Lead or Follow, We Choose

David H. Newman, MD FACEP, Director of Clinical Research, Associate Professor Emergency Medicine, Department of Emergency Medicine, Mount Sinai School of Medicine

Emergency medicine is on the cusp of great things — or of obscurity.

While the future of medicine is unknowable, one thing is clear: the next ten years in U.S. health care will be focused on finding palatable, innovative methods of cost containment. For the past three decades, healthcare has been greedily sucking up an increasingly unsustainable share of the gross domestic product. We in healthcare have gorged ourselves. Looking for proof? It's all around you. Think about the major medical center you work in, or the one that you trained in. Its footprint (and its worth) has likely tripled, quadrupled, or more over the last two decades. See the new construction outside your window?

Now, think about whether or not this spending has achieved its intended goal. Did longevity gains skyrocket? Have we cured cancer? Brought diabetes to its knees? Conquered heart problems? In other words, has the investment paid off?

The answer is 'no.' Indeed, the undeniable nature of this answer led to the passage of health care reform after 40 years of failed attempts. Even the most hardened politicians realized that for most people and most major U.S. public health concerns (cancer, diabetes, obesity, longevity) strides have been few, if any. More importantly, they also realized that if health care spending stays on its current trajectory, this country will soon be unable to afford things like a military, highways or clean water.

The importance of this for emergency medicine is inestimable. As the one and only true safety net during these last forty years, emergency departments are now America's common denominator. We see the equivalent of more than a third of the country each year. We are the gateway for more than half of the country's hospital admissions. And we are the supplier of the overwhelming majority of acute care, an increasing percentage of all care.

Why is this important? Because it means that we, more than any other specialty, pull the levers of money. We have quietly, and to some degree unknowingly, become the wizards behind the curtain. Of course, it should not be so. In a functional, efficient health care system primary care, medical homes and hospital systems would be behind the curtains. But it is so.

What does this mean for our future? It means that there are two paths this country can take as we begin to reform the system to meet the dual needs of high quality care and cost containment. One path is to shunt power, resources, and infrastructure to the centers that should have been the wizards. The other path is to accept that our current safety net, the emergency department, is best prepared for the job.

Many of the services in question are ones we currently dominate: hospital admission, acute care, outpatient referrals for primary and specialty care. Others are less familiar but easily could, with investments in supportive infrastructure, become a part of the emergency department workflow: connections to primary care, access to home care assistance, referrals for nursing home care, entry to hospice, referral to PT/OT, utilization of observation care… the list is endless. With administrative, structural and personnel support, these services could be invoked and managed with a 'click' from the

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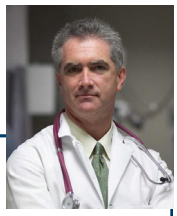
PRESIDENT'S message

Daniel G. Murphy, MD MBA FACEP
Chairman, Department of Emergency Medicine, Good Samaritan Hospital Medical Center; Chief of Emergency Medicine, Catholic Health System of Long Island



Make A Difference: Write that Council Resolution!

I have been a member of the New York ACEP councilor contingent for over a decade. I truly enjoy the Council and feel that it is a vital component of our College's governance and mission.

The bulk of our responsibility over the two days that precede the annual Scientific Assembly (this year in Seattle) is to consider and debate the resolutions that are submitted by the membership.

Many College members introduce new ideas and current issues to ACEP through Council resolutions. This may sound daunting to our newer members, but the good news is that it only takes two ACEP members to submit a resolution for Council consideration.

During this annual meeting, the Council considers many resolutions, ranging from College regulations to major policy initiatives thus directing fund allocation. This year there are 357 councillors representing chapters, sections, AACEM, CORD, EMRA, and SAEM.

The Council meeting is your opportunity to make an impact and influence the agenda for the coming years. If you have a hot topic that you believe the College should address, now is the time to start writing that resolution.

I'm Ready to Write My Resolution

Resolutions consist of a descriptive Title, a Whereas section, and finally, the Resolved section. The Council only considers the Resolved when it votes, and the Resolved is what the Board of Directors reviews to direct College resources. The Whereas section is the background, and explains the logic of your Resolved. Whereas statements should be short, focus on the facts, and include any available statistics. The Resolved statement should be direct and include recommended action, such as a new policy or action by the College.

There are two types of resolutions: general resolutions and bylaws resolutions. General resolutions require a majority vote for adoption and bylaws resolutions require a two-thirds vote. When writing bylaws resolutions, list the article number and section from the bylaws you wish to amend. The resolution should show the current bylaws language with additions identified in bold, green, underlined text and a red strike through for any deleted text. Refer to the ACEP web site article, "Guidelines for Writing Resolutions," for additional details about the process and tips on writing a resolution.

I Want to Submit My Resolution

Resolutions must be submitted by at least two members or by any component body represented in the Council. The national ACEP Board of Directors or an ACEP committee can also submit a resolution. The Board of Directors must review any resolution from an ACEP committee, and usually reviews all drafts at their June meeting. Bylaws resolutions are reviewed by the Bylaws Committee to ensure there are no conflicts with the current bylaws. Any suggestions for modifications are referred back to the authors of the resolution for consideration. Resolutions may be submitted by mail, fax, or email (preferred). Resolutions are due at least 90 days before the Council meeting. This year the deadline is July 15, 2013.

Debating the Resolution

Councillors receive the resolutions prior to the annual meeting along with background information and cost information developed by ACEP staff. Resolutions are assigned to reference committees for discussion at the Council meeting. You, as the author of your resolution, should attend the reference committee that discusses your resolution. Reference committees allow for open debate and participants often have questions that are best answered by the author. At the conclusion of the hearings, the reference committee summarizes the debate and makes a recommendation to the Council.

The Council considers the recommendations from the reference committees on the second day of the Council meeting. The reference committee presents each resolution providing a recommendation and summary of the debate to the Council. The Council debates each resolution and offers amendments as appropriate. Any ACEP member may attend the Council meeting, but only certified councillors are allowed to participate in the floor debate and vote. Non-councillors may address the Council at the discretion of the Speaker. Such requests must be submitted in writing to the Speaker before the debate. Include your name, organization affiliation, issue to address, and the rationale for speaking to the Council. Alternatively, you may ask your component body to designate you with an alternate councillor status and permission for Council floor access during debate.

The Council's options are: **Adopt** the resolution as written; **Adopt as Amended** by the Council; **Refer** to the Board, the Council Steering Committee, or the Bylaws Interpretation Committee; **Not Adopt** (defeat or reject) the resolution.

Hints from Successful Resolution Authors

- Present your resolution to your component body for sponsorship consideration prior to the submission deadline.

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ULTRASOUND
feature column

Penelope C. Lema, MD RDMS FACEP
Director, Emergency Ultrasound, Assistant Professor,
University of Rochester Medical Center

Ultrasound-Guided Femoral Nerve Block

Guest authors: Mark O. Tessaro, MDCM FRCPC FAAP – Pediatric Ultrasound Fellow;
Lawrence E. Haines, MD MPH FACEP RDMS – Fellowship Director;
Eitan Dickman, MD FACEP RDMS – Division Director; Division of Emergency Ultrasound,
Department of Emergency Medicine, Maimonides Medical Center, Brooklyn, NY

Advantages

- Compared to systemic opioids, peripheral nerve blocks can provide better analgesia without opioid-induced adverse effects (eg: nausea, respiratory depression, delirium).
- Compared to procedural sedation, a femoral nerve block can be much less resource-intensive.
- Ultrasound guidance increases the efficacy of femoral nerve blocks, while decreasing the amount of anesthetic required and decreasing the risks of systemic anesthetic toxicity.

Indications

- Hip fracture (especially in patients where opiates have the potential to cause adverse effects).
- Femoral shaft fractures (shown to be especially useful in pediatric patients in the emergency department).
- Patella and patellar tendon injuries.
- Anesthesia of the skin of the anterolateral thigh (requires a 3-in-1 femoral nerve block or fascia iliaca compartment block, both described below).

Technique

- The hip joint is innervated by three nerves: the femoral nerve, the obturator nerve and the sciatic nerve. Sciatic nerve block is rarely performed for hip fractures, as it requires moving the patient into the prone position.
- Ensure appropriate cardiorespiratory monitoring is in place, and that resuscitation equipment is available.
- Position the ultrasound machine so that eye movements are minimized when looking from the patient's hip to the sonographic image. This is usually facilitated by placing the machine on the opposite side of the bed.
- Place the probe parallel to the inguinal crease at the upper thigh, a few centimeters below the level of the inguinal ligament. *Figure 1*.
- Center the femoral vessels on the screen. The femoral nerve runs lateral to the femoral artery. It is 3-10 mm in diameter with a hyperechoic honeycomb appearance. *Figure 2*.
- Either an in-plane or out-of-plane approach can be used. For the in-plane approach (*Figure 1*), the needle is introduced lateral to the probe, and the entire length of the needle is visualized as it approaches the nerve. For the out-of-plane approach, the needle is introduced in line with the middle of the wide face of the probe, and only a cross-section of the needle is visualized.
- Attach a 20 or 22 gauge needle that is at least 3.5-inches long to a 20 or 30 mL syringe containing local anesthetic. A non-cutting needle designed specifically for nerve blocks is ideal, but if these are not available a spinal needle can be used.
- Local anesthetic choice varies – 0.5% bupivacaine, 0.75% ropivicaine, or 2% lidocaine with epinephrine are commonly used. Bupivacaine and ropivicaine provide a longer duration of analgesia. Lidocaine has a higher safety profile than bupivacaine in cases of intravascular injection, making it a common choice for novice users. Epinephrine-containing anesthetics can also provide an additional safety benefit: sudden tachycardia, hypertension, and

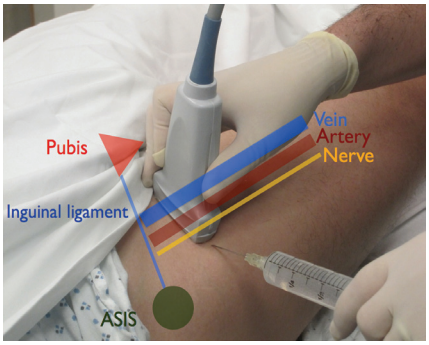

Figure 1. Anatomic relationship of femoral vein, artery and nerve. Needle is positioned for an in-plane approach.

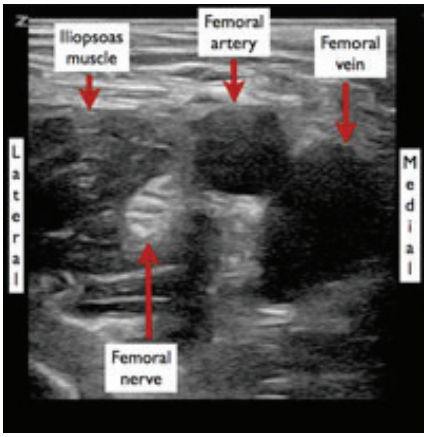

Figure 2. Transverse ultrasound view of femoral nerve and surrounding anatomy.

characteristic electrocardiographic changes can quickly alert providers in cases of inadvertent intravascular injection.

- After preparation with an alcohol swab, inject a wheal of local anesthetic at the planned point of needle insertion.
- Perform a sterile preparation and drape a wide area around the site of injection.
- Cover the head of the probe with ultrasound gel, then place the transducer and its cord within a sterile probe cover. Sterile ultrasound gel is then placed on the patient's skin.
- Introduce the needle bevel-up through the skin at the wheal of local anesthetic.
- For the in-plane technique, slowly advance the needle medially, keeping it in plane with the transducer for full needle visualization.
- When close to the target, aspirate to confirm the needle is not in a vessel.
- Slowly inject 3-5 mL of local anesthetic, confirming correct needle position by the appearance of anechoic fluid at the target site.
- Continue injecting aliquots to reach a total volume of 10-20 mL

Femoral Nerve Block

- Advance the needle to just next to the femoral nerve. The anesthetic should create a hypoechoic fluid collection surrounding the nerve. Make sure to inject around the nerve, not within the nerve.

3-in-1 Femoral Nerve Block

- Performed like the femoral nerve block, but a larger volume (~30mL) of anesthetic is used.
- After injection, manual pressure is applied to the thigh for 5 minutes just distal to the site of the block. This causes tracking of the anesthetic proximally up the fascia of the femoral nerve to the L2-4 roots of the lumbar plexus.
- Anesthesia at this area of the lumbar plexus affects the roots of two additional nerves that innervate the hip - the lateral cutaneous femoral nerve and the obturator nerve. Three nerves are thus blocked with one injection.
- There is debate over whether this technique holds any advantage over the traditional femoral block.

Fascia Iliaca Compartment Block

- One of the fasciae of the thigh, the fascia iliaca, lies deep to the femoral artery and vein but superficial to the nerves innervating the hip (the femoral nerve, obturator nerve, and lateral cutaneous nerve). Local anesthetic deposited deep to the fascia iliaca will thus block all of these nerves.
- It is not necessary to identify the femoral nerve using this approach, as anesthetic is placed under the plane of the fascia iliaca and distant from the nerves of interest. The needle is also relatively far from the femoral vein and femoral artery. This technique has proven easy to learn for emergency physicians.
- With the probe just inferior to the inguinal ligament and lateral to the femoral neurovascular bundle, the fascia lata and fascia iliaca will be seen as two hyperechoic lines. *Figure 3*

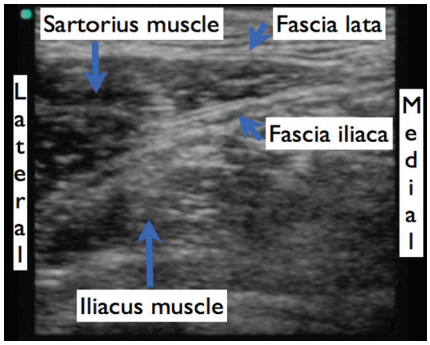

Figure 3. Transverse ultrasound view of the fascia iliaca.

