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Rural Hospitals
NOT OPEN FOR BUSINESS

Access to emergency care is critical for all parts of America

by JOHN J. ROGERS, MD, CPE, FACS, FACEP

Imagine you are in Washington, D.C., and have a sudden onset of severe chest pain radiating to your left arm, diaphoresis, dyspnea, and nausea—you are having an acute myocardial infarction. You call 911, but the nearest hospital to you is in Baltimore, more than 40 miles away. The only emergency medical services (EMS) unit available is transporting a victim from a motor vehicle collision to the trauma center an hour away. EMS will not be able to respond for at least an hour, if not longer. Welcome to the dilemma faced by many rural Americans when their local hospitals have closed.

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CMS Releases New Fee Schedule

Reimbursement and coding updates for 2015

by MICHAEL A. GRANOVSKY, MD

The Centers for Medicare & Medicaid Services (CMS) released the Medicare Physician Fee Schedule (PFS) Final Rule on Oct. 31, 2014. It addresses changes to the physician fee schedule as well as other important Medicare Part B payment policies. The rule became effective Jan. 1, 2015, and was published in the Nov. 25, 2014, Federal Register.

The 2015 Medicare Conversion Factor

At the conclusion of 2014, the Medicare conversion factor (the amount Medicare pays per relative value unit [RVU]) was set at $35.8228. The 2015 Final Rule is still governed by the Sustainable Growth Rate (SGR) formula, which has mandated continuing annual cuts to physician payments, resulting in year-after-year 11th-hour congressional rescues with short-term fixes. The 2015 Final Rule published a conversion factor of $28.2239, representing a 21.2 percent cut to physician payments. Congress does not seem to have the political will to confront the $130 billion task of eliminating the SGR formula, and to date it has opted for a series of

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What Is Really Driving Defensive Medicine?

THE SPECTER OF A LAWSUIT MAY NOT BE THE DRIVING FACTOR OF OUR CAUTIOUS MEDICAL CLIMATE **SEE PAGE 7**

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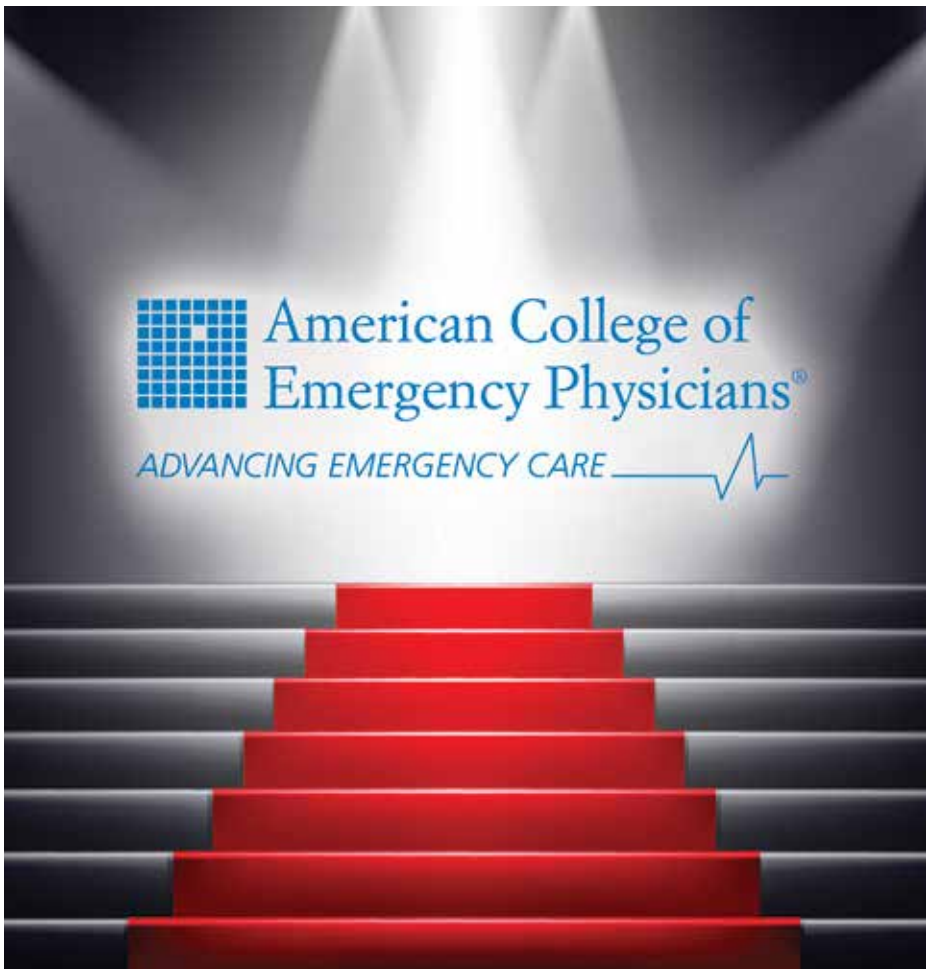
Nomination Deadline Draws Near for ACEP Awards Program

ACEP is accepting nominations until Feb. 16, 2015, for the 2015 ACEP Awards Program, which annually honors members distinguishing themselves for leadership and excellence in emergency medicine.

All members are eligible to submit nominations in one or more award categories, but a nomination form must be completed for each nomination submitted. Nominations must be accompanied by current curriculum vitae. If you would like to nominate an individual for an award, contact Mary Ellen Fletcher at 800-798-1822, ext. 3145, for a nomination form. The awards brochure and nomination form are also available on the ACEP website at http://www.acep.org/aboutus.aspx?id=22550. The available awards and their criteria are:



• **John G. Wiegenstein Leadership Award:** Must be an active, life, or honorary member of ACEP and a past or current member of the Board of Directors or officer of the Council; must possess personal leadership attributes and serve as a role model for ACEP members; and must have made an outstanding contribution to ACEP by significantly helping to achieve ACEP's purposes and objectives. Recipients of this award are ineligible to receive awards in other categories of the Awards Program.

• **James D. Mills Outstanding Contribution to Emergency Medicine Award:** Must be an active, life, or honorary member of ACEP and have made a significant contribution to emergency medicine through a variety of avenues, including ACEP committee service. Recipients of this award are ineligible to receive awards in other categories of the Awards Program.

• **Colin C. Rorrie, Jr., PhD Award for Excellence in Health Policy:** Must be a person of distinction who has made an outstanding contribution to medical health policy or the development or support of legislation and/or regulations that enhance access to emergency medicine, shown exemplary performance as an administrator in medicine and health care, or made outstanding contributions to organized medicine.

• **Award for Outstanding Contribution in Research:** Must be a member of ACEP and have made an outstanding contribution to research in emergency medicine as demonstrated in accomplishments such as outstanding research and publication of original research.

• **Award for Outstanding Contribution in Emergency Medical Services (EMS):** Must be a physician who has been an ACEP member for at least five years, a nonmember physician with at least 10 years of EMS activity, or a non-physician with at least 10 years of EMS activity and have made an outstanding contribution in the area of EMS of national significance and/or an outstanding contribution to the development, promotion, maturation, or education of EMS on a state or national level.

