Creating Hope
How emergency physicians are working to navigate the complexities of firearm injury prevention
by MEGAN L. RANNEY, MD, MPH, FACEP

As emergency physicians, we are the first and often the only physicians to see victims of firearm injury. We are the docs who are the first to manage the aftermath of a mass shooting. We are the ones most at risk of active shooters in our own hospitals, and we are the ones who have to handle the legal questions that come with a patient with violent tendencies who has been dropped off at our door by the police. We see both the immediate and long-term effects of these injuries, and of course, many

FORMULA
FOR
SUCCESS
Achieve your dreams, from historic achievement to personal fulfillment

“...the history of the world is but the biography of great men [and women].”
—Thomas Carlyle

It’s not all about you. In fact, when it comes to achieving the summit of success, it’s often not about you at all. For most of us, understanding this can mean the difference between having a fulfilling professional life or feeling like a failure.

The Formula
Carlyle’s statement above is thought-provoking but incomplete. Great women and men are indeed integral to history, but whether history made them or they made history is a matter for debate. The distinction between the top few percent of high performers and the top one-tenth of 1 percent about whom history books are written is often one of opportunity, not awesome intrinsic personal ability. Aware of this, we increase our chances for professional success while also enjoying our accomplishments and minimizing disappointment in our careers.

I enjoy studying U.S. presidential and ancient Roman history, particularly through biographies of those who have helped shape their times. Though these impactful people vary greatly from one another, common themes, nonetheless, unite them. Most were bright and/or talented. Most worked exceedingly hard to excel in their work. However, nearly all, not just most, are persons of historic interest because unique cir-
Are you aware of the variety of support resources available for ELIQUIS patients?

Think ELIQUIS for the treatment of DVT/PE.

DVT: deep vein thrombosis; PE: pulmonary embolism.

INDICATIONS
ELIQUIS is indicated for the treatment of deep vein thrombosis (DVT) and pulmonary embolism (PE), and to reduce the risk of recurrent DVT and PE following initial therapy.

IMPORTANT SAFETY INFORMATION

WARNING: (A) PREMATURE DISCONTINUATION OF ELIQUIS INCREASES THE RISK OF THROMBOTIC EVENTS, (B) SPINAL/EPIDURAL HEMATOMA

(A) Premature discontinuation of any oral anticoagulant, including ELIQUIS, increases the risk of thrombotic events. If anticoagulation with ELIQUIS is discontinued for a reason other than pathological bleeding or completion of a course of therapy, consider coverage with another anticoagulant.

(B) Epidural or spinal hematomas may occur in patients treated with ELIQUIS who are receiving neuraxial anesthesia or undergoing spinal puncture. These hematomas may result in long-term or permanent paralysis. Consider these risks when scheduling patients for spinal procedures. Factors that can increase the risk of developing epidural or spinal hematomas in these patients include:

• use of indwelling epidural catheters
• concomitant use of other drugs that affect hemostasis, such as nonsteroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants
• a history of traumatic or repeated epidural or spinal punctures
• a history of spinal deformity or spinal surgery
• optimal timing between the administration of ELIQUIS and neuraxial procedures is not known

Monitor patients frequently for signs and symptoms of neurological impairment. If neurological compromise is noted, urgent treatment is necessary.

Consider the benefits and risks before neuraxial intervention in patients anticoagulated or to be anticoagulated.

CONTRAINDICATIONS
• Active pathological bleeding
• Severe hypersensitivity reaction to ELIQUIS (e.g., anaphylactic reactions)

WARNINGS AND PRECAUTIONS
• Increased Risk of Thrombotic Events after Premature Discontinuation: Premature discontinuation of any oral anticoagulant, including ELIQUIS, in the absence of adequate alternative anticoagulation increases the risk of thrombotic events. An increased rate of stroke was observed during the transition from ELIQUIS to warfarin in clinical trials in atrial fibrillation patients. If ELIQUIS is discontinued for a reason other than pathological bleeding or completion of a course of therapy, consider coverage with another anticoagulant.

• Bleeding Risk: ELIQUIS increases the risk of bleeding and can cause serious, potentially fatal, bleeding.

– Concomitant use of drugs affecting hemostasis increases the risk of bleeding, including aspirin and other antiplatelet agents, other anticoagulants, heparin, thrombolytic agents, SSRIs, SNRIs, and NSAIDs.

– Advise patients of signs and symptoms of blood loss and to report them immediately or go to an emergency room. Discontinue ELIQUIS in patients with active pathological hemorrhage.

– The anticoagulant effect of apixaban can be expected to persist for at least 24 hours after the last dose (i.e., about two half-lives). An agent to reverse the anti-factor Xa activity of apixaban is available. Please visit www.andexxa.com for more information on availability of a reversal agent.

• Spinal/Epidural Anesthesia or Puncture: Patients treated with ELIQUIS undergoing spinal/epidural anesthesia or puncture may develop an epidural or spinal hematoma which can result in long-term or permanent paralysis.

The risk of these events may be increased by the postoperative use of indwelling epidural catheters or the concomitant use of medicinal products affecting hemostasis. Indwelling epidural or intrathecal catheters should not be removed earlier than
ELIQUIS is indicated for the treatment of deep vein thrombosis (DVT) and pulmonary embolism (PE).

Consider the benefits and risks before neuraxial intervention is performed.

• A history of spinal deformity or spinal surgery
• A history of traumatic or repeated epidural or spinal punctures

Monitor patients frequently for signs and symptoms of hematoma in these patients. These hematomas may result from use of indwelling epidural catheters or the concomitant use of medicinal products affecting hemostasis. Indwelling epidural catheters should not be removed earlier than 5 hours after the removal of the catheter. The risk may also be increased by traumatic or repeated epidural or spinal puncture. If traumatic puncture occurs, delay the administration of ELIQUIS for 48 hours.

Monitor patients frequently and if neurological compromise is noted, urgent diagnosis and treatment is necessary. Physicians should consider the potential benefit versus the risk of neuraxial intervention in ELIQUIS patients.

• Prosthetic Heart Valves: The safety and efficacy of ELIQUIS have not been studied in patients with prosthetic heart valves and is not recommended in these patients.

• Acute PE in Hemodynamically Unstable Patients or Patients who Require Thrombolysis or Pulmonary Embolectomy: Initiation of ELIQUIS is not recommended as an alternative to unfractionated heparin for the initial treatment of patients with PE who present with hemodynamic instability or who may receive thrombolysis or pulmonary embolectomy.

ADVERSE REACTIONS

• The most common and most serious adverse reactions reported with ELIQUIS were related to bleeding.

TEMPORARY INTERRUPTION FOR SURGERY AND OTHER INTERVENTIONS

• ELIQUIS should be discontinued at least 48 hours prior to elective surgery or invasive procedures with a moderate or high risk of unacceptable or clinically significant bleeding. ELIQUIS should be discontinued at least 24 hours prior to elective surgery or invasive procedures with a low risk of bleeding or where the bleeding would be noncritical in location and easily controlled. Bridging anticoagulation during the 24 to 48 hours after stopping ELIQUIS and prior to the intervention is not generally required. ELIQUIS should be restarted after the surgical or other procedures as soon as adequate hemostasis has been established.

PREGNANCY CATEGORY B

• There are no adequate and well-controlled studies of ELIQUIS in pregnant women. Treatment is likely to increase the risk of hemorrhage during pregnancy and delivery. ELIQUIS should be used during pregnancy only if the potential benefit outweighs the potential risk to the mother and fetus.

Please see Brief Summary of Full Prescribing Information, including Boxed WARNINGS, on adjacent pages.

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or weakness of the legs, or bowel or bladder dysfunction). If neurological compromise is noted, removal of the catheter. The risk may also be increased by traumatic or repeated epidural or concentration.

- nonsteroidal anti-inflammatory drugs (NSAIDs).

ELIQUIS increases the risk of bleeding and can cause serious, potentially fatal, bleeding of stroke was observed during the transition from ELIQUIS to warfarin in clinical trials in atrial adequate alternative anticoagulation increases the risk of thrombotic events. An increased rate ELIQUIS is contraindicated in patients with the following conditions:

- Spinal/epidural anesthesia or puncture ([see Warnings and Precautions].

Bleeding in Patients with Nonvalvular Atrial Fibrillation in ARISTOTLE and AVERROES Tables 1 and 2 show the number of patients experiencing major bleeding during the treatment period and the bleeding rate per patient-year of subjects with at least one event per 100 patient-years in ARISTOTLE (N=9088) and AVERROES (N=5924 patients exposed to ELIQUIS 2.5 mg twice daily undergoing major orthopedic surgery of the lower limbs (hip or knee) who were randomized to treatment/replacement for up to 365 days. In total, 11% of the patients treated with ELIQUIS 2.5 mg twice daily experienced adverse bleeding.

Blending results during the treatment period in the Phase IIb studies are shown in Table 3. Blending was assessed in each study beginning with the first dose of double-blind study drug.

Blending Endpoints in Patients undergoing Elective Hip or Knee Replacement Surgery

<table>
<thead>
<tr>
<th>Blending Endpoints</th>
<th>ADVANCE-3</th>
<th>Advancement-5 Hip Replacement Surgery</th>
<th>ADVANCE-5 Knee Replacement Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>8%</td>
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</tr>
<tr>
<td>Nonmajor</td>
<td>7.4%</td>
<td>5.6%</td>
<td>6.2%</td>
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<td>15.4%</td>
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In ARISTOTLE, the results for major bleeding were generally consistent across most major subgroups including age. Weight, ONT, INR, sodium, hematocrit, and ONT at <2.5 mg twice daily.

Prophylaxis of Deep Vein Thrombosis Following Hip or Knee Replacement Surgery

The safety of ELIQUIS has been evaluated in 1 Phase I and 3 Phase 3 studies including 5004 patients exposed to ELIQUIS 2.5 mg twice daily undergoing major orthopedic surgery of the lower limbs (hip or knee) who were randomized to treatment/replacement for up to 365 days. In total, 11% of the patients treated with ELIQUIS 2.5 mg twice daily experienced adverse bleeding.

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</tbody>
</table>
Table 6: Adverse Reactions Occurring in ≥1% of Patients Treated for DVT and PE in the AMPLIFY Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban)</th>
<th>Placebo</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thromboembolism</td>
<td>6 (0.7)</td>
<td>3 (0.4)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vascular disorders</td>
<td>3 (0.4)</td>
<td>2 (0.3)</td>
<td>0.71</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>9 (1.0)</td>
<td>6 (0.8)</td>
<td>0.16</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematological disorders</td>
<td>6 (0.7)</td>
<td>4 (0.5)</td>
<td>0.28</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiac disorders</td>
<td>3 (0.3)</td>
<td>1 (0.1)</td>
<td>0.015</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurological disorders</td>
<td>3 (0.3)</td>
<td>2 (0.3)</td>
<td>0.91</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin disorders</td>
<td>6 (0.7)</td>
<td>3 (0.4)</td>
<td>0.003</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connective tissue</td>
<td>4 (0.5)</td>
<td>2 (0.3)</td>
<td>0.047</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metabolic disorders</td>
<td>3 (0.3)</td>
<td>2 (0.3)</td>
<td>0.92</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>2 (0.2)</td>
<td>1 (0.1)</td>
<td>0.004</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total adverse reactions</td>
<td>74 (8.6)</td>
<td>39 (5.0)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Table 7: Bleeding Results in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban)</th>
<th>Placebo</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown*</td>
<td>2 (0.2)</td>
<td>1 (0.1)</td>
<td>0.45</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>153 (2.6)</td>
<td>159 (2.7)</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>37 (0.7)</td>
<td>31 (0.6)</td>
<td>0.27</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contusion</td>
<td>94 (1.7)</td>
<td>121 (1.9)</td>
<td>0.06</td>
</tr>
</tbody>
</table>

* CRNAs = clinically relevant nonmajor bleeding

Table 8: Adverse Reactions Occurring in ≥1% of Patients Undergoing Extended Treatment for DVT and PE in the AMPLIFY-EXT Study

<table>
<thead>
<tr>
<th>Event</th>
<th>ELIQUIS (apixaban)</th>
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<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>19 (2.4)</td>
<td>34 (4.2)</td>
<td>0.29</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>83 (1.4)</td>
<td>115 (1.9)</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Contusion</td>
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</table>

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Adverse reactions occurring in ≥1% of patients in the AMPLIFY-EXT study are listed in Table 8.
Congratulations to the 2019 ACEP Award Winners

The Board approved the following award winners during its April meeting and congratulates the recipients. The winners will be honored at ACEP20 in Denver.

- John G. Wiegenstein Leadership Award: Sandra M. Schneider, MD, FACEP
- James D. Mills Outstanding Contribution to Emergency Medicine Award: Ramon W. Johnson, MD, FACEP
- Judith E. Tintinalli Award for Outstanding Contribution in Education: William Green, MD, FACEP
- Outstanding Contribution in Research Award: Rebecca M. Cunningham, MD, FACEP; and Gail D’Onofrio, MD, FACEP
- Outstanding Contribution in EMS Award: Robert E. O’Connor, MD, FACEP
- Colin C. Rozier, Jr. Award for Excellence in Health Policy: Peter J. Jacoby, MD, FACEP
- Policy Pioneer Award: Megan L. Ramey, MD, FACEP
- John A. Rupke Legacy Award: Juan A. Gonzalez-Sanchez, MD, FACEP
- Honorary Membership Award: Lowell Gerson, PhD, and Laura Gore
- Pamela P. Benson Trailblazer Award: Andrew I. Bern, MD, FACEP
- Diane K. Bollman Chapter Advocate Award: Elena Lopez-Gusman
- Speaker of the Year (2018): Benjamin A. Savitch, MD, FACEP
- Council Meritorious Service Award: John H. Proctor, MD, FACEP
- Teamwork Award: Anne Zink, MD, FACEP; Laura Tilly, MD, FACEP; Brad Gruenel; and the SHIELDs Act Team
- Horizon Award: Zachary Jarou, MD
- Champion of Diversity & Inclusion: Bruce Lo, MD, FACEP
- Curnmudgeon Award: Bradford L. Walters, MD, FACEP

Candidates Announced for Board, Council

The following candidates are running for ACEP leadership positions in 2019. Elections will take place at the Council meeting in Denver preceding ACEP20. More information on the candidates will be forthcoming.