- The needle is placed through the fascia lata and then the fascia iliaca, and 20-40 mL of anesthetic injected. An expanding anechoic collection just below the fascia iliaca confirms correct placement of anesthetic. *Figure 4*

Tips

- Depending on the anesthetic used, anesthesia takes 10-30 minutes for onset and lasts 2-15 hours.
- Small changes in probe angle can lead to the appearance and disappearance of the nerve image, creating a shimmering effect. This property is known as anisotropy and can help identify the nerve.
- Needle visualization is improved by a shallow angle of entry, decreased gain, injection of small test aliquots, and small needle movements.
- While ensuring that the needle avoids the femoral vessels, inject the anesthetic as close as possible to the nerve without injecting into the nerve itself.
- Intravascular injection should be suspected if spread of anesthetic is not visualized, or blood is aspirated. Signs of local anesthetic toxicity include perioral numbness, dizziness, seizure, and cardiac arrest. Resuscitation equipment should always be readily available, including lipid emulsion, as cardiac arrest from local anesthetic toxicity can be resistant to standard ACLS protocols.
- To avoid intraneural injection, keep injection pressures low and watch for enlargement of the nerve and spreading of its fascicles.
- A femoral nerve block may obscure symptoms of compartment syndrome of the thigh, so consult orthopedics prior to performing the block if the patient is at high risk (eg: high-energy trauma). Compartment syndrome of the lower leg should not be obscured as it is innervated via the sciatic nerve. ■

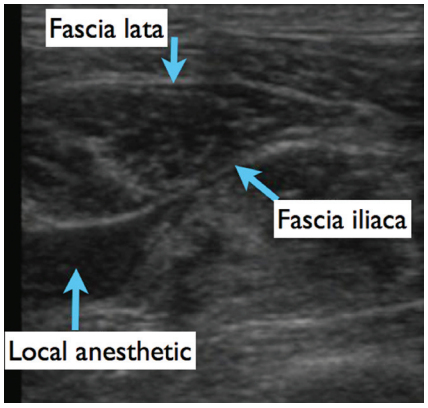

Figure 4. Transverse ultrasound view of an anechoic collection of local anesthetic just deep to the fascia iliaca.

Pimping and the Socratic Method

Suzanne Bentley, MD, Assistant Residency Director; Kaushal H. Shah, MD FACEP, Residency Director, Department of Emergency Medicine, Mount Sinai School of Medicine

Described as a frequently utilized teaching style in medical education, pimping involves providing educational material by targeting a trainee with consecutively more difficult questions, frequently in a public forum. In emergency medicine it frequently occurs when an attending or senior resident (person in power) poses a series of questions to a more junior level learner after they present a clinical case. Depending on how, where, or by whom it is conducted, pimping is perceived as a unique kind of questioning practice with a ride range of intentions from testing knowledge to imparting knowledge to preserving hierarchal roles to inflicting humiliation on junior trainees. [1,2]

On the surface, the foundation and goal of pimping appears to be Socratic instruction. The Socratic method of questioning has a strong history in education throughout the ages in many professional arenas including law and medical education and forms the basis of teaching and instruction through pimping. [2] Many likely shudder at the word "pimping" and immediately are humbled by vivid recall of memories evoked from their own training and the shame of incorrectly answering questions from a "pimp." Perhaps others can still recall a particularly provocative "pimp" who challenged them and forced them to improve and become proactive in their education, even if studying became motivated by fear of anticipated pimping. Regardless, the larger question remains: does pimping work in the medical arena?

The purpose of pimping is to increase retention of the key points being taught by being provocative and engaging the learner in a series of questions. While this method of instruction has been used since ancient history, little is know regarding its effectiveness or how best to utilize this method, if at all. Pimping first entered the medical venicular in 1628, credited to Harvey who stated "They know nothing of natural philosophy, these pin-heads. Drunkards, sloths, their bellies filled with Mead and Ale. O that I might see them pimped" while lamenting the lack of enthusiasm demonstrated by his pupils. Notes by Flexner from 1916 describe medical rounds with Osler during which he notes "Osler riddles house officers with questions… students call it 'pimping.' Delightful." [2]

One of the first academic publications on the topic of pimping by Brancati et al entitled "The Art of Pimping" (1989), reports concern over lack of junior faculty training in this important form of teaching. The authors report over 95% of medicine program directors surveyed in a 1985 poll "admitted that the pimping skills of their trainees were seriously inadequate." The paper then offers advice and a brief guide to junior attendings in the art of pimping including five categories in which they feel pimping questions may be grouped: 1) Arcane points of history: facts that are not taught in medical school and are irrelevant to patient care, e.g. who performed the first lumbar puncture? 2) Teleology and metaphysics: questions that lie outside the realm of conventional scientific inquiry, e.g. why are some organs paired? 3) Exceedingly broad questions, e.g. what is the differential diagnosis of a fever of unknown origin? 4) Eponyms, e.g. what is the name given to the dancing uvula of aortic regurgitation? 5) Technical points of personal laboratory research, e.g. how active are leukocyte-activated killer cells with or without interleukin 2 against sarcoma in the mouse model? [1]

Detsky revisits the "Art of Pimping" in 2009 in a commentary in *JAMA* and lists additional strategies on this "important skill" while expanding his scope to offer tips for those being "pimped." [2] A couple of our favorites: (1) The Politician Approach – avoiding the question and speaking eloquently about an associated, more familiar topic; (2) The Muffin – hold a large muffin in front of the mouth (closer if the topic/question is unfamiliar to the resident) and place in mouth if it seems the attending physician will call on you since you're unlikely to be asked to speak with a mouth full of food.

Pimping has continued throughout decades of medical education and has hopefully evolved from the days of pimping for attending glory and trainee humiliation into a new realm of pimping in a more positive way, in a less threatening environment, and far from the evident malignant pimping from the olden days that led to the frequent harsh associations and stigma with the term pimping. In its purest form, the Socratic method involves teaching by asking, rather than telling. We believe there needs to be a resurgence of this progressive pimping and, fortunately, there is new evidence to support its use.

Karpicke and Blunt published a study in 2011 lending evidence to support the socratic method of teaching and learning. The investigators examined the ways in which learners most effectively acquired new knowledge and demonstrated "retrieval practice" to be a more effective means of achieving learning over elaborative studying. Retrieval practice entails the learning method of taking tests on new material as part of the primary learning activity versus more traditional uses of test taking solely for assessment. Retrieval practice via questioning, testing or the colloquial term pimping, was shown to be an effective way for learners to increase knowledge. The findings from this study indicate that the act of participating in a testing scenario itself provides the most meaningful learning experience. Possible benefits of this method include real-time feedback as the questions identify areas of weakness and knowledge solidification, and perhaps, improved subsequent recall through the challenge of

continued on next page

The Socratic Method

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active question completion.[3] As summarized by Roedgier and Butler in 2011, "testing is much more than a measure of memory; taking a test, or retrieval practice, modifies memory."[4]

Pimping allows for learner engagement and encourages active retrieval practices through questioning with the added benefit of providing learners with real-time feedback.

In addition to pimping in the clinical environment, another example of retrieval practice and the Socratic method in medicine is data suggesting improved test scores based on trainee utilization of practicing with sample test questions versus studying via passive learning from assigned text readings only.[5]

Now that we have discussed what pimping is, the multiple forms of pimping in practice, and how prevalent the Socratic method, or pimping, is in medical education, is all pimping equal and effective? Various studies over the years and disciplines have actually been published addressing "student abuse" and "mistreatment" and provide examples of particularly aggressive forms of pimping that lead to significant trainee embarrassment, anxiety or humiliation.[6] While the investigators did not evaluate knowledge retention in these students who perceived their experience with pimping as abusive, are these abusive elements of pimping still necessary? Do these aspects of pimping foster our goals as educators in imparting knowledge and thinking skills? More modern teaching styles and culture shifts have hopefully removed many of the more malignant aspects of pimping, however teaching styles, like all aspects of medicine, are often quite variable.

One study of fourth year medical students evaluated student perception, knowledge of, and attitudes towards pimping. Students were asked several open-ended questions focused on pimping and qualitative review of the responses yielded generally positive results. All students noted the hierarchical nature of pimping and viewed it as a tool for attendings or residents to assess students' levels of knowledge. Some students did note previous malignant pimping and feeling humiliated by incessant questioning or questions inappropriate to their level of training, however, all students in the sample were positive about pimping overall and its effectiveness as a teaching tool. Additionally, investigators found that location within the clinical setting determines how students define and understand the motives for pimping.[7]

The Socratic method, pimping, and the concept of retrieval practice all occur through questioning. The most common and informal forms of pimping such as questioning trainees on differential diagnoses, treatment plans, and diagnostic strategies can and should be integrated into bedside teaching, morning report, and clinical rounds. This will foster a more positive focus on a learner-centered environment to encourage student thinking and skills application without the intimidation and stigma which arises from route recall of facts to reinforce attendings' knowledge dominance over that of their trainees. No studies have shown a correlation between learning and humiliation (or the more threatening hierarchical teaching tactics of the pimps of the olden days). The teaching-through-pimping strategies evoke retrieval practice and likely knowledge acquisition and retention without intimidation and fearful, tearful learners.

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TOXICOLOGY
feature column

David C. Lee, MD FACEP, Research Director,
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Is Meperidine a "Bad" Drug?

Synthesized in 1939, meperidine was initially used as an anticholinergic agent but was noted to have analgesic properties. It developed widespread use, often replacing morphine. It was mistakenly thought to have less adverse side effects, such as constipation and respiratory depression. Furthermore, it was easier to use than morphine. At that time, morphine was commercially available only as an injectable hypodermic tablet as compared to meperidine which was available as a tablet or solution (ampule). Murphree noted that its popularity was reflected by being the narcotic most frequently addicted to by physicians in that time. By 1987, Eisendrath reported that it was the most widely used opioid analgesic.

Meperidine has a toxic metabolite. Meperidine is hepatically metabolized primarily by carboxylesterase to an inactive metabolite, meperidinic acid. It can also be metabolized by CYP enzymes through N-demethylation to an active metabolite, normeperidine. Normeperidine is further metabolized to either normeperidinic acid or N-hydroxynormeperidine. These both undergo renal elimination. Any significant changes to hepatic or renal function can cause accumulation of normeperidine. This can cause CNS toxicity and classically manifest in seizures. Toxicity can also be manifested by anxiety, irritation, and anger. It is hypothesized that this effect is mediated by its interaction with serotonin or serotonin receptors, but it remains unclear.

Meperidine has erratic bioavailability. After an IM injection, meperidine can have two-fold variation in plasma levels within the same subject and a five-fold variation among differing subjects. After oral administration, there are much higher levels of normeperidine as compared to IV administration. This is due to an extensive first-pass metabolism.

Meperidine has less anxiolytic effects as compared to morphine. In adult studies, the analgesic effects are roughly equivalent in appropriate doses. In children, Vetter reported that pediatric patients on PCA devices, meperidine had worse pain scores than morphine. This may be due to CNS excitability of normeperidine.

Meperidine causes smooth muscle contraction. Prior reports noted that meperidine causes less Sphincter of Oddi spasm as compared to morphine. Typically, these studies used 75 mg of meperidine as compared to 10 mg morphine. However, when studied at equianalgesic doses (100 mg of meperidine as compared to 10 mg morphine), the results were similar.

Meperidine may still have specific indications. It may have use in endoscopic procedures where the anticholinergic effect may help drying out secretions. It has been reported to be more effective in reducing shivering during induction of hypothermia. However, the literature in these scenarios is sparse.

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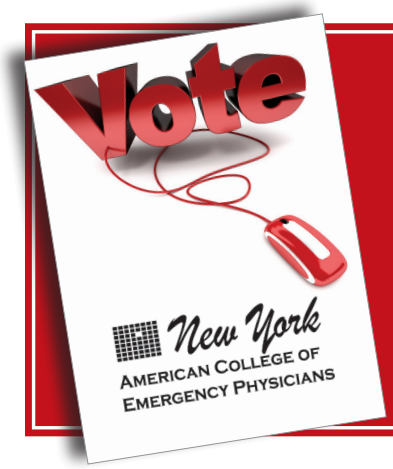

Online Board of Directors Election Coming Soon

This June, New York ACEP members will receive, via email, the **2013 Candidate Profile**. Through this proxy, New York ACEP members will elect four members to serve three-year terms on the New York ACEP Board of Directors. Members can cast their vote on board positions by their proxy no later than July 2, or members may cast a proxy in person at the New York ACEP Annual Meeting Tuesday, July 9 at 12:45 pm at The Sagamore Resort on Lake George in Bolton Landing.