• **Council Meritorious Service Award:** Must be an active, life, or honorary member of ACEP and a past or current councillor who has served for at least three years and has contributed to the Council through Steering Committee membership, Reference Committee participation, participation on other Council committees, resolution development and debate, longevity as a councillor, or service as a Council officer.

• **Award for Outstanding Contribution in Education:** Must be a member of ACEP and have made an outstanding contribution to academic emergency medicine through areas such as development of teaching tools and resident education.

• **Honorary Membership Award:** Individuals who have made an outstanding contribution to ACEP by significantly helping to achieve one or more of the College's purposes and objectives or have served as a role model for ACEP members, with personal attributes such as inspiration, innovation, and consensus building. Candidates for honorary membership cannot be currently eligible for other categories of College membership.

• **John A. Rupke Legacy Award:** Must be a member of ACEP for more than 25 years with sustained contributions either in the local, state, or national emergency medicine communities as a consensus builder, with humanitarianism, and as an advocate for the profession. The member must have also demonstrated exceptional commitment of time and dedication to emergency medicine and to improving the care of emergency patients. ***Previous recipients of the Wiegenstein or Mills awards are not eligible to receive this award.***

Board of Directors and Council Officer Nominations Due by Feb. 16

The ACEP Nominating Committee is accepting recommendations for Board of Directors, Council Speaker, and Council Vice Speaker Candidates.

To qualify for as a candidate for the Board of Directors or Council officer, a candidate must:

- Be highly motivated to serve ACEP and be committed for three years for a Board position (anticipating the possibility to serve two successive terms) or two years for Council Vice Speaker (anticipating the possibility to serve two additional years as Council Speaker).
- Be an ACEP member in good standing without delinquent dues.
- Be an ACEP member for at least five years;
- Show evidence of ACEP involvement in both national and chapter activities, such as current or past chapter officer, current or past national committee leadership, current or past service as a Councillor, or current or past section leadership).
- Show chapter and/or section support for his or her candidacy.

Additional criteria for nomination as a Council officer candidate include:

- Be an active member of the Council (presently or recently).
- Be active nationally (presently or recently).

SUBMIT NOMINATIONS TO:

Kevin Klauer, DO, EJD, FACEP
Chair, Nominating Committee
PO Box 619911
Dallas, TX 75261-9911

Nominations may also be submitted by email to kklauer@acep.org or fax to 972-580-2816. All nominations must be postmarked, emailed, or faxed no later than Feb. 16, 2015.

Elections for the Board of Directors and Council officer positions will occur on Sunday, Oct. 25, 2015, during the Council meeting in Boston.

Please contact Sonja Montgomery, CAE, at 800-798-1822, ext. 3202, or by email at smontgomery@acep.org if you have any questions about the nomination process.

Nominations Being Accepted for Council Awards

The Council Awards Committee is accepting nominations for the following Council awards: Council Meritorious Service Award, Council Teamwork Award, Council Horizon Award, and Council Curmudgeon Award.

The Council Meritorious Service Award, the Council's highest award, has been publicized through the College's Awards Program and has a deadline of Feb. 16 for nominations. Nominations should be submitted electronically at http://www.acep.org/awardnomination. Submit nominations with the individual's CV and up to three letters of support.

Nominations for the Council Teamwork, Horizon, and Curmudgeon awards also are being accepted. A nomination form is not required. ***To nominate for these awards, please email Sonja Montgomery at smontgomery@acep.org or Mary Ellen Fletcher at mfletcher@acep.org.***

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CMS Releases New Fee Schedule

CONTINUED FROM PAGE 1

The Affordable Care Act requires CMS to apply a VBM to physician payments for all providers by 2017. For 2015, groups with 10 or more providers will be subject to a VBM penalty of -4 percent. The VBM penalty will be applied to 2017 payments based on 2015 reporting.

short-term legislative patches. On April 1, 2014, President Barack Obama signed into law the Protecting Access to Medicare Act of 2014. The law provided stabilization of the Medicare conversion factor for services through March 31, 2015, after which the 21.2 percent SGR-mandated cuts will have to be confronted once again (see Table 1).

2015 Geographic Practice Cost Index Update

The geographic practice cost index (GPCI) is used by CMS to modify payment based on regional differences relating to cost of living, malpractice, and practice cost/expense. Some states have a permanently fixed work GPCI. They include Alaska at 1.5 and the frontier states (Montana, Nevada, North Dakota, South Dakota, and Wyoming) at 1.0. Other states are subject to a work GPCI that ranges from 0.6–1.2. In past years, Congress passed single-year legislation setting a GPCI work floor of 1.0 that then expired at the end of the year. The existing 1.0 floor on the physician work GPCI was previously extended through Mar. 31, 2015. The 2015 Final Rule published payment rates that include expiration of the GPCI floor, which will significantly impact more rural areas beginning with dates of service Apr. 1, 2015, absent Congressional action.

Table 1. Calculation of the CY 2015 PFS Conversion Factor

Conversion factor in effect in CY 2014	$35.8228
CY 2015 RVU budget neutrality adjustment	-0.06%
Conversion factor Jan. 1 2015–Mar. 31, 2015	**$35.8013**
APR. 1, 2015–DEC. 1, 2015	
Conversion factor in effect in CY 2014	$35.8228
Conversion factor without prior SGR patch	$27.2006
CY 2015 Medicare Economic Index	0.8% (1.008)
CY 2015 update adjustment factor	3.0% (1.03)
CY 2015 RVU budget neutrality adjustment	-0.06% (0.9994)
CY 2015 conversion factor on Apr. 1, 2015	**$28.2239**
Percent change in conversion factor on Apr. 1, 2015	**-21.2%**

ED E/M RVUs Enjoy Slight Increases for 2015

Emergency medicine's RVU values are remaining stable for 2015. As published in the 2015 rule, emergency medicine will experience a 1 percent update to our overall RVU values in 2015. However, accounting for Medicare's formulaic rounding processes, the realized gains will be closer to half a percent. Essentially, our RVUs are stable, with 99285 seeing a nearly 1 percent increase. This is independent of any looming change to the conversion factor. The RVUs for our major reimbursement drivers, the E/M codes, have only second decimal point adjustments, which are predominantly due to small changes in practice expense (PE) and liability cost. Of note, the work RVUs have not changed for 2015 and remain stable as they have for the past several years (see Table 2).

2015 RVUs for Observation

Observation services were also revalued for 2015, resulting in some small adjustments (see Tables 3–5).

Subsequent observation services remained relatively stable from 2014 to 2015 (see Table 6).

Table 2. 2015 ED E/M RVUs 99281–99285

CPT CODE	2014 Work RVUs	2015 Work RVUs	2014 PE RVUs	2015 PE RVUs	2014 Total RVUs	2015 Total RVUs
99281	0.45	0.45	0.11	0.11	0.59	0.60
99282	0.88	0.88	0.21	0.21	1.16	1.16
99283	1.34	1.34	0.29	0.29	1.73	1.74
99284	2.56	2.56	0.53	0.53	3.30	3.31
99285	3.80	3.80	0.75	0.75	4.85	4.90

Table 3. Same-Day Observation

CPT CODE	2014 Work RVUs	2015 Work RVUs	2014 PE RVUs	2015 PE RVUs	2014 Total RVUs	2015 Total RVUs
99234	2.56	2.56	1.02	1.01	3.79	3.76
99235	3.24	3.24	1.29	1.30	4.74	4.75
99236	4.20	4.20	1.64	1.65	6.12	6.12

Critical Care Services

Critical Care Services were also revalued as part of the Final Rule and received small changes (see Table 7).