President-Elect
- Jon Mark Hirscho, MD, FACEP (MD)
- Mark Rosenberg, DO, FACEP (NJ)

Council Speaker
- Gary Katz, MD, FACEP (OH)

Council Vice Speaker
- Kelly Gray-Eurom, MD, FACEP (FL)
- Andrea Green, MD, FACEP (TX)
- Howard Mell, MD, FACEP (IL)

Board of Directors (four open positions)
- Michael Baker, MD, FACEP (MI)
- Jeffrey Goodloe, MD, FACEP (OK)
- Rachelle (Shelley) Greenman, MD, FACEP (NJ)
- Gabor Kellen, MD, FACEP (AACEM)
- Pamela Ross, MD, FACEP (VA)
- Gillian Schmitz, MD, FACEP (incumbent, Government Services)
- Ryan Stanton, MD, FACEP (KY)
- Thomas Sugarman, MD, FACEP (CA)

Board of Directors Considers Influenza, Firearm Safety Research, Academic Protected Time, and More During April Meeting

The Board of Directors of Convened April 10–11, 2019, and discussed several issues impacting the specialty of emergency medicine. Among their decisions, they voted in favor of:

- Surveying the Council for a representative viewpoint on firearm safety, firearm injury-related research, and College policy
- A policy statement from the EMS Committee about salary and benefits considerations for EMS professionals
- A policy statement about violence prevention and intervention in EMS systems
- Hosting ACEP20 in Las Vegas
- Creating a national wellness award to celebrate institutions or organizations that demonstrate best practices when it comes to physician wellness, with the inaugural award presented during ACEP20
- Partnering with the Center for Improvement in Healthcare Quality to develop an accreditation process for fast-track emergency centers
- Approving an influenza ED best practices information paper
- Submitting a white paper to Annals of Emergency Medicine about the potential impact of the Accreditation Council for Graduate Medical Education’s proposed policy that would lessen the requirement for protected time for core faculty

Emergency Physician Named Chief Executive Officer of AOA

ACEP Board member Kevin Klauer, DO, EJD, FACEP, has been appointed chief executive officer of the American Osteopathic Association (AOA), the professional membership organization for more than 145,000 osteopathic physicians and medical students. As CEO, he will be responsible for strategy, operating results, organizational growth, and advocacy.

“He is thrilled for Dr. Klauer to join the AOA as its next CEO,” said AOA President William S. Mayo, DO. “The DO profession is undergoing significant growth, with approximately one in four medical students attending a college of osteopathic medicine. This is a pivotal moment for the osteopathic profession and health care overall, and we are confident in Dr. Klauer’s experience to lead us through a dynamic and evolving landscape.”

Dr. Klauer, an ACEP member since 1992 and current Medical Director in Chief of ACEP, will finish his current term on the ACEP Board in October and will help transition a new emergency physician into the role of AOA’s Medical Director in Chief. See page 10 for a letter from Dr. Klauer about the transition and his new role.

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NEWS FROM THE COLLEGE

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May 2019

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If You Don’t Pass, You Don’t Pay! | Content Updated & Revised for 2019

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ACEP Advocates for Workplace Violence Protections for Health Care Workers

Violence in the emergency department is a serious and growing concern. ACEP’s 2018 survey reported that nearly half of emergency physicians polled had been physically assaulted, with more than 60 percent of assaults occurring in the past year. ACEP recently worked with Congressional offices to request additional clarity of the legislation’s provisions of this legislation are implemented appropriately.

Without mentioning our National Childhood Vaccine Injury Act (NCVIA) or the reasons it was created by Congress, you go on to state that 5 percent of vaccine-related events are not being considered by the same physicians you suggest become vaccine advocates instead of doing what is more ethical and moral for injured children and their parents.

Without any mention of a $10 million dollar settlement awarded a Florida FMR injured child or the daughter of a Johns Hopkins pediatric neurologist, you ask EM doctors to ignore both NCVIA and VAERS.

Without mentioning a Centers for Disease Control and Prevention–funded Harvard study using an enhanced VAERS showed the actual incidence of illness and injury following vaccines given to Pilgrim Health subscribers was 2.4 percent, you suggest the real incidence is one in a million.

Without further comment on the code of Hippocrates, I urge anyone to find a study on the safety of injected aluminum on the day of birth and each well baby visit during the first year or injections of mercury and aluminum into a pregnant woman.

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David Denton Davis, MD
La Jolla, California

Dr. Talan Responds

Thank you for your comments illustrating some concerns about vaccinations. As you have concerns as a physician, just imagine those of our patients.

As long as there are medical professionals and attorneys, there will be side effects and lawsuits. I agree that we have a duty to report all serious medication-related adverse events. It’s helpful to emergency physicians to know about the Vaccine Adverse Event Reporting System (VAERS) that mandates this monitoring. The reporting and investigation of side effects of the original whooping cough vaccine and whooping cough vaccine (Rotashield) led to their recall and development of safer and more effective products. Many would point to this as evidence of the success for our current vaccine monitoring efforts.

The Vaccine Injury Compensation Program (VICP) was established through the National Childhood Vaccine Injury Act of 1986 (along with VAERS) to indemnify vaccine manufacturers because their fear of jury awards, like the one you mention, could dissuade them from producing vaccines, but not because vaccines were inherently dangerous products. Just like life-saving antibiotics that we routinely prescribe, vaccines rarely cause serious reactions, such as anaphylaxis that is estimated at one in 1.2 million vaccine doses. However, almost all vaccine side effects (let’s accept the “2.4 percent” you mentioned) are mild and transient. The VICP is a no-fault program in which awards are provided if there is any reasonable association of the vaccine and the side effect. Of note, while conditions like shoulder injury related to the injection and vasovagal syncope are covered, autism, the most prominent current concern, is not a compensated condition.

For my opinions about the safety of vaccines, relative to their great benefits, are scientific investigations in hundreds of thousands of individuals and their associated follow-up millions of person-years, some of which I referenced, and the conclusions of medical and public health authorities like the Centers for Disease Control and Prevention, the World Health Organization, and the American Academy of Pediatrics. In fact, since my article, another major study was published that found no association of autism among 657,461 Danish children (representing 5,025,754 person-years) who received the MMR vaccine. Ad- juvant vaccines, such as Prevnar and Hib, which have virtually eliminated childhood bacterial meningitis, contain aluminum, but in an amount that is minimal relative to normal human exposure, such as through dietary exposure. However, even with enhanced reporting of temporally associated symptoms by emergency providers, it may be difficult to satisfy skeptics who may attribute cause-and-effect relationships with any number of childhood conditions.

So let’s be vigilant and informed. The elimination or near elimination of life-threatening diseases due to vaccines is irrefutable, as evidenced by the new outbreaks of measles in the areas of the United States where vaccination rates are low. The readers can weigh the relative merits of our opinions. I am encouraging our emergency medicine colleagues, who are in a unique position as their community’s medical safety net, to advocate for vaccinations with patients and parents. Below is a reference to actual data that may facilitate such dialogue, like the one we have had before.

David A. Talan, MD, FACEP, FAAEM, FIDSA
Los Angeles, California

Reference

Vax-Debate

David,

With all due respect to you as a physician, I would like to share an alternative perspective on the vaccine safety conundrum [in response to “Advocating for Vaccination,” February 2019].

Without acknowledging our Vaccine Injury Compensation Program has paid out more than $4 billion to vaccine victims over the last 34 years, you have concluded all vaccines are safe for all.

Without mentioning our National Childhood Vaccine Injury Act (NCVIA) or the reasons it was created by Congress, you go on to encourage emergency physicians to become vaccine advocates.

Without mentioning the Vaccine Adverse Event Reporting System (VAERS) or the role emergency physicians should be playing in this passive vaccine safety net, you ignore the fact that 99 percent of vaccine-related events are not being considered by the same physicians you suggest become vaccine advocates instead of doing what is more ethical and moral for injured children and their parents.

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Los Angeles, California

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Dear friends and colleagues,

Opportunity often finds you when you’re ready, but not, necessarily, when you’re looking for it.

On June 1, 2019, I will begin a new role as the Chief Executive Officer of the American Osteopathic Association (AOA). I cannot begin to express my excitement and enthusiasm to serve in this new role and my gratitude and appreciation to the AOA Board of Trustees for selecting me. I will serve the AOA and the osteopathic profession and community with the same passion, effort, and dedication with which I have so willingly committed to ACEP, our specialty, and our members for so many years. However, this new role will require my full commitment and attention, prompting my decision to step away from my ACEP roles.

The AOA Board of Trustees and my fellow ACEP Board members support me in completing my term on the ACEP Board, which culminates this October. However, I will not be available to serve beyond October and will not run for a second term, which is the usual course for ACEP Board members. Serving you as one of your ACEP Board members has truly been an honor and a distinction, which I will remain thankful for throughout my life and career.

In addition, I have resigned my position as ACEP Now’s Medical Editor in Chief. My six years of service to ACEP in this capacity have truly been a labor of love. I have enjoyed and celebrated the success the publication has achieved in winning APEX awards for journalistic excellence every year since our transition from the former name, ACEP News, and format, and achieving the highly coveted #1 readership position in our space. Many hands make light work. The outstanding ACEP staff and our publishing partner, John Wiley and Sons, have been instrumental in building this publication and establishing ACEP Now as “The Official Voice of Emergency Medicine.”

Our recent ACEP membership survey results reflect that ACEP members value this publication, among the top-rated membership resources, and thus, our commitment to the members and our readership must and will continue.

New beginnings should not be overshadowed by the finality of transitions, but reflect the opportunity for new ideas, new leadership, and others to contribute and achieve new organizational heights, built on the foundations created by our predecessors.

To that end, I am committed to working with our staff, membership, and leadership to help identify my successor. I am also committed to mentoring and onboarding the new Medical Editor in Chief to ensure their success and an ever-brighter future for ACEP Now.

I am in your debt and that of ACEP for the wonderful opportunities afforded me by this incredible organization. You are my friends, my colleagues, and my family. You have done far more for me than I could ever hope to repay.

Please accept my humble thanks and deeply felt gratitude.

Sincerely,

Kevin

KEVIN M. KLAUER, DO, EJD, FACEP, is chief medical officer–hospital-based services and chief risk officer for TeamHealth as well as the executive director of the TeamHealth Patient Safety Organization. He is a clinical assistant professor at the University of Tennessee and Michigan State University College of Osteopathic Medicine.
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HyperRAB® (rabies immune globulin [human]) is indicated for postexposure prophylaxis, along with rabies vaccine, for all persons suspected of exposure to rabies.

HyperRAB is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent that can cause disease. There is also the possibility that unknown infectious agents may be present in such products.
The role of the emergency department

Suicide is the second-leading cause of death among youth and young adults ages 10 to 24 in the United States. In 2016, the rate of suicide among persons ages 15 to 24 was 13.15 per 100,000 individuals. According to the 2015 national Youth Risk Behavior Survey, 17.7 percent of youth in grades 9 through 12 reported seriously considering suicide in the previous 12 months, 8.6 percent of youth reported making at least one suicide attempt in the previous 12 months, and 2.8 percent reported a suicide attempt that required medical treatment.

Suicide contagion is the process by which one suicide facilitates the occurrence of another through direct or indirect awareness of the prior suicide. Two main types of

Indication and Usage

HYPERRAB® (rabies immune globulin [human]) is indicated for postexposure prophylaxis, along with rabies vaccine, for all persons suspected of exposure to rabies.

Limitations of Use

Persons who have been previously immunized with rabies vaccine and have a confirmed adequate rabies antibody titer should receive only vaccine.

For unvaccinated persons, the combination of HYPERRAB and vaccine is recommended for both bite and nonbite exposures regardless of the time interval between exposure and initiation of postexposure prophylaxis.

Beyond 7 days (after the first vaccine dose), HYPERRAB is not indicated since an antibody response to vaccine is presumed to have occurred.

Important Safety Information

For infiltration and intramuscular use only.

Severe hypersensitivity reactions may occur with HYPERRAB. Patients with a history of prior systemic allergic reactions to human immunoglobulin preparations are at a greater risk of developing severe hypersensitivity and anaphylactic reactions. Have epinephrine available for treatment of acute allergic symptoms, should they occur.

HYPERRAB is made from human blood and may carry a risk of transmitting infectious agents, eg, viruses, the variant Creutzfeldt-Jakob disease (vCJD) agent, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

The most common adverse reactions in >5% of subjects during clinical trials were injection-site pain, headache, injection-site nodule, abdominal pain, diarrhea, flatulence, nasal congestion, and oropharyngeal pain.

Do not administer repeated doses of HYPERRAB once vaccine treatment has been initiated as this could prevent the full expression of active immunity expected from the rabies vaccine.