Process Improvement for Dummies (and Physicians)

Keith E. Grams, MD FACEP, Chief of Emergency Services, Associate CMO for Patient Throughput and Flow, Rochester General Health System

Lean sigma. Six sigma. Rapid cycle assessment and evaluation. Plan, Do, Study, Act. It is likely that all of us have experienced an element of the latest vogue in process improvement. These experiences are often quite varied with a wide range of results. My first round with a formalized process improvement – I won't say which one – was an unforgettable endeavor. After two months of weekly hour-long meetings, we had only developed a complicated numbering scheme that would delineate our next steps. Without much to show after two months of work, it wasn't surprising that group members stopped coming and the project died. The end result was nothing but hours of wasted time spent in meetings. Despite best intentions, nothing was accomplished.

Working in the emergency department requires a team with amazing creativity and flexibility. These innate characteristics often support the minor changes that are required from a day-to-day basis. In the event that a required change is of a larger scale, it will require a more disciplined approach to develop solutions. Larger projects involve more complex systems and generally cross various disciplines. These grander schemes require significantly more planning and preparation.

Rather than follow one of the "word salad" processes noted above, I would like to suggest a simple approach that has been successful for us. This approach doesn't require any additional training and is easy to implement, though it does take some discipline. The entire approach is quite pragmatic and essentially boils down to common sense.

Definition, Goals and Metrics

The initial step is simply to define the issue, goals and metrics. Although seemingly basic, the issue needs clear definition in order to effectively delineate and communicate to the team. If you don't know where you're going, you won't know when you get there. Similarly, missing the fundamental goals will gamble with the ultimate results. Beginning with the goal in mind will also assist in keeping the process action focused. Definition of the key metrics is merely a continuation of goal setting. The metrics will serve as the "scoreboard" that will define your future success.

Team Selection

The second step is too often where the process falls short. The team's composition is crucial for group acceptance and forward progress. There is an art to the selection method. The group needs to be large enough to contain the key players, yet small enough to allow focused discussion and advancement. Ensure that you recruit some more progressive members to allow "outside the box" thinking. Depending on the project, you may also want to select some of the past opponents. This inclusion requires the proper amount of caution, as you must select the naysayer that possesses at least some degree of flexibility. If in doubt, it may be best not to include until later in the process.

Process Mapping

Once the project has been defined and the group has been selected, you will need to progress to the actual work stages. The various types of process improvement methods noted at the beginning have different methods to outline the problem. Having tried several of these in the past, I would offer that the simplest approach is best. We have experienced the greatest success by using basic process mapping, at times referred to as a "spaghetti map". This method simply outlines the various steps of the process sequentially and with all the potential possibilities. This will take quite some time and requires discipline, as the process steps must be dissected in painstaking detail. Using a group to generate the process map will promote buy-in and serve to elucidate the majority of variables that may be encountered.

Process Analysis

Having mapped the issue, the next piece is to objectively evaluate each step of the process. You need to analyze each process component with the goals in mind. This will also require a discipline approach, as it can be somewhat tedious. Most of our past projects have centered around two basic goals — patient centered care and maximal efficiency. Each process component was examined with two basic questions: "Does the component promote patient centric care?" and "Is the step value-added?" If the answer to either question was in the negative, then the step was deleted. The only allowable exception was if the step was critical to certain operations. In direct review of each process segment it is often surprising how many can be removed without affecting the end result. The culmination of effort is a much more streamlined process with the least waste possible.

During this part of the process you will recognize potential future barriers and other issues. It is important to consider that "perfection is the enemy of good." Some elements may not be perfect, but you will need to develop the best possible solution at the time. This will allow for forward progress and will also help prevent getting bogged down into details that may ultimately become moot.

Implementation

Implementing the new process is similarly a mixture of art and persistence. Depending upon the scope of the project, it will require differing time intervals before implementation. If the project covers multiple disciplines you will need to allow appropriate time to roll out to the various members. It may also require some specific planning to essentially "stack the deck"

with certain team members. If there is a significant change from standard operations, you will need players that are more open to change and possibly more efficient at baseline. It is most advantageous if you can select these specific team members for the first several weeks of implementation. Once the positive effects have been demonstrated, others will likely recognize the improvements and will continue the change's momentum.

After several weeks, generally even the most vociferous opponent will begin to recognize the benefits and adopt the new process. At times, the "stick in the mud" may refuse to adopt the new change despite obvious accomplishments by their team members. A process of natural selection will likely occur, as the productive team members will cancel this as the newly expected process. The low performer can then decide either to change or to explore other employment opportunities. Assistance from department leaders may be required to assist with this process.

Measurement & Evaluation

Probably the most rewarding aspect of process improvement is having tangible evidence of improvement. By defining the metrics previously, you will already have the basic structure in place. If the process has been followed correctly, there will be at least some improvement in baseline metrics. This will allow proper celebration and encouragement for continued success. Furthermore, quantifying the improvement may assist with future requirements such as budgetary requests.

Metrics will also indicate other improvement potential within the process. By the earlier acceptance of "perfection is the enemy of good," there generally will be required tweaks to the process along the way. This merely requires a repeat assessment of the process map, asking the goal-defined questions, and identifying the barriers in developing improvement.

Once the improvement process has been initiated, then continued improvement can be driven by repeated metrics assessment. At times we make the error of under communicating. To further steer improvement, there must be regular updates to the team. This can include team meetings, daily huddles, email communication, or whatever method that is useful. Frequent communication will propagate improvement and remind the team that the change is not merely a "flavor of the month."

Summary

Although often unpopular, change is a necessary ingredient to any high functioning emergency department. Lack of progress will ultimately result in stagnation within the status quo. The simplest approach is often the best approach. By reviewing the issue with detail and discipline, pragmatic improvements often present themselves. Utilization of metrics will demonstrate tangible improvement and assist with even further improvement. ■

President's message *continued from page 3*

- Consider the practical applications of your resolution. A well-written resolution that speaks to an important issue in a practical way passes through the Council much more easily.
- Do a little homework before submitting your resolution. The ACEP web site is a great place to start. Does ACEP already have a policy on this topic? Has the Council considered this before? What happened?
- Find and contact the other stakeholders for your topic. They have valuable insight and expertise. Those stakeholders may co-sponsor your resolution.
- Attend debates concerning your resolution in both the reference committee and the Council. If you cannot attend, prepare another ACEP member to represent you.

I Need More Resources

Visit ACEP's web site http://www.acep.org/council/. Review the "Guidelines for Writing Resolutions" prior to submitting your resolution. There is also information about the Council Standing Rules, Council committees, and Councillor/Alternate Councillor position descriptions. Of special note, there is a link to Actions on Council Resolutions. This link contains information about resolutions adopted by the Council and Board of Directors in prior years.

Well, Get to It

Writing and submitting Council resolutions keeps our College healthy and vital. A Council resolution is a great way for members to provide information to their colleagues and ACEP leadership. Please take advantage of this opportunity and exercise your rights as part of our emergency medicine community. Dare to make a difference by submitting a resolution to the ACEP Council! ■

New York State of Mind

This column is compiled by Theodore J. Gaeta, DO MPH FACEP, Residency Program Director at New York Methodist Hospital; and Member, New York ACEP Research Committee.

Teaching Medical Students a Clinical Approach to Altered Mental Status: Simulation Enhances Traditional Curriculum.

Sperling JD, Clark S, Kang Y, Division of Emergency Medicine, Weill Cornell Medical College, New York; Med Educ Online. 2013 Apr 3;18:1-8.

INTRODUCTION: Simulation-based medical education (SBME) is increasingly being utilized for teaching clinical skills in undergraduate medical education. Studies have evaluated the impact of adding SBME to third- and fourth-year curriculum; however, very little research has assessed its efficacy for teaching clinical skills in pre-clerkship coursework. To measure the impact of a simulation exercise during a pre-clinical curriculum, a simulation session was added to a pre-clerkship course at our medical school where the clinical approach to altered mental status (AMS) is traditionally taught using a lecture and an interactive case-based session in a small group format. The objective was to measure simulation's impact on students' knowledge acquisition, comfort, and perceived competence with regards to the AMS patient.

METHODS: AMS simulation exercises were added to the lecture and small group case sessions in June 2010 and 2011. Simulation sessions consisted of two clinical cases using a high-fidelity full-body simulator followed by a faculty debriefing after each case. Student participation in a simulation session was voluntary. Students who did and did not participate in a simulation session completed a post-test to assess knowledge and a survey to understand comfort and perceived competence in their approach to AMS.

RESULTS: A total of 154 students completed the post-test and survey and 65 (42%) attended a simulation session. Post-test scores were higher in students who attended a simulation session compared to those who did not ($p<0.001$). Students who participated in a simulation session were more comfortable in their overall approach to treating AMS patients ($p=0.05$). They were also more likely to state that they could articulate a differential diagnosis ($p=0.03$), know what initial diagnostic tests are needed ($p=0.01$), and understand what interventions are useful in the first few minutes ($p=0.003$). Students who participated in a simulation session were more likely to find the overall AMS curriculum useful ($p<0.001$).

CONCLUSION: Students who participated in a simulation exercise performed better on a knowledge-based test and reported increased comfort and perceived competence in their clinical approach to AMS. SBME shows significant promise for teaching clinical skills to medical students during pre-clinical curriculum.

Vulnerable Roadway Users Struck by Motor Vehicles at the Center of the Safest, Large US City.

Dultz LA, Foltin G, Simon R, Wall SP, Levine DA, Bholat O, Slaughter-Larkem D, Jacko S, Marr M, Glass NE, Pachter HL, Frangos SG, Departments of Surgery and Pediatrics and Emergency, Bellevue Hospital Center, New York University School of Medicine, NewYork; J Trauma Acute Care Surg. 2013 Apr;74(4):1138-45.

BACKGROUND: Road safety constitutes an international crisis. In 2010, 11,000 pedestrians and 3,500 bicyclists were injured by motor vehicles in New York City. This study aims to identify the demographics, behaviors, injuries, and outcomes of vulnerable roadway users struck by motor vehicles in New York City's congested central business district and surrounding periphery.

METHODS: A prospective, descriptive study of pedestrians and bicyclists struck by motor vehicles and treated at a Level I regional trauma center was performed. Data were collected between December 2008 and June 2011 by interviewing patients and first responders supplemented with imaging and outcomes variables. Main outcome measures included patient demographics, behavior patterns, scene-related data, Injury Severity Score (ISS), and outcomes including mortality. Multivariate ordinal logistic regression modeling was performed to isolate effects of predictor variables on outcome of ISS categories.

RESULTS: Injured pedestrians ($n = 1,075$) and bicyclists ($n = 382$) differ by age ($p < 0.001$), sex ($p < 0.001$), ethnicity/race ($p < 0.001$), and involved motor vehicle type ($p < 0.001$). Pedestrians sustain more severe/critical injuries ($p < 0.001$) and hospital admissions ($p < 0.001$). Bicyclists are more commonly struck by taxis ($p < 0.001$) and infrequently wear helmets (29.6%). Variables associated with low ISS include bicycling (adjusted odds ratio [AOR], 0.43; 95% confidence interval [CI], 0.29-0.63), above normal body mass index (AOR, 0.73; 95% CI, 0.54-0.99), Latino (AOR, 0.65; 95% CI, 0.46-0.94) or black (AOR, 0.63; 95% CI, 0.41-0.96) ethnicity/race, and struck by a taxicab (AOR, 0.50; 95% CI, 0.33-0.76) or turning vehicle (AOR,0.49; 95% CI, 0.34-0.70). Variables associated with high ISS include alcohol (AOR, 2.71; 95% CI, 1.81-4.05), age less than 18 years (AOR, 1.73; 95% CI, 1.05-2.86), hearing impairment (AOR, 2.24; 95% CI, 1.24-4.03), and struck by a truck or bus (AOR, 1.91; 95% CI, 1.18-3.10). Mortality was 1.2%.

CONCLUSION: Injured pedestrians and bicyclists represent distinct entities. Prevention modalities must be tailored accordingly with a focus on high-risk subgroups and compliance with traffic laws. Studying fatality or admissions data fail to capture the extent of the epidemic.

LEVEL OF EVIDENCE: Prospective epidemiologic study, level II.

New York State of Mind

Assessment and Management of Bullied Children in the Emergency Department.

Waseem M, Ryan M, Foster CB, Peterson J, Department of Emergency Medicine, Lincoln Medical & Mental Health Center; Pediatr Emerg Care. 2013 Mar;29(3):389-98.

Bullying is an important public health issue in the United States. Up to 30% of children report exposure to such victimization. Not only does it hurt bully victim, but it also negatively impacts the bully, other children, parents, school staff, and health care providers. Because bullying often presents with accompanying serious emotional and behavioral symptoms, there has been an increase in psychiatric referrals to emergency departments. Emergency physicians may be the first responders in the health care system for bullying episodes. Victims of bullying may present with nonspecific symptoms and be reluctant to disclose being victimized, contributing to the underdiagnosis and underreporting of bully victimization. Emergency physicians therefore need to have heightened awareness of physical and psychosocial symptoms related to bullying. They should rapidly screen for bullying, assess for injuries and acute psychiatric issues that require immediate attention, and provide appropriate referrals such as psychiatry and social services. This review defines bullying, examines its presentations and epidemiology, and provides recommendations for the assessment and evaluation of victims of bullying in the emergency department.

A Qualitative Evaluation of a Telemedicine-Enhanced Emergency Care Program for Older Adults.