Elimination of the Global Surgical Package for Procedures

CMS has proposed to eliminate the 10-day global and 90-day global package for most procedures. In effect, the RVUs would be lowered substantially and follow-up care would not be included with the payment for the initial procedure. CMS proposed to make this transition for procedures with a 10-day global in 2017 and for those with a 90-day global in 2018. ED providers would continue to bill for procedures such as incision and drainage, joint reductions, etc. However, the RVUs would be significantly reduced. However, upon a patient's return to the ED for additional care, the opportunity might exist to report 9928x for those follow-up visits.

Regulatory Update: Physician Quality Reporting System

The Physician Quality Reporting System (PQRS) continues for 2015. While 2014 PQRS included small bonuses, 2015 simply has a penalty component. Groups not reporting PQRS measures in 2015 will receive a 2 percent penalty assessed against their 2017 Medicare allowables.

Beginning in 2015, the CMS's Physician Compare website, in addition to continuing to report basic physician-identifying information, will also display a green check mark for those satisfying the Maintenance of Certification (MOC) requirements. For 2015, CMS retired 50 PQRS measures, including four measures frequently utilized by emergency physicians:

#28: Aspirin for acute myocardial infarction
#55: 12-lead ECG for syncope
#56: Pneumonia (CAP): vital signs
#59: Pneumonia (CAP): empiric antibiotic

2015 Value-Based Modifier (VBM)

The Affordable Care Act requires CMS to apply a VBM to physician payments for all providers by 2017. For 2015, groups with 10 or more providers will be subject to a VBM penalty of -4 percent. The VBM penalty will be applied to 2017 payments based on 2015 reporting. The VBM penalty will be avoided if at least 50 percent of the providers within a group satisfy the minimum PQRS reporting requirements in 2015.

For additional detail regarding 2015 PQRS, visit the ACEP website at www.acep.org/quality.

2015 CPT Coding Changes

The CPT book is published annually, and for 2015, there are 143 deletions, 134 revisions, and 264 CPT code additions, totaling 541 changes. The code changes impacting emergency medicine are listed below.

The following codes have been added for 2015:

A new code set now exists to describe arthrocentesis performed with ultrasound guidance. The code set is further delineated by the size of the joint:

- **20604** Arthrocentesis, aspiration and/or injection; small joint or bursa (eg, fingers, toes) with ultrasound with permanent recording and reporting.
- **20606** Arthrocentesis, aspiration and/or injection; intermediate joint or bursa with ultrasound with permanent recording and reporting.
- **20611** Arthrocentesis, aspiration and/or injection; major joint or with ultrasound with permanent recording and reporting.

The previously existing codes—20600, 20605, and 20610—have been revised to now include the phrase "without ultrasound guidance."

The following code has been deleted for 2015:

- **21800** Closed treatment of rib fracture, uncomplicated, each.

ICD-10 Update

The ICD-10 implementation date has been pushed back to Oct. 1, 2015. As such, the current diagnosis code set has been frozen, with new diagnosis codes only allowed for key and novel diseases.

DR. GRANOVSKY is president of LogixHealth, an ED coding and billing company, and currently serves as the course director of ACEP's Coding and Reimbursement courses.

Table 4. Multi-Day Observation Services (Initial Day)

CPT CODE	2014 Work RVUs	2015 Work RVUs	2014 Total RVUs	2015 Total RVUs
99218	1.92	1.92	2.78	2.81
99219	2.60	2.60	3.80	3.81
99220	3.56	3.56	5.20	5.22

Table 5. Multi-Day Observation Services (Discharge Day)

CPT CODE	2014 Total RVUs	2015 Total RVUs
99217	2.03	2.04

Table 6. Subsequent Observation Services

CPT CODE	2014 Work RVUs	2015 Total RVUs	2014 Total RVUs	2015 Total RVUs
99224	0.76	0.76	1.12	1.11
99225	1.39	1.39	2.03	2.05
99226	2.00	2.00	2.94	2.95

Table 7. Critical Care Services

CPT CODE	2014 Work RVUs	2015 Total RVUs	2014 Total RVUs	2015 Total RVUs
99291	4.50	4.50	6.27	6.29
99292	2.25	2.25	3.14	3.14

OTHER RESOURCES

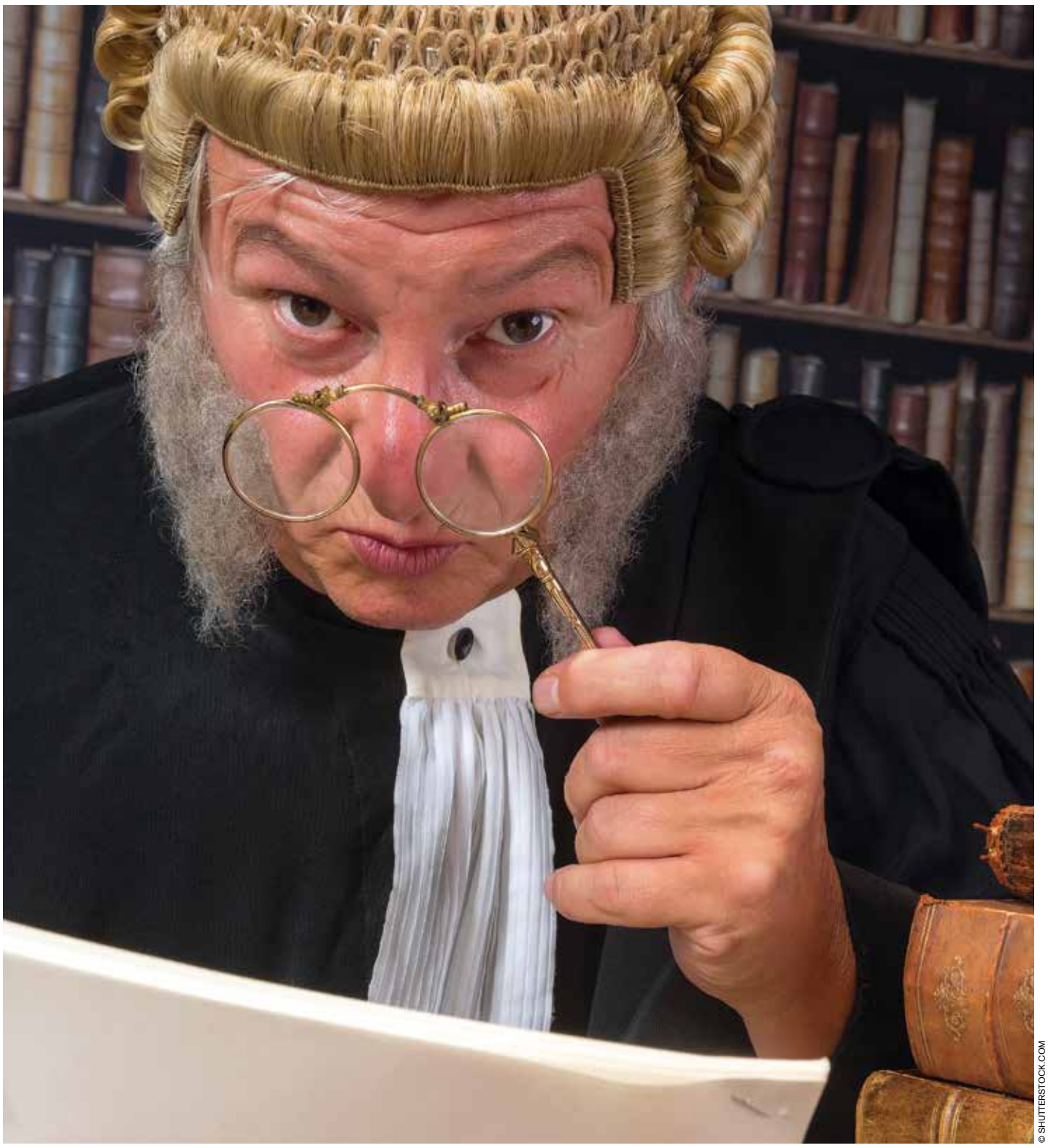
Resources for these and other topics can be found on the reimbursement section of the ACEP website. ACEP reimbursement department staff members David McKenzie, CAE, and Deanna Harper are also available to field your questions at 800-708-1822, ext. 3232. Finally, ACEP offers well-attended and highly recommended coding and reimbursement educational conferences annually, with an offering in May. **Visit www.acep.org/meetings-events for more information on these conferences.**