Other antibodies in the HYPERRAB preparation may interfere with the response to live vaccines such as measles, mumps, polio, or rubella. Defer immunization with live vaccines for 4 months after HYPERRAB administration.

Please see brief summary of Prescribing Information on adjacent page or visit HyperRAB.com for full Prescribing Information.
suicide clusters have been discussed in the literature: mass clusters, which are media-related (suicides are grouped in time but not space), and point clusters, which are local (suicides are contiguous in time and space).11,12 Emergency clinicians are often primary points of contact for persons at elevated risk for suicide, and they have the ability to alter the risk for suicide. There is strong evidence that emergency departments and emergency physicians are critical to such intervention efforts.13

TYPES OF CONTAGION
In adolescents, many studies have demonstrated a strong association between major depression and suicide. In a large recent U.S.-based longitudinal study, the relative risk of suicide to was 2.96 to 7.67 depending on the relationship (friend or family member) to the person who attempted suicide.7

Bullying has been identified as increasing the risk of suicidal behaviors, particularly in youth with underlying suicide risk factors (eg, mental health problems, substance use, early childhood adversity such as abuse, and other psychosocial stressors). Bullying can be physical, verbal, or relational (eg, rumors and social exclusion). The Centers for Disease Control and Prevention (CDC) reported that, in 2013, 23.7 percent of boys and 15.6 percent of girls were bullied at school, while cyberbullying was experienced by 21 percent of girls and 8.5 percent of boys.11 Increases in suicidal ideation and/or suicide attempts are observed in both bullies and victims.

Media exposure has been investigated as a source of suicide contagion. Traditionally, this has been divided into fictional and nonfictional exposure to suicide, with books, newspapers, television, and radio being the major sources of content. Recently, the internet, with multiple social platforms and news outlets, has greatly increased the opportunity for individuals to be exposed to fictional and nonfictional suicides.14

The association between nonfiction reporting and suicidal behavior is stronger. This is particularly true of teenage observers, especially when the subject of the report is similar to the observer in terms of age, sex, and nationality.15 When reporting suicides, the news media often oversimplifies the causes, attributing the act to single factors, such as financial disasters, broken relationships, or failure in examinations. What is often overlooked is the most common factor leading to suicide: mental illness.16 This style of reporting can increase the risk of suicide contagion. It has also been noted that the suicide of a celebrity, along with the amount, duration, and prominence of coverage, proportionally increases the suicide rate.17 The risk for suicide contagion as a result of media reporting can be minimized by factual and concise media reports of suicide, with some in accordance with CDC recommendations.18,19

The internet offers adolescents social contact through websites, social media, forums, video imaging/sharing, and blogs. The internet has the potential to offer support and protect adolescents’ mental health by reducing social isolation, increasing self-esteem, and offering crisis support as well as outreach and access to therapy. Unfortunately, information on the internet may have both positive and negative effects, as there is also a potential for harm with access to pro-suicide sites, communities encouraging suicide, and increased contact with suicidal individuals, which can result in contagion through normalization of suicide, cyber suicide pacts, and descriptions of how to commit suicide.20

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HyperRAB®
Rabies Immune Globulin (Human)

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use HYPERRAB® safely and effectively. See full prescribing information for HYPERRAB. HYPERRAB [rabies immune globulin (human)] solution for infiltration and intramuscular injection Initial U.S. Approval: 1974

INDICATIONS AND USAGE

HYPERRAB is a human rabies immune globulin indicated for postexposure prophylaxis, along with rabies vaccine, for all persons suspected of exposure to rabies.

Limitations of Use:
Persons previously immunized with rabies vaccine that have a confirmed adequate rabies antibody titer should receive only vaccine. For unvaccinated persons, the combination of HYPERRAB and vaccine is recommended for both bite and nonbite exposures regardless of the time interval between exposure and initiation of postexposure prophylaxis.

DOSE AND ADMINISTRATION

For infiltration and intramuscular use only.

Administer HYPERRAB within 7 days after the first dose of rabies vaccine.

Postexposure prophylaxis, along with rabies vaccine, after suspected or confirmed rabies

HYPERRAB 20 IU/kg body weight OR 0.0665 mL/kg body weight

Single dose

Administer as soon as possible after exposure, preferably at the time of the first rabies vaccine dose.

Intratine the full dose of HYPERRAB thoroughly in the area around and into the wound(s), if anatomically feasible.

Inject the remainder, if any, intramuscularly.

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CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

• Severe hypersensitivity reactions, including anaphylaxis, may occur with HYPERRAB. Have epinephrine available immediately to treat any acute severe hypersensitivity reactions.

• HYPERRAB is made from human blood, it may carry the variant Creutzfeldt-Jakob disease (vCJD) agent, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

ADVERSE REACTIONS

The most common adverse reactions in >5% of subjects in clinical trials were injection site pain, headache, injection site nodule, abdominal pain, diarrhea, flatulence, nasal congestion, and oropharyngeal pain.

To report SUSPECTED ADVERSE REACTIONS, contact Grifols Therapeutics LLC at 1-800-520-2807 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

• Repeated dosing after administration of rabies vaccine may suppress the immune response to the vaccine.

• Defer live vaccine (measles, mumps, rubella) administration for 4 months.

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Dosage Forms and Strengths

300 IU/mL solution for injection supplied in 1 mL and 5 mL single-dose vials.

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SCREENING FOR SUICIDE RISK IN EMERGENCY DEPARTMENTS

Starting in 2010, The Joint Commission recommends all medical patients in hospitals be screened for suicide risk. Although “at-risk” patients may be seen in primary care or inpatient settings, for more than 1.5 million youth, the emergency department is their only point of contact with a health care provider. Screening in the emergency department may also be more acceptable to patients and their families and, in many cases, is nondisruptive to workflow.

In 2012, three pediatric emergency departments developed a brief instrument for the emergency department. The Ask Suicide-Screening Questions tool recommends asking four less-specific questions before moving to the all-important, “Are you having thoughts of killing yourself right now?” More information about the Ask Suicide-Screening Questions tool may be found on the National Institute of Mental Health website at www.nimh.nih.gov/ labs-at-nimh/ass-toolkit-materials.

RISK REDUCTION

The CDC has developed a conceptual framework for the prevention and local containment of suicide clusters.21 The recommendations advocate for a coordinated interdisciplinary approach led by a community coordinating committee composed of representatives from the school district, municipal government, mental health services, medical facilities, emergency medical services, academia, clergy, parent organizations, survivor support groups, and the media. Emergency departments should coordinate with the community coordinating committee to ensure timely patient referral for appropriate counseling.

When suicide is the cause of death of an emergency department patient, the attending emergency physician may have an opportunity to shape media coverage. Whenever possible, emergency physicians communicating with reporters should sensitize them to the problem of suicide contagion and remind or familiarize them with the CDC’s recommended

CONTINUED on page 27

The Official Voice of Emergency Medicine

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of us came to emergency medicine from pre-hospital or military backgrounds, where we had more immediate firsthand experience. Firearm injury is an issue that impacts all of us. We see how it’s getting worse. More and more of us are joining the aweful club of having had to treat a mass shooting. More and more of us have had family members or friends who have been injured. More and more emergency physicians are being hurt or killed, most tragically and notably with the shooting death of Tamara O’Neal, MD, outside her emergency department at Mercy Hospital in Chicago. However, we also know that we don’t have to accept injury or disease outbreaks as a fait accompli. We have a long history of mobilizing, as emergency physicians, to identify and then reduce patterns of injury. Doing this work is nonpartisan; it’s based on science and great research. Through this public health approach, emergency medicine has been a critical leader in national and local efforts to reduce car crash deaths and child abuse, plus leading the charge against opioid overdose deaths, human trafficking, and more.

Emergency medicine is also a leader in developing a public health approach to reduce firearm injuries. Through this approach, we can make a difference in the prevalence, severity, and long-term consequences of gunshot wounds across the country.

A short list of actions by ACEP includes:

- Six years of work by the ACEP Trauma & Injury Prevention Section to highlight the importance of addressing firearm injury as a public health problem
- Lectures on firearm injury prevention at ACEP’s and ACEP18
- A firearm injury prevention policy that was rewritten in 2013 and is currently being reevaluated by the Public Health & Injury Prevention Committee in addition to the original task force
- Active advocacy for federal funding and universal background checks, in accordance with ACEP’s firearm injury prevention policy
- Completion of two surveys of emergency physicians’ firearm injury prevention practices and beliefs through the EM-PRN network
- Donating $20,000 to the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM), a not-for-profit organization founded and led by emergency physicians
- Additionally, emergency physicians have led national non-ACEP-affiliated efforts to change the trajectory of this epidemic. A short and incomplete list includes:
  - Development of the “What You Can Do” video series on screening and counseling by Garen J. Wintemute, MD, MPH, at UC-Davis Health in Sacramento, California
  - Development of the National Institutes of Health–funded Firearm Safety Among Children and Teens consortium, led by Rebecca Cunningham, MD, FACEP, and Patrick Carter, MD, at the University of Michigan in Ann Arbor, with the collaboration of numerous emergency physicians across the country
  - Leadership of the National Network of Hospital-Based Violence Intervention Programs by Kyle Fischer, MD, MPH, of the University of Maryland in College Park; Robert Geer, MD, of Kings County Hospital in Brooklyn, New York; and many more
  - Development of novel coalitions between gun shop owners and firearm injury prevention researchers led by Marian (Emmy) Betz, MD, MPH, at the University of Colorado Denver
  - Promotion of the StopTheBleed training by Eric Goralnick, MD, FACEP, at Brigham and Women’s Hospital in Boston
  - Development of a scholarship fund in honor of Dr. O’Neal by the University of Illinois-Chicago residency and a memorial research fund in her name by the AFFIRM and FemInEM
  - The #ThisIsOurLane movement, covered in The New England Journal of Medicine with a piece by myself, Dr. Betz, and Cedric Dark, MD, MPH, of Baylor College of Medicine in Houston
  - Individual emergency physicians have written numerous publications and led local movements as well. There simply isn’t space to list them all.
  - Lastly, emergency physicians have led the charge to develop new sources of research funding. Firearm injury prevention research is currently funded at about 2 percent of what would be predicted, and the Centers for Disease Control and Prevention still has $0 for this public health issue.

In 2017, AFFIRM was founded under the leadership of Christopher Barsotti, MD, FACEP, FAEM, in response to this continued lack of substantive federal funding for firearm injury prevention research. Its underlying concept is that the public’s health is our job and that we cannot solve the firearm injury epidemic by treating patients who have already been shot. Instead, we need a full-scale collaborative effort, the collective will of medicine, to bend the curve on firearm injuries and deaths.

The mission of AFFIRM is to reduce firearm injury deaths through research, innovation, and evidence-based practice. AFFIRM knows that through clinically relevant research and dissemination of best practices, we can stop many shooters before they shoot. AFFIRM has the partnership of almost 20 medical societies, including ACEP, the Emergency Medicine Residents’ Association (EMRA), and the Emergency Nurses Association. It represents physicians and health care professionals along the political spectrum who are united in the belief that we need to find a new way forward; the old ways of fighting this epidemic aren’t working.

Examples of AFFIRM’s work include:

- Under the leadership of Dr. Betz, the chair of the Research Council, AFFIRM is co-funding research grants with the Emergency Medicine Foundation and EMRA, as well as with the Firearm Safety Among Children and Teens consortium, based off of ACEP’s published research agenda, to spur innovative, clinically relevant approaches to reducing the firearm injury epidemic.
- AFFIRM developed the Dr. Tamara O’Neal Memorial Research Fund last November, in collaboration with Dr. O’Neal’s friends, co-residents, and family. This fund honors Dr. O’Neal’s memory; its goal is to create meaningful change in her name by funding research that addresses the issues she most cared about, including sponsorship of people of color and development of youth mentorship programs.
- AFFIRM is developing infographics, blog posts, podcasts, and educational slide decks under the leadership of Nikita Joshi, MD, AFFIRM’s director of education and outreach, along with numerous other members of AFFIRM’s advisory board and research council, to help disseminate all of this awesome work.
- Finally, AFFIRM is organizing a series of events across the country this fall, “AFFIRM Across America,” to highlight the personal stories of all of us who have treated or been personally affected by gun violence—and to create hope. Emergency physician Charlotte Lawson, MD, is leading this initiative.

Emergency medicine is once again at the forefront of change. We are creating a path forward that isn’t “us versus them.” It’s all of us together, speaking out on behalf of our patients and communities, to tackle firearm injury the same way we’ve addressed every public health epidemic in history, through nonpartisan research, evidence-based practice, and community-oriented solutions.

To learn more about AFFIRM, please visit www.affirmresearch.org.

References


DR. RANNEY is director of emergency digital health innovation and special projects and associate professor in the department of emergency medicine and department of health services, policy and practice at Brown University and the Injury Prevention Center of Rhode Island Hospital in Providence. Disclosure: She serves as AFFIRM’s chief research officer, a volunteer position.
Common Emergency Department Application: Vitreous Humor/Body
Evaluate for: Vitreous hemorrhage, vitreous detachment

The vitreous humor, which goes by several names, is a transparent gelatinous mass that occupies 80 percent of the volume of the eye, filling the space between the lens and the retina. The vitreous is more fluid-like centrally and more gelatinous on its peripheral edges. This vitreous body is surrounded by a collagenous membrane that is in contact with the retina. Because its composition is 99 percent water, a normal vitreous will appear anechoic on ultrasound, giving the posterior chamber a completely black appearance. In the case of vitreous hemorrhage, one will note echogenic material in the posterior chamber (see Figure 1). This increased echogenicity may be obvious or subtle. Woo et al found that the sensitivity of ED physicians utilizing POCUS for vitreous hemorrhage was only 43 percent, but the specificity was 94 percent.1

Vitreous detachment is another pathological condition encountered in the emergency department. It occurs when the vitreous membrane separates from the retina and is most often atraumatic. On ultrasound, this may appear similar to a retinal detachment, but a vitreous detachment is more globular and not likely to appear undulating or move along with patient eye movements (see Figure 2). In contrast to the retina, a detached vitreous will not be tethered by any specific structural attachments.