Shah MN, Morris D, Jones CM, Gillespie SM, Nelson DL, McConnochie KM, Dozier A, Department of Emergency Medicine, University of Rochester Medical Center; J Am Geriatr Soc. 2013 Apr;61(4):571-6.

OBJECTIVES: To document the experiences of patients, their caregivers, healthcare personnel, and staff members with a program that provides telemedicine-enhanced emergency care to older adults residing in senior living communities (SLCs) and to delineate perceived barriers and facilitators.

DESIGN: Qualitative study.

SETTING: A primary care geriatric medicine practice.

PARTICIPANTS: Stakeholders associated with telemedicine visits: patients, family caregivers, telemedicine dispatcher, certified telemedicine assistants, telemedicine providers, and SLC staff.

MEASUREMENTS: Between June and August 2011, telemedicine encounters were observed, and field notes were recorded. After each telemedicine visit, all participants were interviewed using a semistructured guide. Discrete statements from interviews and field notes were coded and arranged into themes. Concordance or discordance in field notes and stakeholder responses were grouped for analysis.

RESULTS: After 10 telemedicine visits and 34 interviews from 21 unique participants, redundancy was achieved. Participants and their families overwhelmingly reported satisfaction with their care, remarking particularly on the convenience, speed, and completeness of the evaluation. Participants reported some unmet expectations regarding provider presence at home and visit length. Providers thought telemedicine made them more efficient overall and improved diagnostic certainty but considered in-person visits to be superior. All stakeholders, including patients, noted inadequate telemedicine technician training, leading to low confidence levels and performance difficulties. Participants, providers, and telemedicine technicians cited problems with the reliability, weight, and size of the equipment as serious challenges, decreasing their satisfaction and increasing their frustration.

CONCLUSION: Telemedicine-enhanced emergency care is an acceptable method of providing emergency care to older adults in SLCs. Stakeholders report a number of advantages. Training and technology barriers require particular attention.

Acute Pain Management in Older Adults in the Emergency Department.

Hwang U, Platts-Mills TF, Department of Emergency Medicine, Mount Sinai School of Medicine, New York; Clin Geriatr Med. 2013 Feb;29(1):151-64.

Effective treatment of acute pain in older patients is a common challenge faced by emergency providers. Because older adults are at increased risk for adverse events associated with systemic analgesics, pain treatment must proceed cautiously. Essential elements to quality acute pain care include an early initial assessment for the presence of pain, selection of an analgesic based on patient-specific risks and preferences, and frequent reassessments and retreatments as needed. This article describes current knowledge regarding the assessment and treatment of acute pain in older adults.

Nasal Cannula End-Tidal CO2 Correlates with Serum Lactate Levels and Odds of Operative Intervention in Penetrating Trauma Patients: A Prospective Cohort Study.

Caputo ND, Fraser RM, Paliga A, Matarlo J, Kanter M, Hosford K, Madlinger R, Department of Emergency Medicine, Lincoln Medical and Mental Health Center, Bronx; J Trauma Acute Care Surg. 2012 Nov;73(5):1202-7.

BACKGROUND: Penetrating trauma patients in shock often require urgent operative intervention. Studies have demonstrated that variables obtained in the emergency department, such as lactate levels, can help the physician determine the presence of hemorrhagic shock, leading to more rapid intervention and improve prognosis in trauma patients. The purpose of the study is to determine if end-tidal (ET) CO2 correlates with serum lactate levels, a measure of tissue hypoxia and subsequently shock, in penetrating trauma patients. Secondarily, we sought to determine whether ET CO2 could be used to determine the patient's odds of requiring operative intervention.

METHODS: A prospective observational cohort study was undertaken at an urban Level 1 trauma center. Baseline ET CO2 from nasal cannula and serum lactate level were recorded in all patients in whom the trauma team was activated. Outcomes defined were whether operative intervention was needed. Pearson correlation (R), correlation coefficient (r(2)), and odds ratio were calculated.

RESULTS: One hundred five patients were enrolled. Pearson correlations and coefficients calculated for serum lactate level to ET CO2 were $R = -0.86$ ($r(2) = 0.74$, $p < 0.0001$). Of patients requiring operative intervention, 81.97% had abnormally low ET CO2 and 54.1% had abnormally high serum lactate levels. Odds ratios of patients needing an emergent operation with abnormally low ET CO2 was 20.4 (95% confidence interval, 7.47-55.96) and with abnormally high serum lactate levels was 4 (95% confidence interval, 1.68-5.93).

CONCLUSION: ET CO2 has a strong inverse correlation to serum lactate levels. Abnormally low ET CO2 values were associated with greater increased odds compared with serum lactate levels of penetrating trauma patients requiring operative intervention.

A Pediatric Massive Transfusion Protocol.

Chidester SJ, Williams N, Wang W, Groner JI, Bellevue Hospital Center, Department of Emergency Medicine, New York University, New York; J Trauma Acute Care Surg. 2012 Nov;73(5):1273-7.

BACKGROUND: Pediatric massive blood transfusions occur widely at hospitals across the nation; however, there are limited data on pediatric massive transfusion protocols (MTPs) and their impact. We present a pediatric MTP and examine its impact on morbidity and mortality as well as identify factors that may prompt protocol initiation.

METHODS: Using a prospective cohort, we collected data on all pediatric patients who required un-cross-matched blood from January 1, 2009, through January 1, 2011. This captured patients who received blood products according to the protocol as well as patients who were massively transfused at physician discretion. Outcomes between groups were compared.

RESULTS: A total of 55 patients received un-cross-matched blood, with 22 patients in the MTP group and 33 patients receiving blood at physician discretion (non-MTP group). Mortality was not significantly different between groups. Injury Severity Score for the MTP group was 42 versus 25 for the non-MTP group ($p \leq 0.01$). Thromboembolic complications occurred more exclusively in the non-MTP group ($p \leq 0.04$). Coagulopathy, evidenced by partial thromboplastin time (PTT) greater than 36, was associated with initiation of the MTP.

CONCLUSION: MTPs have been widely adopted by hospitals to minimize the coagulopathy associated with hemorrhage. Blood transfusion via MTP was associated with fewer thromboembolic events. Coagulopathy was associated with initiation of the MTP. These results support the institution of pediatric MTPs and suggest a need for further research on the protective relationship between MTP and thromboembolic events and on identifying objective factors associated with MTP initiation.

Survivors of Torture: Prevalence in an Urban Emergency Department.

Hexom B, Fernando D, Manini AF, Beattie LK, Department of Emergency Medicine, Mount Sinai School of Medicine, New York; Acad Emerg Med. 2012 Oct;19(10):1158-65.

OBJECTIVES: Torture has been documented in 132 countries, and approximately 400,000 survivors of torture reside in the United States. It is unknown if torture survivors seek medical care in emergency departments (EDs). The authors set out to estimate the prevalence of survivors of torture presenting to an urban ED.

METHODS: A cross-sectional survey of ED patients was performed by convenience sampling from October 2008 to September 2009 in a large urban teaching hospital in New York City. ED patients not of a vulnerable population were consented and entered into the study. Participants were asked two screening questions to ascertain if they were self-reported survivors of torture. For exploratory purposes only, these individuals were further queried about their experiences. The detailed responses of these self-reported survivors of torture were compared to the United Nations Convention Against Torture (UNCAT) definition by a blinded, independent panel.

RESULTS: Of 470 study participants, 54 individuals (11.5%, 95% confidence interval [CI] = 8.6% to 14.4%) self-reported torture. Nine (16.7%) had ongoing physical disabilities, 30 (55.6%) had recurrent intrusive and distressing memories, 42 (77.8%) never had a physician inquire about torture, and only eight (14.8%) had requested political asylum. Of these self-reported survivors of torture, 29 (53.7%) met the UNCAT definition, for an adjudicated prevalence of 6.2% (95% CI = 4.3% to 8.7%).

CONCLUSIONS: Self-reported survivors of torture presented to this urban ED, and a significant proportion of them met the UNCAT definition of a torture survivor. Continuing torture-related medical and psychological sequelae were identified, yet there was a low rate of asylum-seeking. Only a minority were previously identified by a physician. These data suggest an unrecognized public health concern and an opportunity for emergency physicians to intervene and refer survivors of torture to existing community resources.

A Review of Acetaminophen Poisoning.

Hodgman MJ, Garrard AR, Department of Emergency Medicine, Upstate New York Poison Center, SUNY Upstate Medical University, Syracuse; Crit Care Clin. 2012 Oct;28(4):499-516.

Acetaminophen poisoning remains one of the more common drugs taken in overdose with potentially fatal consequences. Early recognition and prompt treatment with N-acetylcysteine can prevent hepatic injury. With acute overdose, the Rumack-Matthew nomogram is a useful tool to assess risk and guide management. Equally common to acute overdose is the repeated use of excessive amounts of acetaminophen. Simultaneous ingestion of several different acetaminophen-containing products may result in excessive dosage. These patients also benefit from N-acetylcysteine. Standard courses of N-acetylcysteine may need to be extended in patients with persistently elevated plasma concentrations of acetaminophen or with signs of hepatic injury.

Wheezing and Asthma are Independent Risk Factors for Increased Sickle Cell Disease Morbidity.

Glassberg JA, Chow A, Wisnivesky J, Hoffman R, Debaun MR, Richardson LD, Department of Emergency Medicine, Mount Sinai School of Medicine, New York; Br J Haematol. 2012 Nov;159(4):472-9.

To assess the associations between a doctor diagnosis of asthma and wheezing (independent of a diagnosis of asthma) with sickle cell disease (SCD) morbidity, we conducted a retrospective review of Emergency Department (ED) visits to the Mount Sinai Medical Center for SCD between 1 January 2007 and 1 January 2011. Outcomes were ED visits for pain and acute chest syndrome. The cohort included 262 individuals, median age 23·8 years, (range: 6 months to 67·5 years). At least one episode of wheezing recorded on a physical examination was present in 18·7% (49 of 262). Asthma and wheezing did not overlap completely, 53·1% of patients with wheezing did not carry a diagnosis of asthma. Wheezing was associated with a 118% increase in ED visits for pain (95% confidence interval [CI]: 56-205%) and a 158% increase in ED visits for acute chest syndrome (95% CI: 11-498%). A diagnosis of asthma was associated with a 44% increase in ED utilization for pain (95% CI: 2-104%) and no increase in ED utilization for acute chest syndrome (rate ratio 1·00, 95%CI 0·41-2·47). In conclusion, asthma and wheezing are independent risk factors for increased painful episodes in individuals with SCD. Only wheezing was associated with more acute chest syndrome.

Pediatric Prehospital Evaluation of NYC Respiratory Arrest Survival (PHENYCS).

Tunik MG, Richmond N, Treiber M, Skomorowsky A, Galea S, Vlahov D, Blaney S, Kusick M, Silverman R, Foltin GL, Department of Emergency Medicine and Pediatrics, NYU School of Medicine, New York; Pediatr Emerg Care. 2012 Sep;28(9):859-63.

OBJECTIVE: The objective of this study was to describe the demographics, epidemiology, and characteristics associated with survival of children younger than 18 years who had an out-of-hospital respiratory arrest (OOHRA) during a 1-year period in a large urban area.

METHODS: A prospective observational cohort of consecutive children younger than 18 years with OOHRA cared for

by the New York City 911 emergency medical services (EMS) system from April 12, 2002, to March 31, 2003. Following resuscitative efforts, data were collected from prehospital providers by trained paramedics using a previously validated telephone interview process. Data included Pediatric Utstein core measures and critical prehospital time intervals. Analyses used descriptive statistics and bivariate association with survival.

RESULTS: Resuscitation was attempted on 109 OOHRAs during the study period. The median age was 7 years, 52% were male. Lay bystanders witnessed 56%. Most occurred at home (77%). Witnesses were family members in 59%. Bystander cardiopulmonary resuscitation (CPR) was performed in 31% of all respiratory arrests (RAs). A chronic medical condition existed in 28%. Median EMS response time was 4.4 minutes (range, 0-12 min). Overall survival was 79% to hospital discharge. Time interval to EMS arrival, witnessed arrest, bystander CPR, and ventilation method were not associated with survival.

CONCLUSIONS: Most OOHRAs occurred at home, and bystander CPR occurred infrequently. The majority of children in OOHRA survived. Strategies to increase the rate of bystander CPR, especially by family members, are needed. Out-of-hospital RAs are a large proportion of all arrests in children. Future studies of pediatric arrest should include RA as well as cardiac arrest.

Risk Factors for Increased ED Utilization in a Multinational Cohort of Children With Sickle Cell Disease.

Glassberg JA, Wang J, Cohen R, Richardson LD, DeBaun MR, Department of Emergency Medicine, Mount Sinai School of Medicine, New York; Acad Emerg Med. 2012 Jun;19(6):664-72.

OBJECTIVES: The objective was to identify clinical, social, and environmental risk factors for increased emergency department (ED) use in children with sickle cell disease (SCD).

METHODS: This study was a secondary analysis of ED utilization data from the international multicenter Silent Cerebral Infarct Transfusion (SIT) trial. Between December 2004 and June 2010, baseline demographic, clinical, and laboratory data were collected from children with SCD participating in the trial. The primary outcome was the frequency of ED visits for pain. A secondary outcome was the frequency of ED visits for acute chest syndrome.