The VBM penalty will be avoided if at least 50 percent of the providers within a group satisfy the minimum PQRS reporting requirements in 2015.

How Will Your Choices Be Judged?

The AMA Code of Medical Ethics helps us make tough decisions in the ED

BY HILARY E. FAIRBROTHER, MD, MPH, FACEP



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Just another day in your busy emergency department, except that today one of your patients ended up having a lumbar puncture positive for bacterial meningitis. You intubated the patient and were well within the three-foot radius for droplet exposure. You know that you need a single dose of ciprofloxacin and then you can safely go home to your family and friends. You could halt your work flow and get seen in your ED as a patient, but you could also just order that single dose of Cipro for the patient you're currently treating and then take it yourself. The patient has Medicare; they are never going to pay for it. What's standing in your way? Ethics!

We practice in high-stress environments, and are asked to make serious ethical decisions surrounding patient care and dispositions multiple times throughout each shift. We all have an individual moral compass to help us navigate, but we are also ethically guided and held accountable by an overarching document called the American Medical Association (AMA) Code of Medical Ethics.

HISTORY OF THE AMA CODE OF MEDICAL ETHICS

The first version of the Code of Medical Ethics was written in 1847, and the initial members of the AMA unanimously adopted it. Over the past 167 years, the Code has been through multiple revisions with amendments and additions as the health care arena has changed. The Code currently consists of a general preamble and the nine principles of medical ethics followed by 10 chapters of ethical policy. The Code is considered the real-world application of ethical principles to the modern practice of medicine.[1]

I am not an AMA member, so how can the code apply to me?

The AMA Code of Medical Ethics is applied to all practicing physicians in the United States and is used as a template for medical ethics in most other industrialized nations. Your membership status in the AMA does not determine whether or not you are governed by the Code, and if you are called into question in a court of law, the Code can and will be used to both defend and attack the decisions you have made. The AMA Code of Medical Ethics is a measuring stick that is applied to all physicians.

Who makes the code and maintains its accuracy?

The AMA Code of Medical Ethics is written and maintained by the Council on Ethical and Judicial Affairs. The council is composed of eight physicians and one medical student. One of the physician seats is reserved for a resident or fellow physician. The President of the AMA nominates all of the members of the Council. The medical student serves a two-year term, the resident/fellow physician serves a three-year term, and the other seven members serve seven-year terms. The Council writes the reports and ethical policy, and these reports are then proffered to the House of Delegates (HOD) of the AMA. The reports and new policy are debated in reference committee and on the floor of the HOD. The reference committee and the Delegates of the HOD vote to pass the new policy and file the report, to refer the report back to the Council, or to vote down the report and policy. Due to the sensitive nature of many of the reports and policies, it is not unusual for reports to be referred back to the Council multiple times before being adopted by the HOD.

In the last six years, the Council has been working on a code modernization project. Modernizing the Code has highlighted gaps in the current Code and illuminated policies that can be withdrawn because they are no longer applicable to the contemporary practice of medicine. The proffered Code modernization can be viewed by AMA members, and once finalized will be viewable by the public via the AMA website: http://www.ama-assn.org/ama. The new Code will be composed of 12 chapters and is streamlined and efficient.

CASE RESOLUTION

Let's return to our case. First, we will use our moral compass. Arguments to use the patient to order the prophylaxis are: 1) the patient will not pay for the medication out of pocket; 2) you won't need to mess up the workflow of the ED; and 3) this is the easiest way you can think of to get the prophylaxis. Reasons against

CONTINUED *on page 8*

MALPRACTICE REFORM IN THE ED

What Is Really Driving Defensive Medicine?

The specter of a lawsuit may not be the driving factor of our cautious medical climate

BY DANIEL WAXMAN, MD, PHD

One of the great things about publishing in *The New England Journal of Medicine* is that old friends sometimes reconnect. "Congratulations on your *NEJM* article!" wrote Paul Gennis, MD, who was chair of emergency medicine at Jacobi Hospital in New York when I was a resident. "You may not have gotten the answer you were hoping for, but the answer you got is probably accurate."

That was really nice, but I actually wasn't hoping for any particular answer. From the perspective of a researcher, this was the rare study in which a negative result was as interesting as a positive one would have been. As a member of the emergency medicine community, I wasn't disappointed either, nor do I believe that others should be.

The Research

Our recent study addressed the following question: do emergency physicians change their practice when the threat of malpractice suit is reduced?[1] In 2003, Texas changed its malpractice standard of care from "ordinary negligence" (ie, deviation from the "reasonableness" standard of customary practice) to "willful and wanton negligence." In 2005, Georgia and South Carolina passed similar laws, changing their standard to "gross negligence." This is a substantial change. To be found negligent under the revised standard, a plaintiff would need to prove that physicians had an "actual, subjective awareness" of "the likelihood of serious injury" but nevertheless proceeded with "conscious indifference" or "recklessness." In other words, one would need to prove that physicians knew their actions or omissions would be more likely than not to cause serious harm, then carried them out anyway. Not impossible, but this is about as strong a reform as anybody has proposed.

Physicians strongly believe that "defensive practice" exists and, in fact, say that they practice defensively themselves. In one survey, 70 percent of emergency physicians polled said that they often practice defensively, meaning that they provide care or order tests they don't believe patients need strictly because they fear lawsuits.[2] Advanced imaging (CT and MRI), hospital admission, and other diagnostic tests are the sort of items that are frequently called into question.

> If fear of lawsuits is but one of a complex set of motivations for cautious behavior, then perhaps defensive medicine is really just medicine.

