UIs. After a brief introduction and description of the UI population, the article proposes central principles of emergency medical ethics as a framework for emergency physician decisions and actions. It then considers the role of law and public policy in health care for UIs, including the Emergency Medical Treatment and Labor Act, the Patient Protection and Affordable Care Act, and current practices of the US Immigration and Customs Enforcement agency. The article concludes with discussion of the scope of emergency physician practice and with recommendations regarding best practices in ED care for UIs.

Emergency Medical Services Communication Barriers and the Deaf American Sign Language User.

Rotoli JM, Hancock S, Park C, Demers-Mcletchie S, Panko TL, Halle T, Wills J, Scarpino J, Merrill J, Cushman J, Jones C; Department of Emergency Medicine, University of Rochester, Rochester; Prehosp Emerg Care; 2021 Jun 21:1-9.

OBJECTIVE: We sought to identify current Emergency Medical Services (EMS) practitioner comfort levels and communication strategies when caring for the Deaf American Sign Language (ASL) user. Additionally, we created and evaluated the effect of an educational intervention and visual communication tool on EMS practitioner comfort levels and communication.

METHODS: This was a descriptive study assessing communication barriers at baseline and after the implementation of a novel educational intervention with cross-sectional surveys conducted at three time points (pre-, immediate-post, and three months post-intervention). Descriptive statistics characterized the study sample and we quantified responses from the baseline survey and both post-intervention surveys.

RESULTS: There were 148 EMS practitioners who responded to the baseline survey. The majority of participants (74%; 109/148) previously responded to a 9-1-1 call for a deaf patient and 24% (35/148) reported previous training regarding the deaf community. The majority felt that important details were lost during communication (83%; 90/109), reported that the deaf patient appeared frustrated during an encounter (72%; 78/109), and felt that communication limited patient care (67%; 73/109). When interacting with a deaf person, the most common communication strategies included written text (90%; 98/109), friend/family member (90%; 98/109), lip reading (55%; 60/109), and spoken English (50%; 55/109). Immediately after the training, most participants reported that the educational training expanded their knowledge of deaf culture (93%; 126/135), communication strategies to use (93%; 125/135), and common pitfalls to avoid (96%; 129/135) when caring for deaf patients. At three months, all participants (100%, 79/79) reported that the educational module was helpful. Some participants (19%, 15/79) also reported using the communication tool with other non-English speaking patients.

CONCLUSIONS: The majority of EMS practitioners reported difficulty communicating with deaf ASL users and acknowledged a sense of patient frustration. Nearly all participants felt the educational training was beneficial and clinically relevant; three months later, all participants found it to still be helpful. Additionally, the communication tool may be applicable to other populations that use English as a second language.

Changes in Alcohol-Related Hospital Visits During COVID-19 in New York City.

Schimmel J, Vargas-Torres C, Genes N, Probst MA, Manini AF; Department of Emergency Medicine, Icahn School of Medicine at Mount Sinai, New York; Addiction; 2021 May 31:10.

BACKGROUND AND AIMS: Increased alcohol consumption has been proposed as a potential consequence of the coronavirus disease 2019 (COVID-19) pandemic. There has been little scrutiny of alcohol use behaviors resulting in hospital visits, which is essential to guide pandemic public policy. We aimed to determine whether COVID-19 peak restrictions were associated with increased hospital visits for alcohol use or withdrawal. Secondary objectives were to describe differences based on age, sex and race, and to examine alcohol-related complication incidence.

DESIGN: Multi-center, retrospective, pre-post study.

SETTING: New York City health system with five participating hospitals.

PARTICIPANTS: Adult emergency department encounters for alcohol use, alcoholic gastritis or pancreatitis or hepatitis, alcohol withdrawal syndrome, withdrawal seizure or delirium tremens.

MEASUREMENTS: Age, sex, race, site and encounter diagnosis. Encounters were compared between 2019 and 2020 for 1 March to 31 May.

FINDINGS: There were 2,790 alcohol-related visits during the 2019 study period and 1,793 in 2020, with a decrease in total hospital visits. Of 4,583 alcohol-related visits, median age was 47 years, with 22.3% females. In 2020 there was an increase in percentage of visits for alcohol withdrawal [adjusted odds ratio (aOR) = 1.34, 95% confidence interval (CI) = 1.07-1.67] and withdrawal with complications (aOR = 1.40, 95% CI = 1.14-1.72), and a decline in percentage of hospital visits for alcohol use (aOR = 0.70, 95% CI = 0.59-0.85) and use with complications (aOR = 0.71, 95% CI = 0.58-0.88). It is unknown whether use visit changes mirror declines in other chief complaints. The age groups 18-29 and 60-69 years were associated with increased visits for use and decreased visits for withdrawal, as were non-white race groups. Sex was not associated with alcohol-related visit changes despite male predominance.

CONCLUSIONS: In New York City during the initial COVID-19 peak (1 March to 31 May 2020), hospital visits for alcohol withdrawal increased while those for alcohol use decreased.