RESULTS: The sample included 985 children from the United States, Canada, England, and France, for a total of 2,955 patient-years of data. There were 0.74 ED visits for pain per patient-year. A past medical history of asthma was associated with an increased risk of ED utilization for both pain (rate ratio [RR] = 1.28, 95% confidence interval [CI] = 1.04 to 1.58) and acute chest syndrome (RR = 1.60, 95% CI = 1.03 to 2.49). Exposure to environmental tobacco smoke in the home was associated with 73% more ED visits for acute chest syndrome (RR = 1.73, 95% CI = 1.09 to 2.74). Each $10,000 increase in household income was associated with 5% fewer ED visits for pain (RR = 0.95, 95% CI = 0.91 to 1.00, p = 0.05). The association between low income and ED utilization was not significantly different in the United States versus countries with universal health care (p = 0.51).

CONCLUSIONS: Asthma and exposure to environmental tobacco smoke are potentially modifiable risk factors for greater ED use in children with SCD. Low income is associated with greater ED use for SCD pain in countries with and without universal health care.

A Descriptive Comparison of Alcohol-Related Presentations at a Large Urban Hospital Center From 1902 To 2009.

Shy BD, Hoffman RS, Department of Emergency Medicine, Mount Sinai School of Medicine, New York; J Med Toxicol. 2012 Sep;8(3):271-7.

Although alcohol use has long been a significant cause of hospital presentations, little is published regarding the long-term demographic changes that have occurred at a single hospital site. To address this deficit, we prospectively studied all acute alcohol-related presentations to Bellevue Hospital Center (New York, NY) and compared this contemporary data set with one from the same institution from 1902 to 1935. We prospectively identified all patients presenting to the emergency department because of acute alcohol use over an 8-week period in 2009. We described the basic attributes of patients presenting currently because of alcohol and compared these data to those previously described between 1902 and 1935. We also compared our census data with contemporaneous data from all patients presenting to this hospital site. During the study period, 560 patients presented because of acute alcohol use which extrapolated to an estimated 3,800 patients over the calendar year. This compares to 7,600 presentations recorded annually early in the twentieth century. Twelve percent of patients in 2009 were female as compared to 18 % of patients between 1934 and 1935. Patients with alcohol-related presentations in 2009 were more likely to be admitted than contemporaneous patients without an alcohol-related presentation (30 vs. 19 % admitted; $p<0.001$). Since first measured 110 years ago at one large New York City hospital, alcohol-related presentations remain common representing 5 % of all emergency department visits. This demonstrates alcoholism's continuing toll on society's limited medical resources and on public health as a whole.

MRSA Rates and Antibiotic Susceptibilities from Skin and Soft Tissue Cultures in a Suburban ED.

Wackett A, Nazdryn A, Spitzer E, Singer AJ, Department of Emergency Medicine, Stony Brook University Medical Center, StonyBrook; J Emerg Med. 2012 Oct;43(4):754-7.

BACKGROUND: Prior studies suggest that more than half of all skin and soft tissue infections (SSTIs) are caused by methicillin-resistant Staphylococcus aureus (MRSA). These data mainly represent inner-city urban centers.

OBJECTIVE: We determined the bacteriologic etiologies and antibiotic susceptibilities from wound cultures in the emergency department (ED). We hypothesized that in a suburban ED, MRSA would not represent the major pathogen.

METHODS: The study design was a retrospective, electronic medical record review in a suburban tertiary care ED with 80,000 annual visits. Subjects included ED patients of all ages who had skin or soft tissue cultures obtained in 2005-2008. Demographics and clinical data, including type of SSTI (MRSA or methicillin-sensitive S. aureus [MSSA]), culture results, and antibiotic susceptibility, were analyzed using descriptive statistics.

RESULTS: From the 1,246 cultures obtained during the study period, 252 (20.2%) were MSSA and 270 (21.6%) were MRSA. The rates of MRSA infections over time

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New York State of Mind

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increased from 13.5% to 25.7% during 2005-2008. The rates of MRSA in males and females were comparable at 23.3% and 19.6%, respectively. In 2008, MRSA was 97-100% susceptible to vancomycin, linezolid, rifampin, nitrofurantoin, chloramphenicol, gentamycin, tetracycline, and trimethoprim-sulfamethoxazole (TMP-SMZ). To a lesser extent it was susceptible to clindamycin (75%), erythromycin (62%), and levofloxacin (50%).

CONCLUSIONS: There has been a significant increase in the rates of MRSA SSTIs in a suburban ED, yet only 1 in 4 SSTIs are caused by MRSA. Both MRSA and MSSA are completely susceptible to vancomycin, linezolid, rifampin, nitrofurantoin, and chloramphenicol. Gentamicin, tetracycline, and TMP-SMZ cover > 97% of both isolates.

Ultrasound-Guided Fascia Iliaca Compartment Block for Hip Fractures in the Emergency Department.

Haines L, Dickman E, Ayvazyan S, Pearl M, Wu S, Rosenblum D, Likourezos A, Department of Emergency Medicine, Maimonides Medical Center, Brooklyn; J Emerg Med. 2012 Oct;43(4):692-7.

BACKGROUND: Hip fracture (HFx) is a painful injury that is commonly seen in the emergency department (ED). Patients who experience pain from HFx are often treated with intravenous opiates, which may cause deleterious side effects, particularly in elderly patients. An alternative to systemic opioid analgesia involves peripheral nerve blockade. This approach may be ideally suited for the ED environment, where one injection could control pain for many hours.

OBJECTIVES: We hypothesized that an ultrasound-guided fascia iliaca compartment block (UFIB) would provide analgesia for patients presenting to the ED with pain from HFx and that this procedure could be performed safely by emergency physicians (EP) after a brief training.

METHODS: In this prospective, observational, feasibility study, a convenience sample of 20 cognitively intact patients with isolated HFx had a UFIB performed. Numerical pain scores, vital signs, and side effects were recorded before and after administration of the UFIB at pre-determined time points for 8h.

RESULTS: All patients reported decreased pain after the nerve block, with a 76% reduction in mean pain score at 120 min. There were no procedural complications.

CONCLUSION: In this small group of ED patients, UFIB provided excellent analgesia without complications and may be a useful adjunct to systemic pain control for HFx.

The Impact of Wound Age on the Infection Rate of Simple Lacerations Repaired in the Emergency Department.

Zehtabchi S, Tan A, Yadav K, Badawy A, Lucchesi M, Department of Emergency Medicine, State University of New York, Downstate Medical Center, Brooklyn; Injury. 2012 Nov;43(11):1793-8.

BACKGROUND: The influence of wound age on the risk of infection in simple lacerations repaired in the emergency department (ED) has not been well studied. It has traditionally been taught that there is a "golden period" beyond which lacerations are at higher risk of infection and therefore should not be closed primarily. The proposed cutoff for this golden period has been highly variable (3-24h in surgical textbooks). Our objective is to answer the following research question: are wounds closed via primary repair after the golden period at increased risk for infection?

METHODS: We searched MEDLINE, EMBASE, and other databases as well as bibliographies of relevant articles. We included studies that enrolled ED patients with lacerations repaired by primary closure. Exclusion: (1) delayed primary repair or secondary closure, (2) wounds requiring intra-operative repair, skin graft, drains, or extensive debridement, and (3) grossly contaminated or infected at presentation. We compared the outcome of wound infection in two groups of early versus delayed presentations (based on the cut-offs selected by the original articles). We used "Grading of Recommendations Assessment, Development and Evaluation" (GRADE) criteria to assess the quality of the included trials.

RESULTS: 418 studies were identified. Four trials enrolling 3,724 patients in aggregate met our inclusion/exclusion criteria. The overall quality of evidence was low. The infection rate in the wounds that presented with delay ranged from 1.4% to 32%. One study with the smallest sample size (only 19 delayed wounds), which only enrolled lacerations to hand and forearm, showed higher rate of infection in patients with delayed (older than 12h) wounds (relative risk of infection: 4.8, 95% confidence interval, 1.9-12.0). The infection rate in delayed wound groups in the remaining three studies was not significantly different.

CONCLUSION: The existing evidence does not support the existence of a golden period nor does it support the role of wound age on infection rate in simple lacerations.

Effect of Gender on Prehospital Refusal of Medical Aid.

Waldron R, Finalle C, Tsang J, Lesser M, Mogelof D, Department of Emergency Medicine, New York Hospital Queens, Flushing; J Emerg Med. 2012 Aug;43(2):283-90.

BACKGROUND: "Refusal of medical aid" (RMA) is the term commonly used by emergency medical technicians (EMTs) when someone calls 911 for care (usually the patient or a family member) but, after the initial encounter with the EMTs, the patient refuses emergency medical services transport to the hospital. Some intervention may have been performed, such as taking vital signs or an electrocardiogram, before the RMA. Although there have been multiple studies of the characteristics and outcomes of patients who RMA, little analysis has been done of the role of EMTs in these cases.

OBJECTIVE: To analyze the association between EMT gender and the patient's decision to refuse medical aid in the prehospital setting.

METHODS: The study was performed using data from one hospital-based ambulance service in an urban setting that participates in the 911 system. This was a case control study that examined the data from consecutive patients who refused medical aid for a 1-year period compared to a control group of non-RMA patients.

RESULTS: There was a significantly higher representation of all-male EMT teams in the RMA group ($p<0.0001$). Using propensity score-matching methodology to control for other factors, all-male EMT teams were 4.75 times more likely to generate an RMA as compared to all-female and mixed-gender EMT teams (95% confidence interval 1.63-13.96, $p=0.0046$).

CONCLUSION: We found that the gender of the EMTs was one of the most important factors associated with RMA, with a much higher frequency of RMAs occurring when both members of the team were male.

Medical Reconciliation in Patients Discharged from the Emergency Department.

Sharma AN, Dvorkin R, Tucker V, Margulies J, Yens D, Rosalia A Jr., Department of Emergency Medicine, Good Samaritan Hospital Medical Center, West Islip; J Emerg Med. 2012 Aug;43(2):366-73.

BACKGROUND: Medication errors are considered to be a significant cause of morbidity and mortality. For each patient, emergency departments (EDs) are expected to compile a list of medications, reconcile them, and pass them along to the next provider. The electronic medical record provides a method to automatically capture and propagate what may be incorrect information.

OBJECTIVES: The aim of this study was to compare the medication information that patients ultimately discharged from the ED provide to the ED staff vs. the medication information the patients provide at follow-up, and to classify and quantify the types of discrepancies between the two.

METHODS: We conducted a retrospective descriptive study of a convenience sample of 36 patients who were discharged from the ED and who reported taking five or more medications. Discrepancies were identified by comparing information collected at the time of the index ED visit with that gleaned from follow-up contact within 7 days of discharge.

RESULTS: Of the 36 charts analyzed, 286 medications were provided by patients at the time of their ED visit. Subsequent determination of actual medication use on follow-up found 120 discrepancies, for a discrepancy rate of 42.0% (95% confidence interval [CI] 36.4-47.8%). One or more discrepancies were found on 86.1% of charts (95% CI 74.8-97.4%).

CONCLUSIONS: Frequent discrepancies are found in the medication information that patients provide in the ED. Requiring the ED to reconcile medication information and to pass it on to the next provider can be a source of treatment errors in the outpatient setting.

Early Detection and Treatment of Severe Sepsis in the Emergency Department: Identifying Barriers to Implementation of a Protocol-Based Approach.

Burney M, Underwood J, McEvoy S, Nelson G, Dzierba A, Kauari V, Chong D, Emergency Department, New York-Presbyterian Hospital, New York; J Emerg Nurs. 2012 Nov;38(6):512-7.

INTRODUCTION: Despite evidence to support efficacy of early goal-directed therapy for resuscitation of patients with severe sepsis and septic shock in the emergency department, implementation remains incomplete. To identify and address specific barriers at our institution and maximize benefits of a planned sepsis treatment initiative, a baseline assessment of knowledge, attitudes, and behaviors regarding detection and treatment of severe sepsis was performed.

METHODS: An online survey was offered to nurses and physicians in the emergency department of a major urban academic medical center. The questionnaire was designed to assess (1) baseline knowledge and self-reported confidence in identification of systemic inflammatory response syndrome and sepsis; (2) current practices in treatment; (3) difficulties encountered in managing sepsis cases; (4) perceived barriers to implementation of a clinical pathway based on early quantitative resuscitation goals; and (5) to elicit suggestions for improvement of sepsis treatment within the department.

RESULTS: Respondents (n = 101) identified barriers to a quantitative resuscitation protocol for sepsis. These barriers included the inability to perform central venous pressure/central venous oxygen saturation monitoring, limited physical space in the emergency department, and lack of sufficient nursing staff. Among nurses, the greatest perceived contributor to delays in treatment was a delay in diagnosis by physicians; among physicians, a delay in availability of ICU beds and nursing delays were the greatest barriers. Despite these issues, respondents indicated that a written protocol would be helpful to them.

DISCUSSION: Knowledge gaps and procedural hurdles identified by the survey will inform both educational and process components of an initiative to improve sepsis care in the emergency department.

Prophylactic Antibiotics for Simple Hand Lacerations: Time for a Clinical Trial?

Zehtabchi S, Yadav K, Brothers E, Khan F, Singh S, Wilcoxson RD, Malhotra S, Department of Emergency Medicine, State University of New York, Downstate Medical Center, Brooklyn; Injury. 2012 Sep;43(9):1497-501.