Using Medicare claims, we evaluated the effect of the revised malpractice standard on the utilization of CT or MRI, hospital admission, and total per-visit ED charges. We used a quasi-experimental design, which compared the difference in each outcome in the reform states before and after the legislation was passed to the difference between the before and after periods in nearby states that didn't pass reform (called a "difference in differences" design). The idea of a quasi-experiment is that assumptions are made explicit such that if you believe them, the results should be interpretable as if the patients had been randomly assigned to "exposure to the law" versus not. The key assumption here is that in comparing the pre-law and post-law time periods, the law itself is the only difference between reform and control states that would affect study outcomes.

The Results

The study results were surprising to some: we did not find evidence that changing the malpractice standard to gross negligence (or the equivalent) had any effect on practice. There was no discernable effect on rates of CT/MRI utilization or hospital admission. In two of three cases, total charges were not affected. In Georgia, reform was associated with a 3.4 percent reduction in average charges. These findings held true both in terms of the raw results and after adjusting for patient characteristics, hospital characteristics, and other factors.

There are a few other limitations that are discussed in the published paper, but assuming our study results are true, then how might one explain the apparent discrepancy between a belief among emergency physicians that they practice defensively and objective evidence that clinical choices don't actually change when the threat of being sued is substantially diminished?

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AMA CODE OF ETHICS | CONTINUED FROM PAGE 6

would be: 1) it is now putting a medication on the patient's chart that was not received and may confuse future treatment decisions; 2) Medicare is being charged for a medication that was not given to the patient, and this may be considered fraud; and 3) you have an alternative way of getting the prophylaxis via paperwork and some additional time.

Now, let's see what the Code has to say on this matter. Principle II of the Code states, "A physician shall uphold the standards of professionalism, be honest in all professional interactions, and strive to report physicians deficient in character or competence, or engaging in fraud or deception, to appropriate entities." Principle III states, "A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient."[2]

It does appear quite clear. The ethical choice is to go through the hassle of the paperwork and have the medication ordered under your name and recorded for the appropriate use (postexposure prophylaxis).

I encourage you to familiarize yourself with the principles of the AMA Code of Medical Ethics and to use the Code to practically apply ethical principles to your current practice.

> Principle III states, "A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient."

If you would like to get more involved in the AMA and setting ethical policy for our profession, please contact Dr. Fairbrother at Hilary.Fairbrother@nyumc.org.

References

1. American Medical Association. History of AMA ethics. Available at http://www.ama-assn.org/ama/pub/about-ama/our-history/history-ama-ethics.page. Accessed January 5, 2015.
2. American Medical Association. Principles of medical ethics. Available at http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics/principles-medical-ethics.page. Accessed January 5, 2015.

DR. FAIRBROTHER is assistant director of undergraduate medical education at the Ronald O. Perelman Department of Emergency Medicine at New York University School of Medicine in New York.

MALPRACTICE REFORM | CONTINUED FROM PAGE 7

The answer may be that decision-making is motivated by many factors that parallel one another. Of course, physicians fear being sued. However, we are also extraordinarily reluctant to take risks on behalf of our patients. Uncertainty is uncomfortable, and there is often a perception that uncertainty can be reduced by "doing more." It seems likely that cautious choices labeled as defensive are often felt by physicians to be low yield rather than zero yield. So consider the question: if clinical decisions don't change when the threat of being sued is substantially diminished, then is defensive medicine a useful construct at all? If fear of lawsuits is but one of a complex set of motivations for cautious behavior, then perhaps defensive medicine is really just medicine.

In addition, what should the emergency medicine community make of all of this? Well, if the answer is that emergency physicians make decisions based mostly on what we believe to be best for our patients rather than fear or self-interest, that doesn't seem like such a bad message to me. There are other good reasons to advocate for tort reform without invoking arguments that paint physicians in a poor light and don't appear to be true.

Consider that one reasonable interpretation of the study's findings is that even when the threat of a medical malpractice lawsuit is substantially reduced, physicians are just as careful. We demonstrated that changing the malpractice standard to gross negligence did not cause emergency physicians to order fewer CT scans or admit fewer patients to the hospital. While patient outcomes were not studied explicitly, the findings suggest that the malpractice standard can be changed to gross negligence and that emergency physicians are unlikely to become careless or cavalier as a result.

There is ample evidence that, using ordinary negligence (reasonableness or customary practice) as the malpractice standard, the tort system does a poor job of distinguishing between good physicians and those who are incompetent or careless. Setting the standard to gross negligence may be one way to treat physicians more fairly. However, doing so is unlikely to save money by changing clinical decisions, despite being the right thing to do.

References

1. Waxman DA, Greenberg MD, Ridgely MS, et al. The effect of malpractice reform on emergency department care. *N Engl J Med.* 2014;371:1518-25.
2. Studdert DM, Mello MM, Sage WM, et al. Defensive medicine among high-risk specialist physicians in a volatile malpractice environment. *JAMA.* 2005;293:2609-17.

DR. WAXMAN is senior natural scientist at the RAND Corporation in Santa Monica, California, and visiting associate professor of emergency medicine at the University of California, Los Angeles.

True Cost *of* Stopping Overdoses

Naloxone can reduce opiate deaths, but there are many liability unknowns

BY PAUL KIVELA, MD, MBA, FACEP

The U.S. opiate epidemic leads to about 16,000 deaths a year. Activists have proposed solutions, and many states have passed legislation to allow physicians to prescribe naloxone, permit pharmacists to distribute naloxone over the counter without a prescription, provide legal protection to those who report overdoses, and allow first responders such as police and firefighters to administer the medication. Opponents have argued that this may increase opiate use by lessening overdose fear. Still, widespread availability of opiate reversal agents has the potential to save many lives, and efforts to improve access should be commended.

CONTINUED *on page 10*

On the surface, the solution seems simple, cost-effective, safe, and free from problems. Naloxone is deemed to be inexpensive, often quoted at $3 per dose, but increased demand has raised the price to as much as $42 per dose, according to NPR. There are multiple studies that show the medication can be safely and effectively administered both intramuscularly and intranasally. In skilled hands, naloxone has been found to be effective, and the medication can clearly be lifesaving.

Below are some of the potential issues and problems that should be addressed, or at least anticipated.

Administration Modality

First responders will likely have to decide if they are going to administer the medication by injection or intranasally.

If they are going to inject the medication, providers will be required to either draw up the medication or to carry prefilled syringes. With injections comes the risk of needle-stick exposures with patients who are at particularly high risk for HIV and hepatitis and often have an altered mental status or may be inherently violent.

Intranasal administration is an excellent alternative that has been shown to be effective.

Medication Stability

Although naloxone is generally heat stable, some experts are recommending special storage for the medication. Naloxone should be protected from light and stored at room temperature (20–25º C, or 68–77º F).[1] There may be issues with the drug if it is stored in a vehicle that is not climate controlled.[2]

Risks and Liability

There are five areas of potential liability:

1. It is entirely unclear whether there is potential liability for nonadministration or poor administration of the medication in cases where the patient dies or suffers a bad outcome. Although unlikely, with terminal patients, there may even be potential liability for causing pain by reversing their analgesics.

2. There is a potential for needle stick to the provider. Many of opiate overdose patients are at high risk for hepatitis or HIV.

3. Although infrequent, most providers can recount a story of violent behavior after reversal of opiate overdose. This may be due to rapid reversal or coingestion of another drug, such as cocaine or methamphetamine. Presently, naloxone administration is often done with many providers available to potentially restrain the patient.