Computed Tomography Angiography for Aero-Digestive Injuries in Penetrating Neck Trauma; a Systematic Review.

Paladino L, Baron BJ, Shan G, Sinert R; State University of New York Downstate Health Sciences University and NYC Health +Hospitals/Kings County, Department of Emergency Medicine; Acad Emerg Med; 2021 May 21.

OBJECTIVES: Management of hemodynamically stable patients with penetrating neck trauma (PNT) has evolved in recent years with

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Calendar

September 2021

8 Education Committee Conference Call, 2:45 pm
8 Professional Development Conference Call, 3:30 pm
9 Practice Management Conference Call, 1:00 pm
15 Government Affairs Conference Call, 11:00 am
15 Emergency Medicine Resident Committee Conference Call, 2:00 pm
15 Research Committee Conference Call, 3:00 pm
9 EMS Committee Conference Call, 2:30 pm
29 San Diego Zoo Virtual Tour, 6 pm

October 2021

5 Professional Development Lecture Series, 7:30 - 8:30 pm
8 Board of Directors Meeting, 11:00am - 3:00 pm
13 Education Committee Conference Call, 2:45 pm
13 Professional Development Conference Call, 3:30 pm
14 Practice Management Conference Call, 1:00 pm
20 Government Affairs Conference Call, 11:00 am
20 Emergency Medicine Resident Committee Conference Call, 2:00 pm
20 Research Committee Conference Call, 3:00 pm
21 EMS Committee Conference Call, 2:30 pm
23-24 ACEP Council Meeting, Boston Massachusetts
25-28 ACEP21, Boston Massachusetts

November 2021

10 Education Committee Conference Call, 2:45 pm
10 Professional Development Conference Call, 3:30 pm
11 Practice Management Conference Call, 1:00 pm
17 Government Affairs Conference Call, 11:00 am
17 Emergency Medicine Resident Committee Conference Call, 2:00 pm
17 Research Committee Conference Call, 3:00 pm
18 EMS Committee Conference Call, 2:30 pm
25-26 New York ACEP Office Closed

December 2021

8 Education Committee Conference Call, 2:45 pm
8 Professional Development Conference Call, 3:30 pm
9 Practice Management Conference Call, 1:00 pm
15 Government Affairs Conference Call, 11:00 am
15 Emergency Medicine Resident Committee Conference Call, 2:00 pm
15 Research Committee Conference Call, 3:00 pm
16 EMS Committee Conference Call, 2:30 pm
24-2 New York ACEP Office Closed

improvements in imaging technology. Computed Tomography Angiography (CTA) encompassing all zones of the neck has become part of the standard diagnostic algorithm for PNT patients who do not require immediate surgical intervention for vascular or aero-digestive injuries (ADI). Several studies have demonstrated favorable operating characteristics for CTA at excluding arterial injuries; however, consensus as to CTA's ability to detect ADI is lacking. We conducted a systematic review (PROSPERO registration number: CRD42019133509) to answer the question: Is CTA sufficient to rule-out ADI in hemodynamically stable PNT patients without hard signs?

METHODS: Investigators independently searched PubMed, EMBASE, and Web of Science from their inception to August 2020 for the search terms "penetrating neck injuries" and "CT scan". To be included, studies required sufficient data to construct a 2x2 table of CTA for ADI. The operating characteristics of CTA for detecting ADI were reported as sensitivity, specificity, and likelihood ratios with 95% confidence intervals (95% CI). Bias in our studies was quantified by QUADAS-2.

RESULTS: Our search identified 1,242 citations with seven studies with moderate to high risk of bias meeting our inclusion/exclusion criteria and encompassing 877 subjects with an ADI prevalence of 13.4%. CTA for ADI: Sensitivity (92%, 95% CI, 85%-97%) Specificity 88% (85%-90%), LR+ 12.2 (4.6-32), LR- 0.14 (0.05-0.37). Of the 26 identified esophageal injuries across our studies that were diagnosed by either swallow studies or surgical exploration, 5 (19%, 8.1%-38.3%) were initially missed by CTA.

CONCLUSION: CTA alone is not sufficient to exclude esophageal injuries in PNT. As delayed diagnosis is associated with increased morbidity, additional diagnostic interventions should be undertaken if there is remaining concern for esophageal injury.

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Nominations

New York ACEP created the Award to promote young physician leadership and to advance political action and advocacy through attendance at the ACEP Legislative Advocacy Conference, May 1-4, 2022 in Washington, DC.

Three awards up to $1,000 each will be provided for young physicians and residents to participate in leadership training at the ACEP Legislative Advocacy Conference in Washington DC May 1-4, 2022.

If you know a deserving resident or young physician, consider nominating them. Resident candidates must be in good standing and in an accredited residency program within New York State. Special consideration will be given to resident candidates planning to practice in New York State.

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Deadline: Nominations due by **November 15, 2021**