BACKGROUND: Simple hand lacerations (not involving bones, tendons, nerves, or vessels) are a common emergency department (ED) complaint. Whilst the practices of irrigation, debridement, foreign body removal, and suture repair are well accepted, the use of prophylactic antibiotics is not. Without evidenced-based guidelines, practice is left to physician preference.

OBJECTIVES: The aim of this study was to assess the need for, and the feasibility to perform, a randomised controlled trial to evaluate the role of prophylactic antibiotics in simple hand lacerations.

METHODS: The study was done in three phases: (1) estimation of the national ED burden of simple hand lacerations and the use of antibiotic prophylaxis; (2) assessment of indications for antibiotic prophylaxis and (3) investigation of patient willingness to enrol in a randomised controlled trial and their preferred outcomes from simple hand lacerations. For Phase 1, we analysed the 2007 National Hospital Ambulatory Medical Care Survey. For Phase 2, we surveyed ED physicians in three urban teaching institutions (two in Brooklyn, NY and one in Washington, DC). For Phase 3, we surveyed ED patients at the same three institutions.

RESULTS: Phase 1: out of 116.8 million ED visits nationally in 2007, 1.8 million (1.6%) were due to simple hand lacerations, of which 1.3 million (71%) required repair. Of those repaired, 27% (95% CI, 19-35%) were prescribed prophylactic antibiotics, most commonly cephalexin (73%). Phase 2: out of 108 providers surveyed, 69 (64%) responded. 16% (95% CI, 9-27%) reported prescribing prophylactic antibiotics routinely, most commonly cephalexin (84%, 95% CI, 67-93%). The degree of contamination was the most important factor (91%, 95% CI, 82-96%) in the physicians' decision to prescribe antibiotics. Phase 3: of the 490 patients surveyed, 64% (95% CI, 60-68%) expressed interest in participating in a study to evaluate the use of prophylactic antibiotics. Their primary concern was prevention of infection (77%, 95% CI, 73-81%).

CONCLUSION: Simple hand lacerations represent a substantial number of ED visits in the United States. Absence of clear guidelines, disparity in physician practice, and patient interest in infection prevention all support performing a prospective randomised controlled trial to establish the role of antibiotic prophylaxis in simple hand lacerations. ■

In our continuing effort to foster community and academic research, New York ACEP's Research Committee is here to serve as a resource for your research projects. For inquiries on how to get started, email nyacep@nyacep.org.

Albany Update

Weingarten, Reid & McNally, New York ACEP Legislative & Regulatory Representatives

2013-14 State Budget Update/ New York ACEP Lobby Day

The 2013-14 Legislative Session got off to a busy start for New York ACEP with a Lobby Day in Albany February 12 attended by 35 physicians and residents. The focus of the day was Governor Cuomo's 2013-14 proposed State Budget which included a funding reduction and restrictions on eligibility for the Excess Medical Malpractice Program (MMIP), a proposal to significantly restructure and consolidate the State's Emergency Medical Services (EMS) program, and the elimination of the requirement for written collaboration agreements and practice protocols between nurse practitioners (NPs) and physicians for the provision of primary care under certain circumstances.

New York ACEP members met with their Senate and Assembly representatives as well as the Chairpersons of the Senate and Assembly Health Committees, Kemp Hannon and Richard Gottfried, the new Chairman of the Assembly Insurance Committee, Kevin Cahill, the Chairman of the Senate Insurance Committee, James Seward, key staff to the Speaker of the Assembly and the Republican leader of the Senate and officials from the Department of Financial Services (DFS).

New York ACEP priorities included opposition to the Governor's budget proposals for the MMIP and NP scope of practice expansion. In addition, New York ACEP advocated for: fair payment for emergency physicians; medical liability protections for emergency care providers under EMTALA; and continued involvement of emergency physicians in the oversight, operations, and policy-making at all levels in the New York State EMS system.

Excess Medical Malpractice Program (MMIP)

The Governor's proposed budget reduced the appropriation for the MMIP by approximately $12.7 million, from $127.4 million to $114.7 million. In addition, eligibility for the program was limited to physicians and dentists who practice in high-risk specialties at hospitals in high risk areas. The proposal required participation in the Medicaid program.

The Legislature rejected the Governor's budget proposal to limit the eligibility for the program and restored $12.7 million to the program, for a total of $127.4.

The final budget provides that eligibility for the program is limited to physicians and dentists who participated for the coverage period ending June 30, 2013.

For the coverage period beginning July 1, 2013, the Superintendent of the Department of Financial Services and the Commissioner of the New York State Department of Health must purchase up to 1,000 more policies than were purchased for the coverage period ending June 30, 2013.

A general hospital may certify additional eligible physicians or dentists in a number equal to such general hospital's proportional share of the total number of physicians and dentists for whom coverage was purchased with funds available in the pool as of June 30, 2013 as applied to the greater of 1,000; or the difference between the number of eligible physicians or dentists for whom a policy was purchased for the coverage period ending June 30, 2013 and the number who have applied for excess coverage beginning July 1, 2013.

It also authorizes the Superintendent of Department of Financial Services to enter into a contract or contracts, without a competitive bid or request for proposal, to administer the MMIP.

Nurse Practitioner (NP) Scope of Practice

The Legislature rejected the Governor's budget proposal to eliminate the requirements for written collaboration agreements and written practice protocols between certified nurse practitioners and licensed physicians for nurse practitioners **providing only primary care services,** if they demonstrate to New York State Department of Health in consultation with the Education Department that it is not reasonable to require such agreement or practice protocols.

It should be noted that Assemblyman Gottfried introduced separate legislation (A4846) to eliminate the requirement for written collaboration agreements and written practice protocols in certain circumstances. This bill is expected to be seriously considered this year and will require intensive grassroots and Albany-based lobby effort to defeat.

Physician Assistants

The Legislature accepted the Governor's budget proposal to revise the number of physician assistants that can be supervised by a physician from 2 to 4 in the physician's private practice and from 4 to 6 assistants when such physician is employed by or renders services to the Department of Corrections and Community Supervision.

2013 "End of Session" Outlook

The main focus in the health care arena for the remainder of the 2013 Legislative Session is expected to be legislation regulating **Out-of-Network (OON) billing practices and NP scope of practice expansions.** The Legislature is scheduled to adjourn June 20, 2013.

Out-of-Network (S2551 Hannon)

The OON legislation regulates billing, reimbursement and consumer disclosure for health care services provided to patients by "out-of-network" health care providers who do not participate in a patient's health insurance plan.

The bill defines Usual and Customary Cost (UCR) as the 80th percentile of all charges for health services performed by a provider in the same or similar specialty and provided in the same geographic area as reported by FAIR Health. Insurers that provide coverage for out-of-network services are required to provide *significant* coverage of the UCR for out-of-network

services. Insurers that provide coverage for out-of-network services are required to offer at least one policy or contract option in each geographical region covered which provides coverage for at least 80% of the UCR cost of out-of-network services after imposition of a deductible.

In addition, the bill establishes an independent dispute resolution process for a health care plan or patient who alleges that a physician charged an "excessive fee" for emergency services. "Excessive fee" is defined as greater than the UCR.

A health plan may not submit a dispute for review unless they have fully paid the physician's fee, except for the patient's co-payment, coinsurance or deductible for the services rendered. If the independent dispute resolution entity determines that the fee charged is excessive, the entity shall determine a reasonable fee for the services which shall not be less than the UCR. The determination made is binding on the health care plan, physician and patient and is admissible in any court proceedings between the parties or any administrative proceedings between the state and the physician.

Nurse Practitioner Scope of Practice (A4846 Gottfried)

As noted above, Assemblyman Gottfried introduced separate legislation (A4846) to eliminate the requirement for written collaboration agreements and written practice protocols in certain circumstances. Senator Catherine Young is sponsoring the bill in the Senate.

Specifically, the bill provides that:

- An Nurse Practitioner (NP) who has practiced for fewer than 36 months and 3,600 hours must have a **written collaborative agreement** with a physician. However, if an existing written agreement terminates as a result of the collaborating physician moving, retiring, or upon his or her death and the NP is unable to enter into a new written agreement with a physician, or if the NP can demonstrate that the agreement was terminated due to no fault on the part of the NP, then such NP may practice for a period of up to six months in collaboration with another NP of the same specialty who has been practicing for more than 36 months and 3,600 hours. Such six month period may be extended for up to an additional six months upon a showing of good cause to the State Education Department (SED).
- NPs with more than 36 months of practice and 3,600 hours would be required to have **collaborative relationships** with one or more licensed physicians of the same specialty or a hospital that provides services through licensed physicians of the same specialty who have privileges at such institution**. No written practice agreement would be required**. The NP would be required to complete and maintain a form provided by SED summarizing the practice protocols, consultation, collaborative management, emergency referral plans and other protocols to address the health status and risk of patients. Such form would be subject to review by SED. Failure to comply would make the NP subject to professional misconduct proceedings.

All of us at Weingarten, Reid & McNally look forward to continuing to work with the New York ACEP Board, Government Affairs Committee and entire membership to advance your goals and address new challenges in the 2013 State Legislative Session. ■

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Pediatric Airway Emergencies: Foreign Body Aspiration

Guest authors: Rushad Juyia, DO; Kevin Docyk, MD*; Jessica Peck, MD*;*
*Denis R. Pauze, MD FACEP FAAP; *PGY-2 Residents in Emergency Medicine, Albany Medical College*

Case 1: A six month old presents with drooling and coughing. The parents state that an older sibling put a toy object in the infant's mouth. You make an attempt, without paralytics, to remove the foreign body. This causes immediate hypoxia and cyanosis. Apnea follows. Back blows are performed. The infant starts to breathe again and has severe coughing and drooling, but is maintaining saturations. You are in a small hospital without pediatric surgical backup...

Case 2: A 22-month-old male in respiratory arrest is brought to the ED by EMS. The child's father says he was behaving normally, when suddenly he appeared to be choking. He began gasping for air and had his hands up by his neck. Upon witnessing the event, his mother attempted the Heimlich maneuver along with back blows. He then had intermittent choking and crying episodes, and subsequently became cyanotic and unresponsive. His father began performing CPR immediately. EMS arrived on scene shortly after and were unable to intubate the toddler. Bag-valve-mask was used to ventilate the child during transport...

Case 3: A two-year-old boy was seen eating a hotdog when bystanders noticed that the child began to choke and subsequently became unresponsive. Bystanders immediately initiated CPR and called 911. The patient was intubated in the field by EMS with a 4.0 uncuffed endotracheal tube (ETT) and then transported to the local hospital. EMS had noted that in transport the patient had oxygen saturations ranging from the high 70s to low 90s with end tidal CO2 ranging 20-30.

On arrival, vitals were pulse 176, respiratory rate 50, and oxygen saturation of 82% with full ventilator support. The little boy had a 4 uncuffed ETT in place, pupils were 3 mm and minimally reactive. Breath sounds revealed diffuse rhonchi. Food particles were present in the oropharynx. The patient would have continued episodes of hypoxia — concerning for obstruction of aspirated materials...

Epidemiology

In the United States, foreign body aspiration (FBA) is one of the leading causes of accidental death in children under the age of four. More than 100 children die every year from FBA. Children under three years of age are at highest risk of aspiration. The most common foreign bodies aspirated are food products, most commonly nuts, seeds, berries, grapes, corn and beans. Altkorn and colleagues reviewed nearly 10 years of data from food aspiration from the U.S. and Canada. Peanuts accounted for nearly one in four aspirated food particles. Meats, sunflower seeds, popcorn and carrots were the next most common aspirated foods. Hot dogs deserve special mention, as they are also notorious for causing aspiration and death. Altkorn found hot dogs to have the highest mortality of aspirated food objects. Candy and grapes were the next most common causes of mortality.

Children also aspirate non food objects. They notoriously put anything they can into their mouths, including marbles, coins, pen tops, pills, vitamins and round toys. Thamboo and colleagues report Christmas decorations as ingested foreign bodies. Dorfman described a near fatality in an infant from an aspirated toy. Aspirated toy balloons have also been described, and can be particularly hazardous and deadly.

History & Physical

Our cases had obvious and dramatic presentations. More commonly, however, the clinical presentation may be much more benign. Many patients with aspiration may actually be asymptomatic, or may present with signs and symptoms that are non specific. A careful history and physical exam are thus extremely important in making an accurate diagnosis of pediatric FBA. A witnessed choking event is the most important historical information, as preverbal children are unable to describe the event. Although a history of choking may not be recalled during initial evaluation, repeated questioning of caregivers may be necessary to stimulate recall of this important episode. Oguz and colleagues found that questioning a family in more detail for a choking history led to increased recall of a "trivial" choking event.

In the absence of a history of witnessed choking, foreign body aspiration is usually not suspected. Patients may present days or weeks after the aspiration as they often develop symptoms due to complications from the foreign body. Akelma and colleagues reported an 18 month old toddler referred to their pediatric allergy clinic for several months of cough. Further investigation revealed a peanut aspiration. Rizk found that nearly 2/3 of pediatric patients seen 24 hours after their aspiration were thought to have another diagnosis. Patients may be misdiagnosed and treated for prolonged periods for asthma, bronchitis, bronchiolitis, pneumonia, or allergy. Recurrence of symptoms after one successful treatment should alert one of a possible foreign body.