4. Many of the opiates on the streets have half-lives longer than that of the naloxone. Naloxone's effects last 30–75 minutes, which should provide ample time to obtain additional medical assistance. However, what happens when the patient responds to naloxone and is wide-awake? Can the patient legally refuse care, and will first responders assume liability if the patient is allowed to refuse?

5. Although rare, rapid reversal of opiate depression by naloxone has been reported to result in vomiting, diaphoresis, tremulousness, tachycardia, elevated blood pressure, seizures, pulmonary edema, ventricular dysrhythmias, rapid pulmonary edema, and even cardiac arrest.[3]

Training Cost

There will likely need to be some type of necessary training. Depending on the route of administration, training costs may vary. Each agency will need to determine what training is necessary to assess the patient, administer the medication, and provide further stabilizing care until additional help arrives. Even an hour of annual training can be a significant cost to a department.

The Medication Cost of a Potential Solution

In anticipation of the above challenges, a company has come up with an answer, but that answer does not come without a price.

A temperature-stable naloxone and intramuscular delivery device that makes an inadvertent needle stick virtually impossible has been developed. Recently, this device, called Evzio, received FDA approval.

According to representatives of Kaléo, which makes Evzio, pricing has not been fully worked out, and there will likely be volume and institutional discounts. However, according to a *New York Times* article, the cost could be in the hundreds of dollars for each device.[4]

Sustainability

Lastly, how are first responders going to get reimbursed for medication replacement? They do not typically bill insurers or patients, and regardless, many of these patients do not have any coverage or the ability to pay.

Best Practices

With all advances come potential difficulties. Naloxone administration has the potential to save many lives. It is important to realize the potential unintended consequences so that first responders develop a program that is safe to the patient and provider, effective, and sustainable.

References

1. Ogbur O. Naloxone–hydrochloride injection (Narcan, Evzio). MedicineNet. Available at http://www.medicinenet.com/naloxone-injection/article.htm. Accessed Jan. 5, 2015.
2. World Health Organization. Accelerated stability studies of widely used pharmaceutical substances under simulated tropical conditions. Available at http://apps.who.int/medicinedocs/es/d/Jh1808e. Accessed Jan. 5, 2015.
3. Naloxone. *PDR Network*. Available at http://www.pdr.net/drug-summary/naloxone-hydrochloride?druglabelid=777. Accessed Jan. 5, 2015.
4. Rosenthal E. For drugs that save lives, a steep cost. *The New York Times*. April 27, 2014. SR4.

DR. KIVELA is managing partner at Napa Valley Emergency Medical Group, medical director of Medic Ambulance, and part owner of Elan Medical Corporation. He is Vice President of the ACEP Board of Directors.

State Naloxone Laws

There are 28 jurisdictions that have passed a naloxone law.

KEY

* Prescribers immune from civil liability.

\+ Lay administrator immune from civil liability.

*	+	California
*	+	Colorado
*	+	Connecticut
	+	District Of Columbia
*		Delaware
*	+	Georgia
		Illinois
	+	Kentucky
		Massachusetts
		Maryland
		Maine
*	+	Michigan
*	+	Minnesota
*	+	North Carolina
*	+	New Jersey
*	+	New Mexico
	+	New York
*		Ohio
		Oklahoma
	+	Oregon
*	+	Pennsylvania
	+	Rhode Island
*	+	Tennessee
*	+	Utah
	+	Virginia
*	+	Vermont
		Washington
*	+	Wisconsin

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MYTHS in Emergency Medicine

ROOTED IN CULTURE, BASED ON TRADITION

BY KEVIN M. KLAUER, DO, EJD, FACEP

Skin Tears! Who Cares?

Why care about skin tears? The standard for skin tear repair has always been "more is less." The more you try primary closure with sutures, the more tissue destruction you cause, resulting in frustration and, often, a worse cosmetic result. So many, if not most, of us have just given up, taking the easy way out—"less is more"—embracing the ethical luxury of telling these patients that we have little to offer other than wound cleansing, a bio-occlusive dressing, and discharge. A quick in-and-out for you, but a poor cosmetic result and wound care hassle for them.

This old standard may have changed! Primary closure for skin tears is possible. It was never in question that primary closure of skin tears would be optimal. However, it just couldn't be accomplished in thin-skinned patients because the sutures, no matter how small, always seemed to pull through the skin as soon as tension was applied. You can't thicken the skin; conversation over—but not so fast. Davis et al published a paper reporting a novel technique: the use of Steri-Strips but not in the traditional sense.[1] They applied Steri-Strips across the skin tear as anchoring devices and then sutured through them (see Figure 1).

After reading this article several months ago, I gave it a try. However, I modified the technique slightly due to a stellate, nonlinear wound and some tissue defect. I cut pieces of Steri-Strips for anchoring at key locations and sutured through them; my Steri-Strips did not span across the wound. My modification provided a bit more flexibility regarding the most advantageous wound edges to approximate (see Figure 2).

Oxygen Must Be Good

Oxygen is air! It is critical to survival. So how could it possibly be bad? Well, water is essential to life as well; however, too much can result in hyponatremia or even drowning (on a larger scale). A recent article by Stub reported "new" information calling the use of oxygen into question in ST segment elevation myocardial infarction (STEMI) patients who have normal oxygen saturations.[2]

According to the author, "supplemental oxygen therapy in patients with STEMI but without hypoxia increased myocardial injury, recurrent myocardial infarction, and major cardiac arrhythmia, and was associated with larger myocardial infarct size assessed at six months."

Although this article, presented at the American Heart Association Scientific Sessions in November 2014, received considerable attention, concern about the negative effects of hyperoxia is not new. The findings shouldn't surprise us. What amazes me is that this concept is in some way a revelation. Many articles have reported this concern and have even expanded the concern to other clinical entities that are oxygen-sensitive. The surprise should be the gap between science and clinical practice.

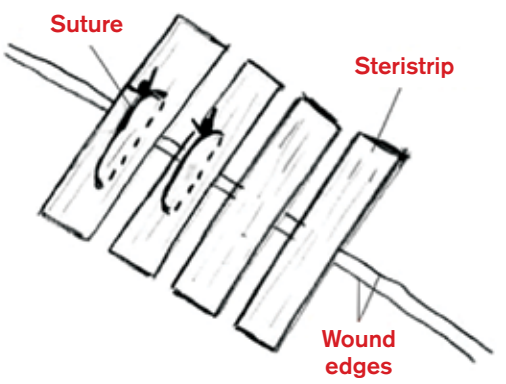

Figure 1.
Davis et al applied Steri-Strips across the skin tear as anchoring devices and then sutured through them.

REPRINTED WITH PERMISSION FROM *J EMERG MED.* 2011;40:322-3.

In 1968, Brown and Hugget published this great nugget: "Oxygen at elevated pressures is known to be toxic for many forms of life. The toxicity is clearly related to both partial pressure of oxygen and the duration of exposure."[3] Although they were trying to kill bacteria with hyperoxia, they still recognized the concept that hyperoxia can be toxic.