Tips & Tricks: When suspicion is high, increase the ultrasound gain to pick up subtler vitreous hemorrhages.

Ocular ultrasound is easy to learn and can rapidly assess ocular emergencies. With practice, you can easily incorporate POCUS into your diagnostic algorithm and rule in or out important ocular pathology.

References

Ultrasound Technique

1. Explain this bedside procedure to your patient prior to starting. As this is a dynamic scan, the patient will have to move his or her eyes side to side and up and down to allow complete visualization of the posterior segment.

2. The orbit is a superficial structure. Therefore, a high-frequency linear transducer should be used.

3. For comfort and to prevent a mess, place a Tegaderm film dressing over the patient’s closed eye and gently press out any pockets of air. Remember, air is the enemy of ultrasound.

4. When performing ocular ultrasound, a copious amount of gel should be used, which will prevent contact of the transducer with the eyelid and minimize direct pressure. The gel can be applied directly over the Tegaderm (see Figure 2).

5. Visualize the orbit in both transverse (see Figure 3) and longitudinal planes. After scanning through, the patient should be asked to move his or her eye right to left and up and down. A combination of still images and dynamic scanning clips will best document your exam.

6. Repeat these steps on the unaffected eye.

7. Contraindications to the exam include high suspicion of globe rupture.

8. Always supplement your ocular POCUS exam with a visual acuity and intraocular pressure measurement for a well-rounded emergency eye exam.

**TIPS & TRICKS**

Stabilize your scanning hand by placing your thumb or pinky finger (whichever is medial) on the bridge of the patient’s nose (see Figure 5). This will also prevent you from applying too much pressure.
We should never have to constantly find alternatives for life-saving medicines that patients rely on every day. Our emergency physicians deal with drug shortages and develop recommendations to address them. We then secured bipartisan, bicameral sponsors for the House and Senate letters from Rep. Brett Guthrie (R-KY), Rep. Mike Doyle (D-PA), Sen. Bill Cassidy, MD (R-LA), and Sen. Chris Murphy (D-CT), respectively.

ACEP's public relations team distributed a press release of drug shortage survey results in the lead up to the 2018 Leadership & Advocacy Conference (LAC).

At LAC on May 22, 2018, the drug shortage problem was one of two topics we raised on the Hill (the other being our opioid bills). LAC participants urged members of Congress to sign the letter asking the FDA to establish the task force. Ultimately, the House letter closed with 107 representative signatures, and the Senate letter was signed by 31 senators.

So many substances are short, and we're dancing every shift,” said Dr. James Augustine, an emergency physician in Cincinnati.

― The New York Times, July 1, 2018

ACEP conducted a survey of members and found that nine out of 10 emergency physicians had experienced a drug shortage in the last month.

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• The New York Times reached out to ACEP after seeing our press release on the drug shortage survey results, and we worked with them to develop an article that brought more national attention to the issue.1

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December 2018

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July 2018

• In direct response to the congressional letters authored by ACEP, FDA Commissioner Gottlieb announced the creation of a new Drug Shortage Task Force charged with identifying and addressing the root causes of drug shortages affecting the health care system. This was an important step forward for ACEP’s drug shortage advocacy efforts; it was exactly what our congressional letter had requested.

September 2018

• ACEP Board member Aisha Liferidge, MD, MPH, FACEP, participated in a two-day workshop hosted by the National Academies of Sciences, Engineering, and Medicine (NASEM) on medical product shortages during disasters. Dr. Liferidge discussed the unique challenges emergency physicians and their patients face during natural disasters and disease outbreaks and further discussed opportunities to lessen the effects of medical product shortages through information sharing; improved supply-chain infrastructure; and enhanced collaboration among public, private, and nonprofit stakeholders.

• Then-ACEP President Paul Kivela, MD, MBA, FACEP, attended a drug shortage summit hosted by the American Society of Anesthesiologists, American Hospital Association, and American Society of Health-System Pharmacists. The summit focused on the national security implications of drug shortages and ways to improve the nation’s health care infrastructure. Dr. Kivela engaged government speakers about steps that could be taken to lessen shortages for essential medications needed on a daily basis in the emergency department.

October 2018

• ACEP President Vidor Friedman, MD, FACEP, participated in a listening session with the FDA Drug Shortage Task Force. ACEP was one of only 10 groups invited to participate, and Dr. Friedman provided important perspectives on how drug shortages impact care for emergency patients.

November 2018

• ACEP attended an FDA Drug Shortage Task Force public meeting.

January 2019

• ACEP submitted its official response to the FDA Drug Shortage Task Force. We explained how emergency physicians are directly affected by drug shortages each day and how much it negatively affects patient care.

“Shortages of commonly used but essential medications remain an acute problem throughout the health care system, but these shortages tend to disproportionately affect emergency medicine (both hospital and pre-hospital) due to its reliance upon generic medications for rapid sequence intubation, seizures, antidotes, resuscitation, as well as analgesics, anticoagulants, and anticoagulants.”

— ACEP’s letter of response to the FDA Drug Shortage Task Force

May 2019

• ACEP is waiting for the FDA Drug Shortage Task Force to submit its findings and final report to Congress. Based on its recommendations, we expect the House of Representatives and Senate to develop legislation to address the challenges and problems identified in the report. ACEP’s Washington, D.C., staff will be actively involved with those discussions and the drafting of potential legislative solutions. Stay tuned. When the time comes, we will be asking for your help to communicate ACEP’s recommended solutions to lawmakers.

Stay Updated

ACEP is dedicated to providing emergency physicians a strong and unified voice in Washington, D.C., speaking out on the issues that matter most to you and your patients. Want to stay apprised of ACEP’s ongoing federal legislative activities? Sign up for the 911 Legislative Network, the premier grassroots network for emergency physicians. Find continual updates about all of ACEP’s advocacy work, drug shortages and beyond, on the Federal Advocacy page at ACEP.org.

Reference


MS. GRANTHAM is a communications manager at ACEP.
Acep should avoid the firearms debate

Our professional society should focus on emergency medicine and stay out of divisive political issues

by Marco Coppola, DO, FACEP

As an ACEP member, I share what many other members desire from membership: ACEP should make my life easier by seeking legislation and policies that make work less hard, preserve our practice environment, and enhance our ability to care for our patients. That’s what people want. We did not join ACEP for broad-based, political advocacy. Thus, when ACEP gets involved in issues not specific to the practice of emergency medicine, such as the separating of families at the border, climate change, or the firearms issue, ACEP runs the risk of alienating a good number of members. In other words, emotionally charged issues, which are polarizing, can and often do become divisive, creating a “no win” situation for ACEP.

The firearms issue may, in some cases, be less about patient safety than about furthering a political agenda. If it were solely about patient safety, then we would look to the multitude of peer-reviewed articles and data analyses outside the medical literature that prove that gun control efforts are not effective in reducing crime and injury.

If we examine the issue of research, testimony by John R. Lott, Jr., president of the Crime and Prevention Research Center, before the House mony by John R. Lott, Jr., president of the Crime Control and Prevention cannot advocate for gun control.

After 1996, firearms research fell as a percentage of all research. However, this is artifactual because there was an increase in new journals and published articles, creating a larger denominator. Accounting for this, firearm research remained relatively constant from previous years.

This has not been widely publicized, but there were three federal funding amendments for firearms research in 1996, 2003, and 2012.

By 2013, the number of firearms articles rose to 121, to 196 in 2014, and to 314 in 2015.

The share of federally funded research before 2000 was 29.2 percent, but after 2000 it was 3.3 percent. The share of research that mentioned any funding source before 2000 was 8.5 percent and 18.2 percent after 2000.

In 2015–2018, the total federal funds for firearms research was $43.2 million, a 465 percent increase from 2011–2014, which resulted in 83 projects.

One cannot apply the “medical method” of studying disease to studying firearm-related issues. Incidentally, referring to firearm violence as an “epidemic” is erroneous and misleading because “epidemic” refers to a widespread occurrence of an infectious disease, not an action.

There is an abundance of firearms literature outside medicine in the economics and criminal justice literature that is peer-reviewed and scientifically sound, but is often ignored by those in medicine. These links direct to the Crime Prevention Research Center (https://crimeresearch.org/cpc-research/) and a policy analysis from the Cato Institute (www.cato.org/publications/policy-analysis/costs-consequenc-es-gun-control). They are a good starting point for a review from “the other side.”

The directive followed by the ACEP task force when creating the existing firearms policy in 2013 was not to “legislate” or contradict existing laws. Thus, if we examine legislative issues, ACEP recently advocated for H.R. 8 (requiring a background check for every firearms sale). Unfortunately, the support for that bill may not effect the desired change, because it still does not prevent criminals from obtaining firearms.

Interestingly, California recently decided that a ban on high capacity magazines (more than 10 rounds) is unconstitutional. Should ACEP’s current firearms policy be updated to delete the referral to “high capacity magazines” in the last bullet?

I would prefer ACEP concentrate its efforts on the many challenges before us to make our lives easier, such as protecting patient’s rights, advocating for access to emergency care, preserving the interests of emergency physicians, ensuring fair reimbursement, etc. We need to stay out of divisive politics and issues.
curnstances afforded them unique opportunities. Stated as a formula: 

**First, some measure of innate ability is the necessary raw material of any exceptional leader.** This being said, many people possess sufficient ability to excel in one or more areas of human endeavor. However, while most incapable people may never become transformational leaders, it is also true that many highly capable people never become exceptional leaders. In a relative sense, ability is essential, abundant, and insufficient. Ability requires two additional elements, each progressively less common, to produce exceptional performance.

The second essential element is effort. Deluded leaders believe their own awesome genius is the key to their success. Grounded leaders understand that the difference between very good and great is usually not intrinsic ability but effort. Hard, focused, sustained effort is essential to shape and polish innate ability to diamond-like brilliance. While there are exceptions, individuals whose performance is truly exceptional still must make an extraordinary effort. Olympic athletes, world-class musicians, high-achieving leaders, etc. have expanded their journeys young, pursued a singular activity with uncommonly intense focus, and sustained this concentrated effort over an unusually long period of time. Thomas Edison’s well-known remark memorably captures this sentiment: “Genius is 1 percent inspiration, 99 percent perspiration.”

There remains a third essential element, both rare and subject at best to influence but seldom under our control. This third element is opportunity. Some might refer to this as fate, luck, or chance. Countless highly able and hard-working persons live out very productive, high-performing lives without reaching the pinnacle of achievement and prominence in their fields because they lacked opportunity. On this point, egotistic leaders are many, whereas self-aware and grounded leaders recognize they have benefited from uncommon opportunity(ies) and, at times, exhibit inspiring humility arising from sincere gratitude for their good fortune.

The Elements in Action

As an example, President Dwight Eisenhower was a young army officer during World War I, after which the U.S. military shrank dramatically in size, promotions were scarce, and careers stagnant. He served in the U.S. Army with distinction for decades, earning accolades from his superior officers but languishing at lower ranks for extended periods with little hope of promotion. Then, World War II changed everything, as the U.S. Army experienced its largest-ever expansion from fewer than 200,000 soldiers in 1939 to more than 8 million soldiers in 1945. This 40-fold growth exponentially increased the need for senior officers and provided previously stagnant but able and hard-working officers the opportunities they needed to achieve prominence on the global stage. Eisenhower, one of these men, served as Supreme Allied Com- mander in Europe, where he worked closely with the leading men of his age and was ultimately hailed as the man who defeated Hitler. He returned home such a widely acclaimed national hero and with such a rich network of afluent connections that it seemed to many a forefront conclusion he would become president. He is a prime example whose legacy as a person of history rather than a capable but forgotten soldier was made possible by unique opportunity.

How Does This Apply to Us?

As emergency physicians, our academic and professional achievements are evidence of our ability. In large measure, we are intelligent, innova- tive, and emotionally intelligent. We should take satisfaction in the gifts of ability we have been given. If we seek rarified heights of profes- sional accomplishment, we need to focus further to identify our unique personal abilities toward which to deploy still more effort to enhance our chances of exceptional achievement.

Emergency physicians are no strangers to focused and sustained effort. Logging 11 years or more of post-high school education and enduring workweeks so intense that they are capped at 80 hours, we epitomize outsized effort applied to maximizing our inherent abilities. Emergency medicine is still a large field, so historic achievement requires further focus. Ultrasound, toxicology, cardiovascular disease, etc. offer paths to focused clinical excellence. Many of us possess talents in education, health policy, politics, executive man- agement, etc. If we seek to truly excel, we must focus further, identify our differentiating abilities, and refine them through hard and sus- tained effort.

Even in possession of the above, we still require that essential third element: opportunity.

Opportunity and Choices

For those of you who believe you can change the world and think you are of historic potential, may the wind be at your back! Just remember, armed with all your genius, talent, beauty, and brawn, you will only get so far without the secret sauce of opportunity. Rarest of the three elements, the probability for opportunity can be optimized. It should also motivate us to reflect upon the values we hold, the examples we set, and how we choose to live our lives.