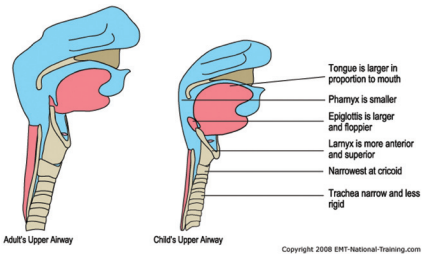
Physical examination often depends upon the objects size, shape, and location. Stridor, gagging, cough, wheezing, and

rales may be observed. Focally reduced air entry on auscultation may also be heard. Unilateral findings have a higher specificity. The classic triad of wheeze, cough, and diminished breath sounds is not universally present.

The Pediatric Airway

There are many anatomical differences between the adult and pediatric airway. These are illustrated in Figure 1 (National-EMT-Training, reproduced with permission). Two points of major importance, the tongue occupies a large area of the oropharynx, potentially giving less space to "look".

Figure 1



Additionally, the tracheal opening is higher and much more anterior. These anatomical differences are usually most notable in the first 2-3 years of life, and by age 8 or 9, the airways become anatomically similar to adults. Physiologically, children metabolize oxygen rapidly, and therefore, are prone to rapid O2 desaturations.

To simplify the pediatric airway, *just think smaller, more anterior, and rapid desat*.

Management

Management will focus on the dramatic presentations we may be faced with…

Partial Obstruction

Our first patient had a partial airway obstruction. Children who cough, gag, or can speak are demonstrating appropriate signs of air movement. They should be left alone, and will automatically assume a "position of comfort." Management options will depend upon your hospital and its capabilities. Ideally, the foreign body should be removed in the operating room (OR). This may not be possible in certain hospitals. Providers in hospitals without anesthesia and surgical availability have two options, both of which are considered a "judgement call" made by the emergency medicine provider. The first option involves transferring to a facility with specialty back up, including anesthesiology and otolaryngology. Transfer time and experience of the transfer team are important considerations. In our first patient, they were flown via helicopter to our institution. Anesthesia and ENT were ready upon patient arrival.

A provider may also make the determination that the child is unsafe to be transferred. This would be the case for long transport times, a transfer team that is either unavailable or not experienced, or in the case of a child who is tiring out with anticipated loss of airway during flight. Worsening signs of obstruction would also be a concern. For sedation, Ketamine would be a good medication choice, as it allows for continued air movement. It should be emphasized that either transfer or an attempt to remove the foreign body in the emergency department are a judgement decision based upon the specific and unique scenario.

Full Obstruction

Cases 2 and 3 had a complete airway obstruction from an olive pit and hot dog. In both situations, bystander airway maneuvers were immediately started. It is important to note that even with immediate bystander interventions and a rapid EMS response time, food particles can remain lodged and completely stuck in the small pediatric airway. Figure 2 is an algorithm adapted from the Walls' Manual of Emergency Airway Management. It provides an approach the emergency medicine provider may take for a complete airway obstruction. Pediatric BLS maneuvers are initially attempted. If unsuccessful, the next step is direct laryngoscopy with Magill forceps at the ready. In the event of continued 'failure', bag valve mask is the next option, although some emergency medicine providers may jump right to tracheal intubation. During intubation, it is recommended to advance the FB with the endotracheal tube (ETT) into the right mainstem bronchus (Figure 3, reproduced with permission). Of note, this may work for hard or firm objects, such as marbles, coins or pen tops, but may be problematic for soft food substances. Soft food particles may clog the ETT, thus making ventilation impossible.

Figure 2 (below) Adapted from Wall's Manual of Emergency Airway Management. Luten and Nagler. Foreign Body in the Pediatric Airway.

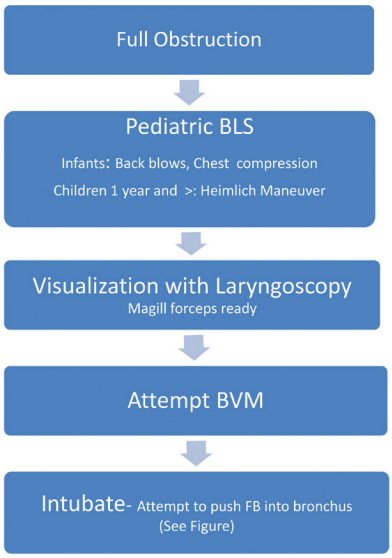
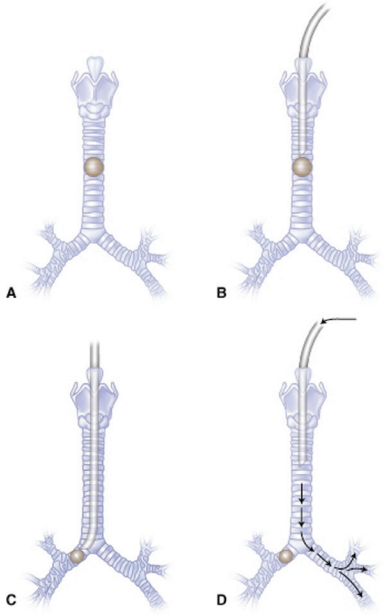


Figure 3 (below) Reproduced with permission. Wall's Manual of Emergency Airway Management. Luten and Ngler. Foreign Body in the Pediatric Airway. Page 318.



Case Conclusions

Case 1: You immediately arrange for transfer to a pediatric facility. The flight team arrives and the infant is still drooling, but maintaining the airway. A 20 minute flight gets the infant to the Pediatric referral center, where pediatric anesthesiology and otorlaryngology are awaiting arrival. The toy foreign body is removed in the operating room.

continued on next page

Pediatric Airway Emergencies

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Case 2: The child was in pulseless electrical activity and received two doses of epinephrine en route. He was asystolic upon arrival to the emergency department. On exam he had cyanotic lips and pupils were 6 mm and nonreactive. ENT was at the bedside. He was immediately intubated using the Glide Scope after checking the oral cavity for any object. He received two additional doses of epinephrine at which point pulses returned. His perioral color improved. He was tachycardic and had markedly diminished breath sounds on the right. Neurologic exam revealed no gag or corneal reflex. Chest x-ray revealed appropriate endotracheal tube placement. The child was pulseless and without a definitive airway for greater than 35 minutes prior to arrival to the emergency department. He had CT scans of his head, neck, and chest. CT imaging showed evidence of a right mainstem bronchus obstructing foreign body. Direct laryngoscopy, bronchoscopy, and removal of the foreign body revealed a pit of an olive. Despite all efforts, he had continued hypoxia. He also had seizure-like activity most likely from a severe anoxic brain injury. He died soon after.

Case 3: While the patient was being evaluated, the medical team noticed that the patient had a significant air leak. The patient continued to have intermittent episodes of severe hypoxia with oxygen saturations now ranging in the 50s. The patient would also experience episodes of hypotension, which would improve with fluid boluses. Even with OGT placement the patient would have episodes of emesis with a significant amount due to hotdog food particles. Full portions of hotdog and bread would also be extracted from the ETT. Due to the patient's severe episodes of hypoxia, noticeable air leak, diminished lung volumes and obvious food particles in the ETT tube and oral pharynx, the decision was made to replace the uncuffed 4.0 ETT with a cuffed ETT.

The patient would be given vecoronium and versed for paralytics and sedation. During the ETT change out the patient was found to have a significant amount of hotdog and other food particles. A significant amount of suctioning was necessary to both visualize the vocal cords and help with the patient's desaturations. A 4.0 cuffed ETT would be placed with successful ETT change. The patient's O2 saturations would improve to the high 80s to low 90s on SIMV ventilator support with FIO2 100% with a PEEP of 10.

ENT took the patient to the OR. A large piece of hotdog was noted sitting in the patient's hypopharynx and this was removed. Additional food particles were also suctioned from the posterior oropharynx. Food was also in the esophageal inlet. While undergoing the bronchoscope the patient would have episodes of desaturations, which again resulted from a significant amount of food and secretions noted in the ETT tube. This would be removed with flexible suctioning and O2 saturations would transiently improve. Bronchoscopy visualized the carina with no evidence of obstruction. The patient was subsequently sent to the PICU.

The patient would show signs of anoxic brain injury and would ultimately be deemed brain dead secondary to asphyxiation from a hotdog aspiration.

Summary

Foreign body aspiration in the pediatric patient is a potentially life threatening emergency. Over 100 kids die annually from FBA. Some children may present to the emergency department without a history of aspiration and may be subsequently misdiagnosed. Others may arrive with dramatic symptoms as described above. The emergency provider must be prepared for each and every potential scenario, from the unknown aspiration to the partial and complete airway obstruction.

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Free Open Access Meducation (FOAM)


Guest authors: Michelle Lin, MD, UCSF Academy Endowed Chair of Emergency Medicine Education; Associate Professor of Clinical Emergency Medicine, University of California

Jeff Pepin, MD, Resident Director of Intern/Medical Student Academic Affairs, Department of Emergency Medicine, Lincoln Medical and Mental Health Center

If you want to know how we practiced medicine 5 years ago, read a textbook.

If you want to know how we practiced medicine 2 years ago, read a journal.

If you want to know how we practice medicine now, go to a (good) conference.

If you want to know how we will practice medicine in the future, listen in the hallways and use FOAM.

-- from International EM Education Efforts & E-Learning by Joe Lex, MD 2012

In our ever evolving world of medicine, it is a challenge for emergency physicians to stay on top of the latest and greatest of what seems like a constant change in our medical practice. To meet the needs of a seasoned emergency physician looking for new ways to stay current or a resident looking to go beyond textbooks and journals, there is this concept in medical education called FOAM.

Dr. Mike Cadgoan, an Australian emergency physician and one of the founding editors of the web site/blog Life in the Fastlane, coined the acronym which stands for Free Open Access Meducation: Medical education for anyone, anywhere, anytime. He describes FOAM as including blogs, podcasts, tweets, Google hangouts, online videos, text documents, photographs, Facebook groups, and a whole lot more.

In the past few years there has been an explosion of open access medical education hitting social media. It has been wonderful to see its exponential growth but it has come with a cost of what seems like a feeling of information overload. Trying to weed through all the blogs, web sites, podcasts, tweets has become a daunting task for new users and busy practitioners and because of it, I feel like many people give up and do not take advantage of what is available. Trying to take a sip from the educational fountain has been more like a blast in the face from the educational fire hydrant.

Being an avid FOAM user for a number of years I am often asked by new residents and physicians in the community about what blogs, Twitter accounts and web sites I am following. I am always happy to pass on my routine, but unfortunately, I feel like I am leaving people with the same information overload. It is not easy for me to explain how I got started because I am a little further down the road on the information highway. So I enlisted the help of the outstanding Editor-In-Chief of the blog Academic Life in Emergency Medicine, Dr. Michelle Lin, to help demystifying FOAM. There needs to be a user's guide to FOAM, so I asked Dr. Lin to explain a way for new FOAM users to get onto the information superhighway and to not feel so overwhelmed.

These are her thoughts:

When entering the information superhighway, remember to stay in the slow lane first.

Phase 1: Set a realistic expectation for yourself and what you want to get out of online content.

Your goals will likely be different than others. When just starting out, select two or three blogs to follow through a RSS feeder. This helps to aggregate all new articles from the sites you normally visit all together on one site. Although Google just announced that Google Reader is being retired in July, there are plenty out there. I just started using Feedly, which allows me to check my RSS content on both a desktop and my iPhone. Blog content comes to ME ("push" technology) rather my having to check on them intermittently ("pull" technology). Using RSS makes this a one-stop shopping process. Make it a life-long learning habit to check this feed once a day.

Which sites, you ask? It depends on what you want to read about. It also depends on how you learn. Are you more a visual or auditory learner? If the former (visual), go for more text-based or video sites. These might include LifeInTheFastLane.com with their weekly summary of relevant EM blog content. You are welcome to check mine out (AcademicLifeinEM.blogspot.com). We are more an eclectic mix of tricks of the trade, clinical content, pocket reference cards, and education content. We just added an amazing and diverse team of bloggers this year, who have added quality content to the site. There is also Dr. Amal Mattu's video EKG lecture series (ekgumem.tumblr.com). If the latter (auditory), a good suggestion would be to subscribe to a podcast series like www.EMCrit.org or EM:RAP (www.emrap.org/podcast).

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Free Open Access Meducation

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Eventually, you can add RSS feeds of journals. You can receive each journal's table of contents through a RSS feed as soon as it is published. This is a nice way of staying up to date with current literature.

The trick is to START SLOW. If you sip too fast on the FOAM fire hose, you will inevitably drown. Slowly with time, links in these few blogs will take you organically to other sites that may seem interesting to you. Do not feel like you need to read ALL the content every time. Skim and decide — read, save for later, or move on.

Phase 2: Engage.

After lurking and consuming content, think about posting a few comments or questions on the blogs. Get involved. You will be surprised at how responsive "medubloggers" are. I make a point to try to respond to all blog comments within 24 hours.

Phase 3: Dip your toe in the shallow end of the Twitter pool.

Get an account. Sign up to follow only five people in emergency medicine. Pick those who post fairly regularly. They tend to have at least 200 followers. The master list of 26 can be found at https://twitter.com/FOAMstarter.