In 1988, the effects of hyperoxia on cerebral blood flow (velocity) were actually studied. The authors reported that, "Hyperoxia has a consistent and predictable effect on cerebral blood flow in healthy adult brains."[4] Studying 15 term and 17

CONTINUED *on page 12*

premature infants exposed to three times normal oxygen tension, they concluded, "The cerebral blood flow velocity fell in all 15 infants born at full term during hyperoxia, but there was a simultaneous and significant reduction in PCO_2 at the same time as the hyperoxia. Analysis of variance suggested that in the infants born at full term, the change in carbon dioxide had most effect in the reduction of cerebral blood flow velocity, rather than the hyperoxia itself. We conclude that in premature infants, cerebral vascular resistance may be altered by a fall in cerebral blood flow velocity in the presence of hyperoxia."

In 2005, coronary blood flow during left heart catheterization was studied.[5] Compared to patients who received room air, patients who received 100 percent FiO_2 experienced a 40 percent increase in coronary artery vascular resistance, which was accompanied by a 30 percent reduction in coronary blood flow.

A Cochrane database systematic review was performed in 2010.[6] The authors identified three articles (one dating back to 1976), which encompassed 387 patients and 14 associated deaths. The relative risk for death in patients with confirmed acute myocardial infarction (AMI) who were receiving supplemental oxygen was 3.03. However, the authors admitted that the low number of reported deaths could also be attributed to chance. They noted the suggestion of harm and that no conclusive evidence exists to support the routine use of supplemental oxygen therapy in these patients. This review was updated in 2013. One additional trial was identified, increasing the total patient count to 430, with 17 deaths. The conclusions were unchanged, including a call to action for a more definitive study.

In 2012, Cornet et al published an excellent systematic review on oxygen administration in emergencies.[7] They concluded that the outcomes in many disease entities are worsened by supplemental oxygen administration. Many conditions are worsened by the use of supplemental oxygen in patients without hypoxia: these include AMI, congestive heart failure, chronic obstructive pulmonary disease, and stroke.

Now, back to AVOID (Air Versus Oxygen In ST-elevation MyocarDial Infarction). Perhaps this is the trial that the Cochrane crew was looking for. In it, 638 patients with suspected STEMI (441 confirmed) were randomized to no oxygen (unless SaO_2 <94%) or 8 L/min via simple face mask. The primary end point was infarct size (good choice), but the measure of infarct size was total creatine phosphokinase (CPK) and troponin I (surrogate markers). Biomarkers do predict AMI, but their ability to accurately predict infarct size has been challenged.[8] A redeeming feature of the study was the confirmation of increased myocardial damage at six months via cardiac MRI.

Other limitations include the use of 8 L/min oxygen for the treatment group. In general, 2–4 L/minute via cannula is more consistent with current U.S. practice. Finally, we have to recognize the limitation of pulse oximetry. Using pulse oximetry to estimate actual arterial oxygen tensions (I'm not suggesting the use of arterial blood gases) is akin to using bifocals to pick up a grain of salt. For instance, a pulse oximetry range between 92 percent and 96 percent will likely have a much larger range of arterial oxygen tension associated with it. The vasoactive effect that oxygen has on chemoreceptors is a microscopic phenomenon.

Figure 2.

For my modification, I cut pieces of Steri-Strips for anchoring at key locations and sutured through them. Note that tissue loss and defect and significant tension did not allow for approximation of all wound edges.

Despite the fact this study, and many before it, have had limitations, we have forgotten one thing—common sense. I think we can stop studying this concept. Although perhaps the scientist in all of us longs for that one definitive study, we are victims of paralysis by analysis. We have enough evidence to conclude that giving this drug to people without a demonstrated need (eg, hypoxia) provides them no benefit and may, in fact, cause harm.

Oxygen is a vasoactive drug. This is an indisputable fact. Give this drug to patients who don't need it, and whether you can prove it with scientific rigor or not, you will eventually hurt people.

Alcohol Levels: What Question Are You Asking?

Some tests have their utility stretched beyond rational use. Blood alcohol levels are frequently ordered but have limited clinical value, and such ordering patterns are validated and encouraged with positive results. I think we have collectively forgotten what questions we need to ask and what the right test(s) is to find those answers. Alcohol levels may be important when we are determining the source of an altered mental status, but when the source is clear, why order it? For instance, a negative ethanol level in a patient with minor head trauma should point the diagnostic compass immediately toward intracranial injury, but when patients say they drank a six-pack, you can smell it, and they appear intoxicated, does your laboratory really need to confirm the presence of alcohol? If confirmation is warranted, why not a breathalyzer? If you say you're drunk, your breath says you're drunk, and I think you're drunk, you're drunk.

OK, so the patient is drunk. Some then might say that the blood alcohol level is obtained to determine the level of intoxication. I honestly believe that the term "blood alcohol level" almost implies a correlation between intoxication and the number (level). We know that the effects of alcohol are very idiosyncratic; everyone experiences a different response based on a multitude of factors, including their level of exposure, comorbidities, previous exposure, etc. Historically, we believed that the number could be applied to a formula to predict clearance. This has been disproved. Furthermore, Roberts and Dollard published an article in 2010, and the conclusions are words to live by: "Attempting to relate observed signs of alcohol intoxication or impairment, or to evaluate sobriety, by quantifying blood alcohol levels can be misleading, if not impossible."[9]

The only reliable test for determining the level, or degree, of intoxication is the physical examination. In other words, if you can carry on a normal conversation, your judgment and insight are reasonable, and your motor function is not impaired (eg, ambulation without difficulty, no slurred speech), you're not clinically intoxicated. Having all of the providers agree to this assessment in the medical record is key to avoiding discrepancies. However, adding an unnecessary blood alcohol level into the diagnostic picture only serves to cast doubt on your clinical determination that the patient wasn't impaired. Impairment is the key, not a specific number. Remember, the legal level of intoxication (different from state to state) relates to a person's ability to legally operate a motor vehicle in that state. This arbitrary level has no clinical basis and should not be applied in the world of clinical medicine.

Unnecessary blood alcohol levels in the medical record may cast doubt on your clinical assessment and may obviate you to observe your patients for extended periods of time while waiting for them to achieve a level for safe motor vehicle operation in your state, a number irrelevant to the clinical management of your patient.

References

1. Davis M, Nakhdjevani A, Lidder S. Suture/Steri-Strip combination for the management of lacerations in thin-skinned individuals. *J Emerg Med.* 2011;40:322-3.
2. Stub D. A randomized controlled trial of oxygen therapy in acute ST-segment elevation myocardial infarction: the Air Versus Oxygen in Myocardial Infarction (AVOID) study. Presented at: American Heart Association Scientific Sessions; Nov. 19, 2014; Chicago, IL.
3. Brown OR, Huggett DO. Effects of hyperoxia upon microorganisms. *Appl Microbiol.* 1968;6:476-9.
4. Niijima S, Shortland DB, Levene MI, Evans DH. Transient hyperoxia and cerebral blood flow velocity in infants born prematurely and at full term. *Arch Dis Child.* 1988;63:1126-30.
5. McNulty PH, King N, Scott S, et al. Effects of supplemental oxygen administration on coronary blood flow in patients undergoing cardiac catheterization. *Am J Physiol Heart Circ Physiol.* 2005;288:H1057-62.
6. Cabello JB, Burls A, Emparanza JI, et al. Oxygen therapy for acute myocardial infarction. *Cochrane Database Syst Rev.* 2010;(6):CD007160.
7. Cornet AD, Kooter AJ, Peters MJ, et al. Supplemental oxygen therapy in medical emergencies: more harm than benefit? *Arch Intern Med.* 2012;172:289-90.
8. Arruda-Olson AM, Roger VL, Jaffe AS, et al. Troponin T levels and infarct size by SPECT myocardial perfusion imaging. *JACC Cardiovasc Imaging.* 2011;4:523-533.
9. Roberts JR, Dollard D. Alcohol levels do not accurately predict physical or mental impairment in ethanol-tolerant subjects: relevance to emergency medicine and dram shop laws. *J Med Toxicol.* 2010;6:438-42.