First, figure out in your own life where your unique talents overlap your passions and then commit to long, hard work to be the very best in this sliver of the universe. Beware: This will require forgoing other important parts of your life so that you can devote innumerable hours to the pursuit of excellence. Historic people often sacrifice a lot to be historic. They have been imprisoned, tortured, assassinated, impov- erished, and mentally and physically unwell, among other challenges. However, great accomplishment often requires great sacrifice. If you desire graphic illustration of this, spend a weekend watching *Harry Pot- ter*, *The Lord of the Rings*, *The Hunger Games*, etc. The glory of heroism frequently extracts a high cost. It’s costly, tedious, and uncertain, but if you want to reach the pinnacle, this intensity is generally required.

Second, grow your network of people both within your area of ex- pertise and in areas directly adjacent to it. In doing this, be sincere, not a suck-up. Genuinely appreciate the company of these others and enjoy your shared interests on their own merits. At the end of the day, being a good person still matters, and over the long haul, it is a sub- stantial asset to you and those with whom you associate. Uncommon opportunities frequently present themselves through these personal relationships. Since you will seldom accurately predict which single relationship will result in your special opportunity, nurturing a wide array of connections increases your odds.

Last but most important, if your opportunity to make history fails to materialize, remember that misery loves company and that you are in the company of 99.9 percent of all people! However, if you correctly identified an area in which you excel, worked diligently to be your best at it, and forged friendships with others who share your passion, you will have done well. If you step back from your ambitions to reflect on your journey, you may just find that, while books may not be written about you, you have nonetheless enjoyed a life worth living and posi- tively impacted the lives of many others along the way.
ACEP proudly recognizes these groups that have ALL eligible emergency physicians enrolled as members.

For more information about how your group can participate in the 100% Club, please contact Kelly Govan at 844.381.0911 or kgovan@acep.org

Visit acep.org/grouprecognition for program details

*as of April 2019
TREATING HIGH-ALTITUDE ILLNESS

Spot and treat the symptoms of three common syndromes

by ASHLEY A. JACOBSON, MD, AND NEHA P. RAUKAR, MD, MS

The diagnosis and treatment of high-altitude illness (HAI) require an understanding of the interplay between physics and physiology. As altitude increases, pressure decreases, affecting the partial pressure of oxygen and thus decreasing the amount of oxygen diffusing into the tissues. This hypobaric hypoxia results in a cascade of events known as HAI. In an effort to acclimate, the respiratory rate increases, leading to respiratory alkalosis with metabolic compensation. This also causes an overall left shift of the oxygen-hemoglobin dissociation curve, increasing oxygen uptake in the lungs. Hypoxemia causes increased release of erythropoietin, leading to an increase in red blood cell production and overall better oxygen-carrying capacity to the tissues.

The most important syndromes that make up the spectrum of HAI are high-altitude pulmonary edema (HAPE) and acute mountain sickness (AMS), which can progress to high-altitude cerebral edema (HACE). Younger athletes and males are at greater risk of AMS since they are more likely to engage in vigorous activity prior to acclimatization or continue ascent despite symptoms. Other risk factors include chronic obstructive pulmonary disease, restrictive lung disease, cystic fibrosis, pulmonary hypertension, congestive heart failure, and sickle cell disease. Contrary to popular belief, neither well-controlled asthma nor pregnancy (up to 3,000 meters) increase the risk of HAI since they are more likely to engage in vigorous activity prior to acclimatization or continue ascent despite symptoms.

There are two types of HAPE: classic, which occurs in low-altitude residents who rapidly ascend, and reentry, which occurs in high-altitude residents re-ascending after being at low altitudes. The pathophysiology of HAPE consists of breakdown of the pulmonary blood-gas barrier secondary to increased pulmonary artery pressure and uneven pulmonary vasoconstriction resulting in fluid accumulation within the alveoli. Typically, this occurs around 3,000 meters. Patients present with dry cough that progresses to a productive cough with frothy pink sputum and increased dysnea within four to six days of arrival at altitude. Patients demonstrate tachycardia, tachypnea, inspiratory crackles, and low pulse oximetry on physical exam. Chest X-ray reveals patchy infiltrates, but it is not required to make a diagnosis.

The treatment of stable patients with HAPE involves simply giving oxygen via high-flow nasal cannula and decreasing cold exposure to resolve the elevation in pulmonary artery pressure. Unstable patients should descend as soon as possible, and if that is not possible, use hyperbaric therapy as indicated. Medications can be used for treatment. However, they are more effective as preventative measures. Nifedipine can reduce pulmonary vascular resistance and decrease pulmonary artery pressure, and phosphodiesterase 5 inhibitors can increase cyclic guanosine 3',5'-monophosphate (cGMP) to augment the pulmonary vasodilatory effects of nitric oxide. Nitric oxide is a potent pulmonary vasodilator, released from endothelial cells, that decreases hypoxic pulmonary vasoconstriction and the pulmonary hypertension associated with HAPE. Inhaled beta-agonists can be used as an adjunct, but they have limited effectiveness as a sole treatment option.

Acute Mountain Sickness and High-Altitude Cerebral Edema

The pathophysiologies of the neurological forms of HAI—AMS and HACE—are similar in that there is an increase in the permeability of the blood-brain barrier causing reversible vasogenic edema. The mechanism of this increased permeability is unclear. There is a possible increase in cerebral blood flow, loss of intracranial pressure autoregulation, and resultant alterations in endothelial permeability via increased nitric oxide levels and increased vascular endothelial growth factor (VEGF), which promotes angiogenesis. AMS and HACE are along a spectrum of disease, with AMS occurring around 1,500 meters with typical transition to HACE at more than 4,000 meters. The diagnosis for AMS is clinical, with symptoms that resemble a hangover, such as headache, anorexia, nausea, and vomiting. Onset of AMS generally occurs within six to 12 hours of reaching altitude and resolves within one day, but it can recur as ascent continues. The Lake Louise AMS score is the gold standard to self-monitor for AMS during ascent or for a clinician evaluating a patient. HACE is a clinical diagnosis, with onset at 12 hours to three days from ascent. The patient will present with ataxia, encephalopathy, and a progressive decline of mental function and level of consciousness. Pa-
Prescription medications can be used for treatment but are better as preventative measures. Acetazolamide, a carbonic anhydrase inhibitor, initiates metabolic acidosis, decreases symptoms, but it does not accelerate acclimatization, and hastening acclimatization, but its side effects can be mildly irritating, with peripheral paresthesia, polyuria, and a metallic taste. Dexamethasone can be used to alleviate symptoms, but it does not accelerate acclimatization. The risk with dexamethasone is that it masks symptoms and therefore may increase the risk of AMS progressing to HACE as ascent continues.9,10

For AMS and HACE, the gold standard for prevention is gradual ascent, acetazolamide, and +/- dexamethasone. Dexamethasone is typically used in prevention of AMS/HACE for patients who require rapid ascent but does not hasten acclimatization. There are multiple drugs that, when compared to placebo, do show improvement for prevention, such as acetazolamide and dexamethasone. As a selective 5-hydroxytryptamine receptor agonist and a cerebral vasodilator, sumatriptan shows promising results for the prevention and treatment of acute altitude illness: 2014 update, Wilderness Environ Med. 2014;25(4 suppl):S4-S14.11

References

TYPICAL ELEVATIONS FOR HIGH-ALTITUDE ILLNESS

>4,000 m
SYMPTOMS
AMS/HACE and HAPE

3,000 m
SYMPTOMS
AMS and HAPE

1,500-2,500 m
SYMPTOMS
MILD

<1,500 m
SYMPTOMS
NONE

MAY 2019 ACEPNOW 21
The Power of EM: A Message from Two Sons

Dr. John Geesbreght has served as a leader and caregiver for his family, community, and emergency medicine.

Emergency physicians see people at some of their worst moments—traumatic injury, grave illness, the death of a loved one—and provide compassionate care without expectation of recognition or reward. For emergency physician John Geesbreght, MD, MS, FACEP, these principles have been a driving force in his life, guiding his decisions as a medical director, father, mentor, and member of the Fort Worth, Texas, community.

Dr. Geesbreght was born in south Chicago. The son of immigrant parents, he was inspired to become a physician in elementary school. He went on to practice in the emergency department in Fort Worth, where he served as emergency department medical director of Texas Health Harris Methodist Fort Worth for more than 40 years, providing care to his family and community. As a leader, Dr. Geesbreght searched for innovative solutions to make sure his emergency department would deliver the best patient care possible.

One of those solutions was founding PhysAssist Scribes, Inc., the first scribe company in the United States, in 1995. Initially, the company recruited pre-med students from Texas Christian University and trained them to work alongside emergency physicians to provide scribe services in the ED to improve communication and documentation, free up physicians’ time for patient care, and give students valuable medical experience. Both of Dr. Geesbreght’s sons went on to lead the company. Although neither became a physician, they both were guided by the principles of hard work and compassion they learned from their father and his career.

Dr. Geesbreght’s sons, Andrew and Alex, recently sat down with ACEP Now’s Medical Editor in Chief Kevin Klauer, DO, ED, FACEP, to discuss their father’s career in emergency medicine and the influence he had on their own careers. Alex served as president of PhysAssist prior to its acquisition by TeamHealth in 2014. Andrew served as president of PhysAssist prior to its acquisition by HealthChannels in 2018 and is currently chief leadership officer at HealthChannels.

KK: Alex and Andrew, let’s discuss your father’s emergency medicine career and how it’s influenced your life.

Alex G: The highlight for me was getting to work with my dad for 12 years. I was an attorney for a while and then was general counsel for his emergency medicine group.

When I was 9 years old, I started working, volunteering, with my dad down at the hospital and I thought, “Oh, my dad’s a doctor, maybe I’ll be a doctor.” I was 16, and I used to spend the night. I think I logged in 750 hours of community service through working at the emergency department. I very quickly realized when I got older that I couldn’t handle being in that environment, and one of the things that I realized is that my dad never talked about what happened at the [emergency department]. When I started seeing people die, the horrible accidents, heartache, I remember thinking, “How could he not talk about this?”

Although he did shield us from the harm that some of the stories from the ED might do to a little kid, he took those lessons and was able to apply them to our world every day.

He is such a great teacher. He taught us all of these lessons and he had all of this wisdom. He never shared those stories with us, and I don’t know why, but I kind of wish he had. This also speaks to his stability and his ability to separate family life from work life.

KK: Andrew? Some thoughts from you?

Andrew G: I learned early on as a child that my dad was doing something very important. I say that because I didn’t have to introduce myself. When I said my dad was Dr. Geesbreght, I frankly had intense pride. Any time someone had their worst day, they called my dad and there was a high level of trust in my dad was Dr. Geesbreght, I frankly had intense pride. Any time someone important. I say that because I didn’t have to introduce myself. When I said

Emergency Physician is First Endowed Chair of TCU and UNTHSC School of Medicine

It turns out Dr. Geesbreght’s fatherly influence extends beyond his own children. The Texas Christian University (TCU) School of Medicine recently named its first endowed chair, and the recipient is an emergency physician who describes Dr. Geesbreght as a “father figure” in his medical career.

Terence McCarthy, MD, is the first recipient of the John M. Geesbreght, MD, MS, FACEP, Endowed Chair of Emergency Medicine. Dr. McCarthy is the academic chair for emergency medicine at TCU and a clinical adjunct professor for the physician assistant studies program at the University of North Texas Health Science Center (UNTHSC).

“It’s a huge honor to hold a chair that’s named after [Dr. Geesbreght],” Dr. McCarthy said via press release. Dr. McCarthy worked with Dr. Geesbreght in the emergency department and described him as a mentor and friend. “In my toughest and most traumatic moments in life, he’s been there for me,” Dr. McCarthy said via press release.

Stuart D. Flynn, MD, founding dean of the TCU and UNTHSC School of Medicine, described Dr. Geesbreght as a “visionary and gifted operational thinker in emergency medicine.” Dr. Flynn said that having him endow the school’s first academic chair was “a great honor.”
Winds of EMS Change

New out-of-hospital care models could affect your ED

by JAMES AUGUSTINE, MD, FACEP

The model’s announced goal is to end the danger of ambulance diversion.3,4

The ingredients for a positive EMS relationship will require ED leaders to develop programs and partnerships with EMS and those who pay for those services, including grant funders for these innovative programs.6

| TABLE 1: EMS ARRIVAL AND ADMISSION TRENDS |
| YEAR | % OF ED PATIENTS ARRIVING BY EMS | % OF EMS ARRIVALS ADMITTED | OVERALL ED ADMISSION RATE | % OF WALK-IN PATIENTS ADMITTED |
| 2018 | 18 | 39 | 16.8 | 13 |
| 2017 | 17 | 39 | 17 | 13 |
| 2016 | 18 | 39 | 17 | 13 |
| 2015 | 17 | 37 | 16 | 12 |
| 2014 | 16 | 38 | 16 | 12 |
| 2013 | 17 | 39 | 17 | 12 |
| 2012 | 16 | 39 | 17 | 12 |
| 2011 | 17 | 42 | 18 | 13 |
| 2010 | 16 | 43 | 18 | 12 |
| 2009 | 16 | 43 | 17 | 12 |
| 2008 | 17 | 43 | 17 | 11 |

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The Official Voice of Emergency Medicine

MAY 2019 ACEPNOW.COM
Polytrauma Resuscitation

Reprioritizing the "ABCs" of trauma care

by ANTON HELMAN, MD, CCFP(EM), FCFP

While advanced trauma life support has traditionally emphasized the "ABC" (airway, breathing, and circulation) approach for all trauma patients, a more nuanced approach is required in order to avoid catastrophic outcomes in the early resuscitation of the polytrauma patient.