Just lurk and read what they post. Don't tweet. Don't retweet. Just be digitally silent and read. Open your Twitter app once daily to build up this daily habit. Sometimes there is poor quality stuff out there. Other times there is such pure gold that you can't believe you haven't joined Twitter sooner. Just keep on the lookout. Be a good skimmer. If a particular tweeter "over" posts (i.e. over shares personal info or posts too often), don't be afraid to unfollow them. I unfollow people ALL the time.

Phase 4: Engage in Twitter.

Wade into the deep end of the Twitter pool, which I refer to as the 21st century digital water cooler. Twitter is not meant to teach all. Its purpose is to spark your interest and encourage you to read more on your own based on community discussion. It lets you listen in on comments from leaders in emergency medicine. Who wouldn't want to listen to Amal at the water cooler? To engage in Twitter, try replying to someone's tweet. Or post a tweet of your own which adds value. Post something with a Pubmed link, or a link to a great blog post that you read. People will appreciate it.

After that, you are well on your way. The goal is to slowly build a mind map of all-things-learning. You start with a seed and you watch it grow into a tree with many branches and interconnections. A common mistake is that people want to start in all phases of FOAM simultaneously and that will lead to an epic fail. Start slow. Build gradually. ■

Lead or Follow, We Choose

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emergency department setting, and under the control of the emergency medical team.

There is no limit to the opportunities for expansion and improvement of emergency department facilities and the care we could offer. Elderly patients with 'failure to thrive' may be quickly assessed for potential transition to nursing home care. Late stage cancer patients may find peace in streamlined evaluations for hospice or palliative care. Patients with borderline conditions like cellulitis may be able to go home with nursing care, avoiding admission. And on and on.

This means we have the opportunity to be the true quarterbacks of the health care system; the control tower in the health care airport. But to achieve this we will have to put our best foot forward. We will have to begin independent, concerted attempts to improve our own efforts at cost containment. We will have to show deliberate efforts in reducing unnecessary utilization, unnecessary hospitalization, and all other manner of care that does not improve the health of our patients. We will have to show an abiding interest in, and an affinity for, understanding health care evidence. We will need to demonstrate our ability to distinguish between which measures truly improve health and which are done for defensive purposes, or because of misaligned incentives, or for expediency.

If we can show that we recognize these issues, and that we care about addressing them then—and only then—will we be considered for the privilege of quarterbacking a team that seeks quality care with cost containment. Why would anyone hand us the keys to the castle if we had not shown that we are ready and willing to lead on the two most important issues for the future of health care?

Emergency physicians have long lamented difficulties in mobilizing the resources needed to provide expedient care, to support dispositions, and to improve the consistency and fidelity of outpatient care for our population. When the system broke down all around us we stood strong, fighting for our patients and for quality care in our setting. Now, the resources and control that we have been seeking may be within our reach. But only if we are ready to lead the charge toward high quality, cost-efficient care. If not, instead of pulling the levers and pushing the buttons we will be the levers and the buttons. The question is: will we lead or will we follow? ■

Rural EMS Challenges

John Broderick, MD FACEP, Chief Medical Officer, Adirondack Health; Chair, REMAC; Member, New York ACEP EMS Committee

Bruce Barry, RN CEN NREMT-P, EMS Coordinator, Department of Emergency Medicine, Adirondack Health

"How much longer? Fifteen minutes. The roads are really slippery going through this mountain pass." The driver answers with a mix of anxiety and annoyance. The patient in the back of the ambulance isn't looking good. Crushing chest pain, nausea, and lightheadedness are what brought him to the attention of the rural medical crew at the ski mountain. Now he is looking ashen and cool with a low blood pressure.

I was in the back of the ambulance that day along with my rural EMS colleagues witnessing time truly standing still as we worked on a sick patient driving through winding mountain roads. There are times when a windy road is welcome instead of the muddy trail leading from a mountain where a climber has plunged forty feet from a cliff.

EMTs in rural portions of New York rise to the challenges of distance and geography frequently and many have entered the field to provide this kind of care. These challenges can be overcome with the right people, training and preparation. The real challenges in continuing to deliver quality rural pre-hospital care are far more difficult to overcome.

"No one has the time or wants to volunteer anymore." This statement was heard frequently from EMS leaders at our annual regional EMS retreat in Lake Placid. EMS staffing is the primary concern in our rural region along with other rural areas in New York State and the nation. Decreased volunteerism is the most significant reason for rural EMS staffing concerns.

Volunteers make up nearly half of rural EMTs versus less than one third in urban areas (48.6% vs 30.0%).[1] The most recent data from the Mountain Lakes REMSCO suggest that 51% of EMTs are volunteers. Agencies that use volunteers experience a much harder time of recruiting EMTs.[1,2] Once the EMT has been successfully recruited, retention then becomes the challenge with 21.6% of rural agencies always having trouble retaining EMTs[1] and 60% of agencies in our region describing recruitment and retention as their top challenge. Reasons for increased difficulty recruiting and retaining in rural areas is job stress and burnout, geographic isolation, and increased work life demands which interferes with volunteer time.[3]

Quality patient care and safety are of paramount importance in any health care setting and this is no different in the rural pre-hospital setting. Increased education has been added over the years to improve upon patient safety and allow EMTs the time to learn the ever increasing pre-hospital knowledge base. Offering these educational programs in rural areas poses unique challenges due to distance, available instructors and necessary equipment. Rural directors were more likely to report training programs for EMTs were too far away, too long and too expensive than their urban and suburban counterparts.[1] In New York State it takes a minimum of 150 hours of course work to attain basic EMT certification and for a paramedic add on an additional 1,000 hours. At the minimum this is equivalent to a semester in college for a basic EMT and an associate's degree for a paramedic. Once certified, it is necessary to maintain proficiency with ongoing CMEs with a minimum of 72 hours for EMTs to recertify every three years.

Efforts to increase EMS volunteerism will continue much like what is currently being done for volunteer firefighters. "Is there a fire in you?" is a U.S. Government grant sponsored effort through the Fireman's Association of the State of New York (FASNY) to recruit 15,000 new firefighters by 2015. The impact of this campaign on rural EMS is uncertain as many fire districts no longer offer EMS services directly.

The majority of calls in the community to a combined fire/EMS response system are medical calls. Fewer than 10% are fire calls and over half require an emergency medical response.[5] The volunteer who signs up with their local rural fire department soon discovers these facts and is asked to assume patient care responsibilities rather than fighting fires. Local budgets are strained as increasing costs to cover local EMS issues are less easily absorbed into small rural budgets and their smaller tax base compared to their urban and suburban brethren.

Increasing demand for services along with shrinking municipal budgets and the need for more paid staff to provide the ever increasing complex care led to many ambulance agencies separating from their fire districts. Over the past five years our region witnessed 10 agencies separate from their fire districts. This separation allows these EMS agencies to bill third party payers to maintain and purchase new equipment and more importantly hire paid staff to augment their ever shrinking volunteer base. The increased funding from this separation also allows more paid training officers to be hired, a critical position given the increasing complexities of pre-hospital care. Sixty-three percent of agencies in our region bill for services but only 11% use it as sole income and 86% of agencies report a mixed income stream between billing, tax districting and municipal contracts.

Volunteers will continue to fill a critical role in rural EMS systems primarily at times when volumes typically are less and volunteers more available such as nights and weekends.[6] The increased call volume during the day helps to keep the paid staff busy and their skills refined. Forty-three percent of EMTs in our area provide both paid and volunteer duties which help to fill staffing needs and maintain skills.

Rural pre-hospital care is much different than it was 20 years ago. The days of the local volunteer doing a "scoop and go" are over. Increasing number of medications, CPAP, intra-nasal narcan, supraglottic

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new york acep CALENDAR

june

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

july

2 Membership Proxy for Board Candidates Due
8 Board Meeting, 11:00 am-12:30 pm, Sagamore Resort
8 Research Forum, 1:00 pm, Sagamore Resort
8-10 New York ACEP Scientific Assembly, Sagamore Resort
9 New York ACEP Annual Meeting Luncheon & Legislative Update, 12:45-1:45 pm, Sagamore Resort
9 New York ACEP Committee Meetings, 1:45-2:15 pm, Sagamore Resort
10 Board Meeting, 7:00-8:00 am, Sagamore Resort

september

11 Education Committee Conference Call, 1:30 pm
11 Professional Development Conference Call, 3:30 pm
12 Practice Management Conference Call, 1:00 pm
18 Government Affairs Conference Call, 11:00 am
18 Research Committee Conference Call, 3:00 pm
25 Resident Research Conference, Mount Sinai School of Medicine
27 2013 LLSA Review, 8:00 am-1:00 pm, Mount Sinai School of Medicine

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Rural EMS Challenges

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airways and the appropriate use of narcotics will demand an ever increasing knowledge and skill base that will be difficult to do with volunteers alone. The question that many of us now have in rural areas is how else we can use this dynamic and expanding work force to meet the challenges of population health in a rural environment.

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Do I Want to be a Residency Director?

Moshe Weizberg, MD FACEP, Program Director, Emergency Medicine Residency; Attending Physician Emergency Department, Staten Island University Hospital; Member, New York ACEP Professional Development Committee

Are you looking for the next stage in your career? Perhaps you are an assistant residency director or a medical student director considering moving up to the residency director position. Maybe you are a clinical doctor looking for more job satisfaction and considering getting more involved in education. Is the residency director position the right fit for you? What does the job entail?

As with many jobs, success can not be accomplished by one person alone. The residency director position is certainly no exception. Residency leadership typically consists of a team: a residency director, associate/assistant residency directors, and a residency coordinator. The residency director helps lead the team while fostering the skills of the other team members and mentoring them in their own development.

A residency director has the ability to affect the education of all the residents in the program. While the teaching attending affects the education of one resident at a time, the residency director sets the tone for the education of the program as a whole. This includes deciding how the residents will rotate through various areas of the Emergency Department (ED), which off-service rotations the residents will do, and how weekly conference will be structured.

New research on educational techniques and tools is continually developing, allowing residency directors to incorporate new educational ideas into the program. As we find out more about how adults learn, we understand that innovative techniques must continuously be integrated into the program to ensure residents are getting the most out of their education. Watching a novel idea take hold and be well received can be very rewarding.

As residency director, you can incorporate your visions for the direction of the program. What do you want your residents to be experts on? Do you want your program to focus on trauma or critical care? Perhaps you would like more of a research focus? Maybe your residents will learn about an area not traditionally emphasized in emergency medicine training? The role of residency director will allow you to make these decisions for your program.

If you become a new residency director in an existing program, much of the infrastructure will already be built for you. You then have the ability to adjust things to fit your style. However, a residency director starting a new residency program has the ability to build the program from the ground up. Here you can really leave your mark as you determine the philosophy of the program. What will be the residents' focus? What will their role be in the ED? What rotations will they do? What will weekly conference be like? Building a program from scratch allows you to truly shape the program according to your visions and attitudes regarding resident education.

Another advantage of the residency director position is the ability to network. Through the Council of Emergency Medicine Residency Directors (CORD), you will interact with residency directors from across the country. It is great to be able to call on the collective wisdom of other residency directors and share ideas with those facing the same challenges as you.

It can not be overstated that any successful residency leadership consists of a strong leadership team. You can't do this job by yourself. You need your team to be working with you and incorporating their unique strengths into the success of the program.

Of course, no job is entirely fun and games. The responsibilities of the residency director are significant and varied. You have responsibilities to your residents, to your institution, and to the Accreditation Council for Graduate Medical Education (ACGME) which accredits all residency programs. The residency director must ensure that all ACGME requirements are met. For example, the residency director must ensure duty hour requirements are being followed, that residents are documenting follow-ups on their patients, and that they are logging the procedures that they perform. All residents love placing central lines. Logging the procedure is not as much fun and may not always get done. This also falls under the oversight of the residency director.

A residency director must meet with all residents every six months. During these semi-annual evaluations, each resident's progress is reviewed and plans are constructed for the following six months. All residents do not progress at the same pace and every resident learns differently. The residency director is responsible for identifying the residents who need additional help and ensuring that assistance is provided. The "difficult learner" or the "resident who leans differently" can be quite a challenge for a residency director.

Each year, a group of residents graduate. These residents need assistance in finding jobs or fellowship positions. Similarly, you have to hire a new group of residents every year. This process can be quite time consuming, consisting of recruitment, application reviews, interviews, and generating a match list. It can also be a lot of fun. You get to meet the people who represent the future of emergency medicine and decide which ones would be the right residents for your program.

As you can imagine, managing a group of residents inevitably results in issues that you will need to deal with. Whether they are issues between residents, between residents and faculty, or issues with other departments in the hospital, problems arise that will require your intervention.

The role of residency director can be incredibly gratifying. Watching your residents progress from new interns working on generating an appropriate differential diagnosis to senior residents who can run the trauma room with little input from the attending can be very rewarding. Observing how your innovations lead to enhanced resident education can greatly increase your job satisfaction. We are now at a transition time in graduate medical education. Residency requirements are now focusing on outcomes in the form of milestones. Resident promotion will be determined by clinical competency committees. It is a very exciting time to become a residency director. If you enjoy training the next generation of ED physicians and are looking for the next step in your career, consider a residency leadership position. Help mold the future of your specialty. Remember, you will be training the doctors who will be taking care of you when you get sick and have to go to an ED. Make sure they are up to the challenge. ■

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