First Priorities in Trauma Resuscitation

Focus should be on physiologic priorities. The most severe, life-threatening injuries should be temporized first. The two categories of immediate life threats in trauma include massive external hemorrhage, temporized by local pressure and/or tourniquet, and critical airway compromise. Critical airway compromise can be further divided into critical/ refractory hypoxia, which is less than 90 percent oxygen saturation despite optimized noninvasive ventilation; and dynamic airway, which is evolving disruption of the airway anatomy and/or head and neck injuries that are expected to worsen over the next few minutes.

Second Priorities: "C" Before "A"

After the immediate life threats of massive external hemorrhage and critical airway compromise have been addressed, resuscitation should then focus on hemodynamic optimization before definitive airway management. Endotracheal intubation causes an increase in intrathoracic pressure, resulting in a decrease in right atrial pressure, which negatively impacts both hemorrhagic and obstructive shock. Pre-intubation hypotension is a significant risk factor for post-intubation cardiac arrest. Hence, the adage, "Resuscitate before you intubate" in volume-depleted patients. Procedures to relieve obstructive shock, such as bilateral finger thoracotomies and thoracotomy, should be considered prior to endotracheal intubation. A similar "CABC" (circulation, airway, breathing, and circulation) approach has been adapted in the cardiac arrest literature.

Step-wise Approach to Identify Occult Shock

The patient who rolls into your resuscitation room after a worrisome mechanism and with a mean arterial pressure of 30 mmHg is in an obvious shock state. However, many trauma patients present in occult shock. Under-recognition of occult shock in trauma is associated with poor patient outcomes. The following step-wise approach will minimize your chances of missing occult shock.

1. Calculate the shock index (heart rate divided by systolic blood pressure [SBP]) and/or delta shock index. A shock index of >1 or the delta shock index 0.1 is a sign of occult shock.}

2. Assess the lowest blood pressure (BP) measured and trend the BP over time: If isolated or persistent SBP <110, assume occult shock. A single low BP either in the field or in the emergency department has been shown to predict poor outcomes in trauma patients.

3. Positive focused assessment with sonography in trauma (FAST) with flat inferior vena cava (IVC) assume occult shock.

4. Consider a volume challenge to assess for active occult hemorrhage by administering 250 mL of crystalloid under pressure followed by assessment for signs of perfusion. If a patient transiently responds to 250 mL of crystalloid, you may assume active occult hemorrhage.

Third Priority: Controlled Resuscitation

Consider the following before initiating volume resuscitation. The patient who is in hemorrhagic shock and not appear to be in shock, and the patient who is in shock may not be actively bleeding. Your goal is to not only to identify shock/occult shock, but also to identify active bleeding and obstructive and neurogenic shock. Again, consider a volume challenge to assess for active occult hemorrhage. If there is no response to 250 mL of crystalloid, consider other causes of shock.

Controlled resuscitation (previously termed "permissive hypotension") represents a paradigm shift in trauma resuscitation. Large volumes of crystalloid may contribute to the trauma "triangle of death" (metabolic acidosis, hypothermia, and coagulopathy). While there are fairly well studied resuscitation targets in the first few hours of trauma resuscitation (eg, urine output, lactate clearance, base deficit), there is little evidence to guide us in the first 15 minutes of trauma resuscitation. If there is a delay in starting blood transfusion in a patient presumed to have hemorrhagic shock, consider only small boluses of crystalloid (ie, 250 mL), just enough to maintain adequate tissue perfusion (peripheral pulses present in blunt trauma or central pulses in penetrating injury) and maintain a SBP >70.

For most trauma patients, consider targeting this SBP throughout your resuscitation. This controlled resuscitation is a reasonable early resuscitation target. One prospective randomized controlled trial comparing controlled re- suscitation with usual care showed a number needed to treat of 11 for in-hospital mortality. Keep in mind that the elderly patient, the patient with uncontrolled hypertension at baseline, the patient with a major head injury, and the patient with neurogenic shock may require adjustments to their SBP target.

Fourth Priority: Consideration for Massive Transfusion

Here is a suggested approach to decision-making around massive transfusion protocol (MTP) activation in trauma patients. It is important to integrate your clinical judgment and mechanism of injury, as well as patient age, presence of anticoagulant medication, and comorbidities into your decision-making.

Step 1: If the patient is in an obvious shock state, has an Assessment of Blood Consumption (ABC) score >22, a shock index of >1, or delta shock index of >0.1, activate the MTP.

Step 2: If none of these are present, consider resuscitation intensity. Patients who require four units of any combination of crystalloids or blood products to maintain adequate perfusion are considered to have high resuscitation intensity, which predicts higher mortality, and should be considered for MTP.

Summary

Next time you’re faced with a polytrauma patient, consider resequencing the trauma resuscitation by managing massive external hemorrhage and active/dynamic airway first. Then concentrate on hemodynamic optimization before definitive airway management in those patients without active/dynamic airways. Identify occult shock using a shock index of >1, or delta shock index of >0.1, or the lowest BP recorded, FAST/IVC assessment, and/or a fluid challenge with clinical exam. Consider the patient’s age, blood pressure medications, and baseline blood pressure in assessing for the presence of occult shock, interpreting the shock index, and in deciding to activate your MTP. Large volumes of crystalloid may lead to the “triangle of death.” Your goal should be to minimize crystalloids. Controlled resuscitation to a target SBP of >70 is reasonable in most young, otherwise healthy trauma patients presumed to be in hemorrhagic shock.

CONTINUED on page 28
ETT Confirmation

Does POCUS "sound" right?

by KEVIN MILNE, MD

The Case
A 52-year-old patient is in cardiac arrest and needs endotracheal intubation. You’ve read some studies recently saying point-of-care ultrasound (POCUS) could confirm placement.

Background
There are a number of ways to confirm endotracheal tube (ETT) placement. Quantitative waveform capnography is thought to be one of the best methods. However, in cardiac arrest, some studies suggest it is correct only about two-thirds of the time.1–3

An ACEP policy statement lists various methods to confirm ETT placement, which include:
- A physical exam (ie, auscultation of chest and epigastrium, chest wall movement, and condensation/fogging in the tube)
- Direct visualization or video laryngoscope of the tube passing through the vocal cords
- Pulse oximetry
- Chest X-ray
- Esophageal detector devices
- End-tidal carbon dioxide (CO2) detection (ie, continuous waveform capnography, colorimetric capnography, and non-waveform capnography)

Clinical Question
What is the accuracy of POCUS for ETT placement confirmation?

Reference

Population: Prospective or randomized controlled trial (RCT) of adults undergoing assessment of transtracheal POCUS for ETT placement confirmation

Excluded: Case reports, case series, retrospective studies, cadaver studies, pediatric studies, and conference abstracts

Intervention: Transtracheal POCUS to confirm ETT placement

Comparison: Confirmatory testing of ETT placement such as end-tidal capnography, colorimetric capnography, or direct visualization

Outcome:
- Primary Outcome: Accuracy of transtracheal POCUS versus other forms of confirmation
- Secondary Outcome: Time to confirmation and subgroup analyses

Authors’ Conclusions
"Transtracheal sonography is rapid to perform, with an acceptable degree of sensitivity and specificity for the confirmation of endotracheal intubation. Ultrasoundography is a valuable adjunct and should be considered when quantitative capnography is unavailable or unreliable."

Key Results
The search identified 15 prospective observational studies and two RCT, including a total of 1,595 patients. A majority of the studies (12 out of 17) were performed in the emergency department. The mean patient age was 55 years, with 57 percent being male. The esophageal intubation rate was 15 percent.

- Primary Outcome: Diagnostic accuracy of transtracheal POCUS for ETT placement (see Table 1)
- Secondary Outcome: Mean time to confirmation was 13.0 seconds (95% CI, 12.0–14.0).

Subgroup Analyses: These did not demonstrate a significant difference by location, provider specialty, provider experience, transducer type, or technique.

Table 1: Diagnostic Accuracy of Transtracheal POCUS for ETT Placement

<table>
<thead>
<tr>
<th>POINT ESTIMATE</th>
<th>95% CONFIDENCE INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>98.7%</td>
</tr>
<tr>
<td>Specificity</td>
<td>97.1%</td>
</tr>
<tr>
<td>Likelihood Ratio Positive</td>
<td>34.4</td>
</tr>
<tr>
<td>Likelihood Ratio Negative</td>
<td>0.01</td>
</tr>
<tr>
<td>Receiver Operating Characteristic Curve</td>
<td>0.994</td>
</tr>
</tbody>
</table>

In conjunction with other methods, POCUS represents a potentially fast and accurate method to help confirm ETT placement.

Case Resolution
You directly visualize passage of the ETT through the vocal cords on video laryngoscopy. Waveform capnography confirms an appropriate ETT placement. POCUS is then placed on the neck and also confirms correct tube placement.

Thank you to Chip Lange, an emergency medicine physician assistant and creator of the blog/podcast TOTAL EM and the educational company Practical POCUS.

Remember to be skeptical of anything you learn, even if you heard it on the Skeptics’ Guide to Emergency Medicine.

References
Appendicitis: Block the Pain

Consider performing an ultrasound-guided TAP block instead of using opioids

Over the past few years, emergency physicians have begun implementing multimodal strategies for acute pain, reducing the use of opioids. Ultrasound-guided single-injection nerve blocks have slowly become accepted for targeted pain relief over the past decade in the emergency department for hip fractures, rib fractures, deltoid abscess drainage, and other conditions.1–3 Currently, point-of-care ultrasound (POCUS) fellowships require ultrasound-guided nerve blocks as part of the training curriculum to ensure future leaders will provide the next generation of emergency physicians the knowledge to offer optimal pain management.4,5

Over the past decade, our group has been fortunate to work in a hospital that values interdepartmental collaboration to optimize patient care. More often than not, long delays for patients admitted for surgical pathology (such as acute appendicitis) lead to repeated rounds of intravenous opioid analgesics that ultimately fail to achieve adequate pain control and feature side effects. This led our group to think of alternative methods for pain control in this population rather than standard intravenous opioid regimens.

The ultrasound-guided transversus abdominis plane (TAP) block is a well-established regional anesthetic block used by anesthesiologists for perioperative pain control of the anterior abdominal wall.6,7 At our center, after computed tomography (CT) confirmation of appendicitis, ED-performed TAP blocks have been instituted as an alternative analgesic option for alleviating pain from this common diagnosis. This additive analgesic (in addition to other intravenous

SOUND ADVICE

ONE MORE REASON
NOT TO ORDER
AN X-RAY

FIGURE 1A: The lateral ultrasound-guided TAP block will provide innervation to the anterior cutaneous branches of T10 to T12 (approximately the space highlighted). FIGURE 1B: Surface landmarks that should be palpated (if possible) include the inferior costal margin and the iliac crest. Place the ultrasound transducer between these two landmarks.

FIGURE 2A: Place the ultrasound transducer between the inferior costal margin and iliac crest. The probe marker should point lateral/posterior. FIGURE 2B: Position the ultrasound screen to ensure clear view of the location of injection as well as the ultrasound screen.

FIGURE 3: Note the external oblique, internal oblique, and transverse abdominis muscles on the ultrasound screen. The goal is to deposit anesthetic in the potential space just above the transverse abdominis muscle and just below the internal oblique muscle.

FIGURE 4: A schematic drawing of the ultrasound-guided TAP block. Note that anesthetic fluid should track in the plane between the internal oblique and transverse abdominis muscles.

FIGURE 5: An ultrasound representation demonstrating where anesthetic should be placed when performing a TAP block.

by ARUN NAGDEV, MD, SALLY MAHMOUD, MD, AND DANIEL MANTUANI, MD, MPH

OVER THE PAST FEW YEARS, EMERGENCY PHYSICIANS HAVE BEGINNED IMPLEMENTING MULTIMODAL STRATEGIES FOR ACUTE PAIN, REDUCING THE USE OF OPIOIDS. ULTRASOUND-GUIDED SINGLE-INJECTION NERVE BLOCKS HAVE SLOWLY BECOME ACCEPTED FOR TARGETED PAIN RELIEF OVER THE PAST DECADE IN THE EMERGENCY DEPARTMENT FOR HIP FRACTURES, RIB FRACTURES, DELTOID ABSCESS DRAINAGE, AND OTHER CONDITIONS. CURRENTLY, POINT-OF-CARE ULTRASOUND (POCUS) FELLOWSHIPS REQUIRE ULTRASOUND-GUIDED NERVE BLOCKS AS PART OF THE TRAINING CURRICULUM TO ENSURE FUTURE LEADERS WILL PROVIDE THE NEXT GENERATION OF EMERGENCY PHYSICIANS THE KNOWLEDGE TO OFFER OPTIMAL PAIN MANAGEMENT.

OVER THE PAST DECADE, OUR GROUP HAS BEEN FORTUNATE TO WORK IN A HOSPITAL THAT VALUES INTERDEPARTMENTAL COLLABORATION TO OPTIMIZE PATIENT CARE. MORE OFTEN THAN NOT, LONG DELAYS FOR PATIENTS ADMITTED FOR SURGICAL PATHOLOGY (SUCH AS ACUTE APPENDICITIS) LEAD TO REPEATED ROUNDS OF INTRAVENOUS OPIOID ANALGESICS THAT ULTIMATELY FAIL TO ACHIEVE ADEQUATE PAIN CONTROL AND FEATURE SIDE EFFECTS. THIS LED OUR GROUP TO THINK OF ALTERNATIVE METHODS FOR PAIN CONTROL IN THIS POPULATION RATHER THAN STANDARD INTRAVENOUS OPIOID REGIMENS.

THE ULTRASOUND-GUIDED TRANSVERSUS ABDOMINIS PLANE (TAP) BLOCK IS A WELL-ESTABLISHED REGIONAL ANESTHETIC BLOCK USED BY ANESTHESIOLOGISTS FOR PERIOPERATIVE PAIN CONTROL OF THE ANTERIOR ABDOMINAL WALL. AT OUR CENTER, AFTER COMPUTED TOMOGRAPHY (CT) CONFIRMATION OF APPENDICITIS, ED-PERFORMED TAP BLOCKS HAVE BEEN INSTITUTED AS AN ALTERNATIVE ANALGESIC OPTION FOR ALLEVIATING PAIN FROM THIS COMMON DIAGNOSIS. THIS ADDITIVE ANALGESIC (IN ADDITION TO OTHER INTRAVENOUS

DR. NAGDEV is director of emergency ultrasound at Highland General Hospital in Oakland, California.

DR. MAHMOUD is an emergency medicine resident at Highland General Hospital.

DR. MANTUANI is assistant director of emergency ultrasound at Highland General Hospital.
**SUICIDE | CONTINUED FROM PAGE 13**

reporting best practices designed to prevent additional deaths.

**TEEN SUICIDE RESOURCES**

National resources are available to assist communities in providing support to those affected by adolescent suicide. Nonprofit organizations have focused resources on the increasing incidence of cyberbullying and on disadvantaged youth. States also have online resources available that contain a wealth of information. There is a list on resources with links at www.accp.org/SuicideContagionInTeenagers.

**REFERENCES**

1. References


**FROM HOSPITAL TO HOME**

FOR YOUR ADULT PATIENTS WITH CABP AND ABSSSI

**HYPERSENSITIVITY REACTIONS**

NUZYRA is a tetracycline class antibacterial indicated for the treatment of adult patients with the following infections caused by susceptible microorganisms:

- Community-Acquired Bacterial Pneumonia (CABP) caused by the following: Streptococcus pneumoniae, Staphylococcus aureus (methicillin-susceptible isolates), Haemophilus influenzae, Moraxella pneumoniae, Klebsiella pneumoniae, Moraxella catarrhalis, and Chlamydophila pneumoniae.

- Acute Bacterial Skin and Skin Structure Infections (ABSSSI) caused by the following: Staphylococcus aureus (methicillin-susceptible and methicillin-resistant isolates), Streptococcus pyogenes, Streptococcus anginosus group (includes S. anginosus, S. intermedius, and S. constellatus), Enterococcus faecalis, Enterococcus faecium, and Klebsiella pneumoniae.

**USAGE**

To reduce the development of drug-resistant bacteria and maintain the effectiveness of NUZYRA and other antibacterial drugs, NUZYRA should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria.

**IMPORTANT SAFETY INFORMATION**

**CONTRAINDICATIONS**

NUZYRA is contraindicated in patients with known hypersensitivity to omadacycline or tetracycline class antibacterial drugs, or to any of the excipients.

**WARNINGS AND PRECAUTIONS**

Mortality imbalance was observed in the CABP clinical trial with eight deaths (2%) occurring in patients treated with NUZYRA compared to four deaths (1%) in patients treated with moxifloxacin. The cause of the mortality imbalance has not been established. All deaths in both treatment arms, occurred in patients ≥65 years of age, most patients had multiple comorbidities. The causes of death were sepsis and included worsening or complications of infection and underlying conditions. Closely monitor clinical response to therapy in CABP patients, particularly in those at higher risk for mortality.

The use of NUZYRA during tooth development (last half of the tooth crown formation) may cause reversible inhibition of bone growth. The use of NUZYRA during tooth development (last half of the tooth crown formation) may cause reversible inhibition of bone growth.

**DRAINAGE INTERACTIONS**

Patients who are on anticoagulant therapy may require downward monitoring of INR. Insufficient anticoagulation increases risk of thromboembolic events and uncontrolled bleeding. Discontinue NUZYRA if an allergic reaction occurs.

**ADVERSE REACTIONS**

NUZYRA is structurally similar to other tetracycline-class antibacterial drugs and is cross-resistant in patients with known hypersensitivity to tetracycline-class antibacterial drugs. Discontinue NUZYRA if an allergic reaction occurs.

**OMA DACTYL**

The use of NUZYRA and other antibacterial drugs, NUZYRA may have similar adverse reactions. Adverse reactions that have been reported with other tetracycline-class antibacterial drugs. NUZYRA is used in patients with known hypersensitivity to omadacycline or tetracycline class antibacterial drugs and may have similar adverse reactions. Adverse reactions that have been reported with other tetracycline-class antibacterial drugs, and may have similar adverse reactions. Adverse reactions that have been reported with other tetracycline-class antibacterial drugs, and may have similar adverse reactions.

**USE IN SPECIFIC POPULATIONS**

**Lactation**

Breastfeeding is not recommended during treatment with NUZYRA.

**REPORT SUSPECTED ADVERSE REACTIONS**, contact Paratek Pharmaceuticals, Inc. at 1-877-725-2853 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please see Brief Summary of Full Prescribing Information on the 350mg capsule.
NUZYRA™ (omadacycline) injection for intravenous use NUZYRA™ (omadacycline) tablets, for oral use BRIEF SUMMARY OF FULL PRESCRIBING INFORMATION For complete details, please see Full Prescribing Information.

INDICATIONS AND USAGE Community-Acquired Bacterial Pneumonia (CAPB) NUZYRA is indicated for the treatment of adult patients with community-acquired bacterial pneumonia (CAPB) caused by the following susceptible microorganisms: Streptococcus pneumoniae, Staphylococcus aureus (methicillin-susceptible and -resistant isolates), Staphylococcus epidermidis, Streptococcus pyogenes, Streptococcus anginosus group (includes S. anginosus, S. intermedius, and S. constellatus), Enterococcus faecalis, Enterobacter cloacae, and Klebsiella pneumoniae.

Acute Bacterial Skin and Skin Structure Infections (ABSSSI) NUZYRA is indicated for the treatment of adult patients with acute bacterial skin and skin structure infections (ABSSSI) caused by the following susceptible microorganisms: Staphylococcus aureus (methicillin-susceptible and -resistant isolates), Staphylococcus epidermidis, Streptococcus pyogenes, Streptococcus anginosus group (includes S. anginosus, S. intermedius, and S. constellatus), Enterococcus faecalis, Enterobacter cloacae, and Klebsiella pneumoniae.

USAGE: To reduce the development of drug-resistant bacteria and maintain the effectiveness of NUZYRA and other antibacterial drugs, NUZYRA should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting or modifying antibiotic therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

CONTRAINDICATIONS: NUZYRA is contraindicated in patients with known hypersensitivity to amoxicillin or tetracycline-class antibacterial drugs, or to any of the excipients.

WARNINGS AND PRECAUTIONS Mortality Imbalance in Patients with Community-Acquired Bacterial Pneumonia Mortality imbalance was observed in the CAPB clinical trial with eight deaths (2%) occurring in patients treated with NUZYRA compared to four deaths (1%) in patients treated with moxifloxacin. The cause of the mortality imbalance has not been established.

All deaths, in both treatment arms, occurred in patients ≤5 years of age; most are believed to have multiple co-morbidities. The causes of death varied and included worsening and/or complications of infection and underlying conditions. Classify monitor clinician response to therapy in CAPB patients, particularly in those at higher risk for mortality.

Teeth Discoloration and Enamel Hypoplasia: The use of NUZYRA during tooth development (half of pregnancy, infancy, and childhood up to the age of 8 years) may cause permanent discoloration of the teeth (yellowish-gray-brown). This adverse reaction is more common during long-term use of the tetracycline class drugs, but it has been observed following repeated short-term courses. Enamel hypoplasia has also been reported with tetracycline class drugs. Advise the patient of the potential risk to the fetus if NUZYRA is used during the second or third trimester of pregnancy.

Inhibition of Bone Growth: Administration of tetracyclines may cause inhibition of bone growth. Discontinue NUZYRA if any of these adverse reactions occur. If the adverse reaction is severe or persistent, discontinue NUZYRA and refer the patient to an orthopedic specialist.

Hypersensitivity Reactions: Hypersensitivity reactions have been reported with NUZYRA.

- Life-threatening hypersensitivity (anaphylaxis) reactions have been reported with other tetracycline-class antibacterial drugs.
- NUZYRA is structurally similar to other tetracycline-class antibacterial drugs and is contraindicated in patients with known hypersensitivity to tetracycline-class antibacterial drugs other than NUZYRA.

Clostridium difficile-AssOCIATED DIARRHEA: Clostridium difficile associated diarrhea (CDAD) has been reported with use of nearly all antibacterial agents and may range in severity from mild diarrhea to fatal colitis. Treatment with antibacterial agents alters the normal flora of the colon leading to overgrowth of C. difficile. C. difficile produces toxins A and B which contribute to the development of CDAD. Hydration and electrolyte management, protein supplementation, antibacterial drug use not directed against C. difficile, and surgical evaluation should be instituted as clinically indicated.

Tetracycline Class Effects: NUZYRA is structurally similar to tetracycline-class antibacterial drugs and may have similar adverse reactions.

- Adverse reactions including phototoxicity, pseudomembranous colitis, and anti-anabolic activity (which has led to increased BUN, azotemia, acidosis, and death) have been reported for other tetracycline-class antibacterial drugs, and may occur with NUZYRA. Discontinue NUZYRA if any of these adverse reactions occur.

Development of Drug-Resistant Bacteria: Prescribing NUZYRA in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

ADVERSE REACTIONS: The following clinically significant adverse reactions were described in greater detail in the Warnings and Precautions section of the labeling:

- Mortality Imbalance in Patients with Community-Acquired Bacterial Pneumonia
- Inhibition of Bone Growth
- Hypersensitivity Reactions
- Inhibition of the Hypothalamic-Pituitary-Adrenal Axis
- Hypersensitivity Reactions Leading to Discontinuation

Clinical Trials Experience: Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

OVERDOSAGE: In the event of acute overdosage, the patient should be carefully observed for evidence of/optimal use of benefit to decision when to activate the MTP. Special thanks to Andrew Petrosoniak, MD, Chris Hicks, MD, and Kylee Bosman, MD, for their expert contributions to this article.

References
The Official Voice of Emergency Medicine

There are doctors who work in an ER—now, this is back when they called it that. They came in for what they had or what you would call a trauma, and I loved that.

Andrew G: Dad’s ability to handle stress, his restrained empathy, I learned from Dad to optimize my mental hygiene. Alex and I aren’t clinical, but I can say for sure that I’ve learned from him how to manage stress, to appropriately compartmentalize difficult things in our careers.

Alex G: I would say that Andrew got more of a mandate when he was quiet from my dad than I did. I’m far more transparent, even with employees, but I would say my leadership style is rooted in his; he’s an inspirational leader.

One of his greatest strengths is that he understands almost intuitively what motivates the people he works with. When they were doing the ED redesign, how to make people happy in the ED was all rage. Many of the experts said, “Well, give them coffee,” and “Give them a blanket when they get triaged,” and “Go back,” and my dad said, “They’re not here to get coffee. They can get coffee at home. They have blankets at home. They’re here to see a doctor.” So, he made this design. And very first thing they did was see the doctor. He knew that every moment they waited prior to seeing the doctor was wasted time waiting.

KK: Emergency physicians tend to be selfless and giving. We do not always need recognition for our efforts. Do you have an example of your father’s selflessness?

Andrew G: One thing I learned from my dad that I still carry with me today is all ED doctors have the ability to sort through thousands of different possibilities and deduce a specific solution to whatever the complex problem presents. When Dad used to talk to us about problems, he would look through this complex prism of perspectives and possibilities to help us think through all of those different angles, and that’s something that I know that Alex and I use all the time. I use it daily and I’ve gotten it directly from my dad. He didn’t require public recognition. It was enough for him in almost all cases.

Recently, I ran into a guy who I played high school soccer with. I hadn’t seen him in probably 25 years. We ran into each other at an indoor soccer league. He came up to me, pat both of his arms on my shoulders, stopped, looked me right in the eye, and said, “Andrew, it’s Jaime. Do you remember me?” I said, “Of course,” and we hugged, and he launched right into this story. He said, “I just want you to know that your dad changed my life.” So, I sat down and said, “Well, you’ve got my full attention, Jaime. Tell me more.”

He said, “You probably don’t know this but in middle school we were at a YMCA tournament and your dad came up to me afterwards and said, Hey, you’re good. Would you like to play on our select team next year?”

Jaime said he was immediately saddened by this because he knew he couldn’t afford it. His dad wasn’t in his life and his mom worked multiple jobs. He told my dad that he couldn’t afford it, but thankyou for the opportunity anyway. So, my dad took his number, and a few days later called him and said, “Jaime, this is Dr. Geesbersh. I don’t know if you remember me, but we talked at the tournament.” Jaime said, “Yes, I remember you.” Dad said, “I just wanted to let you know that we’re going to take care of all of that for you too.”

What was astounding is for four years, when he was 14 to 18, my dad unceremoniously took care of every single bill, invoice, fee, lunch, travel, and everything else that would have been a cost to him and his family. My mom and I were never told a soul. Jaime said, “He did that because he was so generous. He didn’t need the credit, but he also didn’t want to embarrass me.” So he never mentioned it to anybody. He didn’t tell my mom. He didn’t tell me.

KK: Very touching story that really exemplifies his selfless service. Thank you both for your time and sharing your thoughts with us. Emergency physicians truly have an impact beyond the care they deliver.
SMACC Retires

As the popular global critical care conference ends, a new one is set to replace it

by JEREMY SAMUEL FAUST, MD, MS, MA

In 2013, Scott Weingart, MD, FACEP (@gmeccrit), declared SMACC (which stands for Social Media and Critical Care), a largely unknown conference held in Sydney, Australia, to be the “best critical care conference in the world.” At that time, Dr. Weingart was one of the attendings in my residency, but more to the point, he had become a major celebrity in the emergency medicine and critical care worlds through his wildly popular EMCrit podcast. For the first time, an emergency medicine podcast was being downloaded in droves and had tremendous influence. Dr. Weingart’s endorsement instantly put an entire conference on the educational map. The following year, SMACC (@smaccsteam) was again hosted in Australia and swelled to more than 700 attendees, including many from the United States and around the world. By the time the conference moved to Chicago in 2015, SMACC had become the unofficial in-person reunion of the free open-access medical education (#FOAMed) community, and due to overwhelming demand, the organizers instituted a policy that specified a maximum of 2,000 attendees. They literally declined additional registrations in an effort to keep the conference from becoming too large and impersonal.

To the surprise of many, organizers Roger Harris, MBBS (@RogerRHarris), and Oliver Flower, MBBS, IMedSci (@00Flower), two of the Australian critical care physician founders of SMACC, announced that the sixth conference, again to be hosted in Sydney, would be the final one. Thousands of supporters were disappointed. In just a few short years, a medical conference had become an important part of many people’s lives. How did they do it? Here are some of the moments that highlight its influence, along with an indication of what may replace it.

In 2013, Dr. Flower opened the first-ever SMACC standing behind a lectern. He immediately started to drone on about data, accompanied by a busy PowerPoint slide. Within seconds, a wrestler appeared and literally knocked over the lectern and carried Dr. Flower off stage. He was obviously in on the joke. The gauntlet had been laid down. This would be no ordinary gathering, just as important as the context, which promised to be cutting-edge critical care, was the style. SMACC talks would be as engaging as TED talks but with quality content that could rival an ACEP or Society of Critical Care Medicine conference. At SMACC Gold in 2015, Liz Growe (@LizGrowe) delivered a talk titled “Swearing Your Way Out of a Crisis.” As a social worker who worked in intensive care environments, she wanted us to recognize our own humanity and that our desire to be “politically correct” or appear to be calm, level-headed providers was depriving us of permission to emote in ways that could be helpful both for us and our patients. This was a watershed moment; medical audiences were not accustomed to

### Classifieds

**Vice Chair of Research**

Rutgers, Robert Wood Johnson Medical School

**Department of Emergency Medicine**

Rutgers in New Jersey’s premier public research university. With a $1 billion commitment to invest in support and drive groundbreaking, advanced research, the recent Rutgers and RWJ Barnabas Health integrated academic health system aims to further the university’s reputation as a leader in academic health care and biomedical research.

Rutgers currently is ranked among the nation’s top 20 public universities for research and development expenditures. Rutgers Robert Wood Johnson Medical School is first in the state for research and has steadily attracted increased NIH funding and grants in excess of $1 million, as well as substantially expanded its clinical trials with the launch of a new world-class adult clinical research center.

The Department of Emergency Medicine is seeking a Vice Chair of Research at the Associate Professor or Professor level, preferably tenured track. The Department’s goal is to grow its research and scholarly output while building a nationally recognized research program. The Vice Chair will provide leadership and oversight of the research mission for the Department. Successful candidates will have a demonstrated track record of independently funded research, publication in high-impact, peer-reviewed journals, strong mentorship skills and clear evidence of promoting the academic careers of junior faculty. The Vice Chair must demonstrate expertise in leading research in EMS and possess the interpersonal skills to engage, inspire and work across disciplines within a large, diverse organization.

Robert Wood Johnson Medical School and its principal teaching affiliate, Robert Wood Johnson University Hospital, comprise New Jersey’s premier academic medical center. A 584-bed, Level I Trauma Center and New Jersey’s Level 2 Pediatric Trauma Center, Robert Wood Johnson University Hospital has an annual ED census in excess of 90,000 visits. The department has a well-established, three-year Emergency Medicine residency program and an Emergency Ultrasound fellowship.

Qualified candidates must be ABEM/AOBEM certified/eligible. Salary and benefits are competitive and commensurate with experience.

For consideration, please send a Letter of intent and a curriculum vitae to:

Robert Eisenstein, MD, Chair, Department of Emergency Medicine

Rutgers Robert Wood Johnson Medical School  
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**THE DEPARTMENT OF EMERGENCY MEDICINE**

Service. Education. Leadership

**Exciting Emergency Medicine Opportunities**

Program Director Opening

The Department of Emergency Medicine at Baylor College of Medicine is looking for outstanding applicants for the position of Program Director. Applicants should have a strong background in medical education with a career path directed towards graduate medical education. We are seeking an applicant with at least three years of experience per the ACGME guidelines and who embodies our values of service, education, leadership, and diversity.

The Department of Emergency Medicine at Baylor College of Medicine, a top medical school, is located in the world’s largest medical center, in Houston, Texas. The Baylor Emergency Medicine Residency was established in 2010, and we recently received department status in Jan 2017. Our residency program has grown to 24 residents per year in a 3-year format. We offer a highly competitive academic salary and benefits commensurate to academic level and experience.

Our academic program is based out of Ben Taub General Hospital and Baylor St. Luke’s Medical Center. Ben Taub General Hospital is the largest Level 1 trauma center in southeast Texas with certified stroke and STEMI programs that sees nearly 102,000 emergency visits per year. Baylor St. Luke’s Medical Center is home to the Texas Heart Institute and with freestanding Baylor St. Luke’s Emergency Centers offers multiple additional practice sites for Baylor faculty. BCM has a collaborative affiliation with eight world-class hospitals and clinics in the Texas Medical Center. These affiliations, along with the medical school’s preeminence in education and research, help to create one of the strongest emergency medicine environments in the country.

Those interested in a position or further information may contact Dr. Tyson Pillow via email pillow@bcm.edu or by phone at 713-873-7045. Please send a CV and cover letter with your past experience and interests.
hearing such valuable insights from social workers at major conferences. This suddenly turned SMACC into a much larger tent gathering than a typical medical conference. From then on, SMACC was seen as a conference where major addresses were just as likely to be given by social workers, nurses, paramedics, and medical educators as they were by researchers and critical care physicians.

SMACC Chicago in 2015 was the pinnacle of “dogma-lysis,” the takedown of perceived wisdom in medicine and the zeitgeist of the #FOAMed community at that time. Whether it was how to treat pain (often with ketamine) or why many guidelines in sepsis were wrong, this was a conference that seemed to celebrate evidence-based iconoclasm. However, Simon Carley, MBChB, MPH, MD, PhD (@Simon_Carley), who founded BadMed.co.za (A Brave African Discussions in emergency medicine), and giving a unique approach to the medical debate on thrombolysis for submissive pulmonary embolism. Rather than prattle on about the evidence, he performed an evidence-based rap to the music of Hamilton: “It must be nice, it must be nice, to have evidence on your side!” It was both entertaining and evidence-based, which was SMACC at its best. SMACC DUB was also remembered for a tragedy that occurred shortly after the conference. An ICU physician from Northern Ireland, John Hinds, MB BCH, BAO, died in a motorcycle accident just days after presenting at SMACC. Dr. Hinds had a talent for combining education and humor, and he had given classic SMACC lectures about the “evils” of cricoid pressure as well as the necessity to act fast and honorably in trauma scenarios. Dr. Hinds’ death was a true shock to what had truly become a community. He had made such a large impact both locally and globally that his death eventually was seen as the impetus for Northern Ireland to finally initiate an air-ambulance program in 2016, something that Dr. Hinds had advocated for vigorously during his all-too-short life.

Das SMACC, held in Berlin in 2017, took the conferences’ previous predilections even further. The opening session was a large-scale simulation of a car accident, imagining the resuscitation of the near future. A drone delivering O-negative blood to the scene was an amazing touch. Additionally, SMACC had become increasingly interested in providing wellness and inspiration. Annet Alenyo Ngabirano, MD (@AAlenyo), an emergency physician from Cape Town, South Africa, introduced us to the southern African word “ubuntu” to describe why we do what we do, compassion and humanity toward others.

The final SMACC, back in Sydney where it all began, somehow solved a problem that had emerged. A victim of its own success, SMACC attendees from various fields and niches of medicine, from prehospital to emergency medicine to intensive care, comprised an unusually large tent. Somehow, the final conference found the balance between inspi-
CRITICAL CARE SERVICES INVOLVING A RESIDENT
by TODD THOMAS, CPC, CCS-P

Question: What information must a teaching physician include when reporting code 99291?

Answer: The Centers for Medicare and Medicaid Services (CMS) Transmittal 1548 significantly changed the teaching physician’s documentation requirements for critical care encounters with resident participation. Physician documentation of total critical care time alone is not enough to support reporting Current Procedural Terminology (CPT) code 99291.

The teaching physician may refer to the resident’s documentation for specific patient history, physical findings, and medical assessment. However, the teaching physician’s documentation must provide substantive information as well, including:

• The total time (in minutes) the teaching physician spent providing critical care
• That the patient was critically ill during the time the teaching physician saw the patient
• What made the patient critically ill
• The nature of the treatment and management provided by the teaching physician

Time spent teaching may not be counted toward critical care time, and Medicare auditors might not accept simply adding critical care time to the normal teaching physician attestation. In a recent audit, the following attestation was not allowed for reporting code 99291: “40 minutes of critical care time provided, exclusive of separately billable procedures. I was present with the resident during the history and exam. I discussed the case with the resident during the history and exam. I discussed the case with the resident and agree with the findings and plan as documented in the resident’s note.”

In contrast, the following CMS example includes acceptable teaching physician critical care documentation: “The patient developed hypotension and hypoxia. I spent 45 minutes while the patient was in this condition providing fluids, pressor drugs, and oxygen. I reviewed the resident’s note and concur with their findings.”

Brought to you by the ACEP Coding and Nomenclature Committee.

DR. THOMAS is president of ERcoder, Inc.
The Department of Emergency Medicine at Rutgers Robert Wood Johnson Medical School, one of the nation’s leading comprehensive medical schools, is currently recruiting Emergency Physicians and Medical Toxicologists to join our growing academic faculty.

Robert Wood Johnson Medical School and its principal teaching affiliate, Robert Wood Johnson University Hospital, comprise New Jersey’s premier academic medical center. A 580-bed, Level 1 Trauma Center and New Jersey’s only Level 2 Pediatric Trauma Center, Robert Wood Johnson University Hospital has an annual ED census of greater than 90,000 visits.

The department has a well-established, three-year residency program and an Emergency Ultrasound fellowship. The department is seeking physicians who can contribute to our clinical, education and research missions.

Qualified candidates must be ABEM/ABOEM certified/eligible. Salary and benefits are competitive and commensurate with experience. Subspecialty training is desired but not necessary.

For consideration, please send a letter of intent and a curriculum vitae to:

Robert Eisenstein, MD, Chair, Department of Emergency Medicine
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We provide the support and flexibility needed to balance your career and life outside of medicine.
Penn State Health is committed to affirming action, equal opportunity and the diversity of its workforce. Equal Opportunity Employer – Minors/Minorities/Women/Protected Veterans/Disabled.

FOR ADDITIONAL INFORMATION PLEASE CONTACT:

Susan B. Promes, Professor and Chair, Department of Emergency Medicine c/o Heather Peffley, Physician Recruiter, Penn State Health Milton S. Hershey Medical Center
500 University Drive, MC A595, P O Box 855, Hershey PA 17033
Email: hpeffley@pennstatehealth.psu.edu
or apply online at: hmc.pennstatehealth.org/careers/physicians

Penn State Health is committed to affirmative action, equal opportunity and the diversity of its workforce. Equal Opportunity Employer – Minors/Minorities/Women/Protected Veterans/Disabled.

Classifieds

Job Opportunities

Division Chief, Pediatric Emergency Medicine
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PEM/EM Core Faculty
Vice Chair Research Emergency Medicine

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What We’re Seeking:
• Experienced leaders with a passion to inspire a team
• Ability to work collaboratively within diverse academic and clinical environments
• Demonstrate a spark for innovation and research opportunities for Department
• Completion of an accredited Emergency Medicine Residency Program
• BE/BC by ABEM or ABOEM
• Observation experience is a plus

What the Area Offers:
We welcome you to a community that emulates the values Milton Hershey instilled in a town that holds his name. Located in a safe family-friendly setting, Hershey, PA, our local neighborhoods boast a reasonable cost of living whether you prefer a more suburban setting or thriving city rich in theater, arts, and culture. Known as the home of the Hershey chocolate bar, Hershey’s community is rich in history and offers an abundant range of outdoor activities, arts, and diverse experiences. We’re conveniently located within a short distance to major cities such as Philadelphia, Pittsburgh, NYC, Baltimore, and Washington DC.
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- **Pneumonia**
  - 1 Test / 33 Targets / 1 Hour