DR. KLAUER is the chief medical officer-emergency medicine and chief risk officer for TeamHealth as well as the executive director of the TeamHealth Patient Safety Organization. He is an assistant clinical professor at Michigan State University College of Osteopathic Medicine; Speaker of the ACEP Council; and medical editor in chief of *ACEP Now.*

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RURAL HOSPITALS NOT OPEN FOR BUSINESS

CONTINUED FROM PAGE 1

Ezekiel Emanuel, one of the architects of the Affordable Care Act, predicts that one in five hospitals will close by 2020. In his book *Reinventing American Health Care,* he wrote, "Long live fewer hospitals. Welcome to the new age of digital medicine."[1] He also predicted that the first to close would be smaller hospitals, which I interpret as being mainly rural hospitals. It may be the cynic in me, but predictions often come true when they are self-fulfilling prophesies of a well-designed plan.

Trend in Rural Hospital Closures

Whether this is the inevitable fate of rural hospitals or part of a deliberate plan to cut federal spending, the rural hospital closure trend has started. In 2013, 14 rural hospitals closed nationwide, leaving whole communities without sufficient access to emergency care. In Georgia, where I live, four of the state's 65 rural hospitals have closed over the past two years, with at least 15 more at risk, according to HomeTown Health, an association representing rural Georgia hospitals. The main reasons are financial, due to stressed budgets, shrinking revenue, growing expenditures, and gossamer-thin reimbursements.

When a rural hospital closes, it worsens access. Almost one in five Americans lives in a rural area. For the most part, these people are older, less educated, have more chronic illness, and are uninsured or underinsured. They have less access to specialist care and often must travel long distances to receive it. Sometimes travel out of town is difficult, unaffordable, unavailable, or impossible for them.

These barriers are not just inconveniences; they impact lives. For example, a study from California showed that when distance to the hospital increased, so did death from injury and time-sensitive conditions such as acute myocardial infarction.[2] Another study from Canada documented increased adverse perinatal outcomes when local hospitals close and travel distances increase.[3]

Access is not only an issue for local residents. When you travel across the country on our highways to visit families for holidays, take children to college, or visit remote recreation areas, access to care changes along the way and is variable depending upon your destination.

Hospital closures are not just a health care problem. There are economic impacts as well. In addition to providing health care services, rural hospitals contribute to local economies. They bring outside dollars into rural communities and stimulate local purchasing power. They also help attract industry and, in some locations, a steady flow of retirees.

Crucial Importance of Rural Areas

Rural America is not just "flyover country." Everyone, even those in large metropolitan areas, benefits from the fuel, fiber, and food that America produces. It has been estimated that without rural America's contributions, you would be paying at least 15 percent more for these products. What would you do without that extra 15 percent in you pocket? Failing to invest in rural America, ignoring the importance of rural America, and disregarding its significance to everyone in the country is foolish and based on ignorance, if not arrogance.

The federal government has historically supported rural hospitals. Since 1997, it designated many as critical access facilities, recognizing that their small size limited their scope of service. Such hospitals received extra federal funding to focus on critical medical services. Last year, the US Department of Health & Human Services Office of Inspector General recommended that the federal government

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tighten rules on critical access hospitals to save money. Such a move would likely reduce the number of such facilities by two-thirds.

Funding for the poorest Americans is also changing, with the Affordable Care Act having cut payments for indigent care in anticipation that the impoverished and uninsured would move to Medicaid. However, 23 states have not expanded their Medicaid programs in fear of escalating financial burden. In those states, a gap in federal support for the poor has emerged. Surprisingly, poverty is a greater burden in rural than urban areas, and the ability of small hospitals to absorb losses is far less. Urban and larger facilities can cost shift and offer other services to offset losses, or they may tap local governments for financial support for indigent care. Rural and smaller facilities don't enjoy the same options or support.

Georgia's governor, Nathan Deal, is concerned that further hospital closures will cause significant issues with access to care. For this reason, he has created a Rural Hospital Stabilization Committee to explore options. One proposed idea is to allow rural facilities to convert to freestanding EDs. This would allow access to emergency care and treatment for time-sensitive conditions without requiring the presence of a hospital. The hospitals would maintain their Certificate of Need (CON) and could reopen should conditions improve.

This seems a rational option and is worth consideration and our involvement. An emergency physician who is an ACEP member sits on the governor's committee, and the Georgia College of Emergency Physicians is engaged as well.

THE APPLICATION OF TELEMEDICINE TO RURAL EMERGENCY CARE SHOULD BE EXPLORED, DEVELOPED, AND TESTED, PARTICULARLY IN REMOTE AND RURAL AREAS. ISSUES WITH FAIR PAYMENT AND LICENSURE REQUIREMENTS FOR TELEMEDICINE SERVICES NEED TO BE RESOLVED.

Emergency Physicians Need to Be Part of the Discussion

EMTALA, sufficient reimbursement, alternative sources of care, follow-up care, access to specialty consultation, EMS, workforce, and telemedicine are all part of the discussion. It is irrational for us to sit on our hands and await solutions from others without our input. The emergency medicine community should consider access to rural emergency care as a priority advocacy agenda item.

I do agree with Mr. Emanuel on one point: this is an opportunity for telemedicine. The application of telemedicine to rural emergency care should be explored, developed, and tested, particularly in remote and rural areas. Issues with fair payment and licensure requirements for telemedicine services need to be resolved. The ACEP Telemedicine Section was formed in 2011 during the ACEP *Scientific Assembly* in San Francisco. It is maturing, growing, and working to shape emergency telemedicine for the future.

It seems to me that EMS also plays a heavy role in rural emergency care delivery. How can it be leveraged to improve access? What limitations does it face, and how can these barriers be overcome?

I know emergency physicians care about people and do so regardless of race, gender, age, ability to pay, and wherever they may happen to live. It is our (ACEP's) obligation to advocate for access to care for rural and remote areas.

We should be aware that public-policy developments may have unintended consequences impacting rural hospitals and our ability to deliver emergency care. Policy makers need to be fully educated about the unique issues and problems faced by rural hospitals and their importance not only to the health of their populations but to the economic vitality of their communities. The value of rural America to the rest of the country must be recognized, and all Americans deserve the same access to emergency care, recognizing emergency medicine as an essential public service.

References

1. Emanuel E. *Reinventing American Health Care*. New York, N.Y.: Public Affairs; 2014.
2. Buchmueller TC, Jacobson M, Wold C. How far to the hospital? The effect of closures on access to care. *J Health Econ*. 2006;740-761
3. Gryzbowski S, Stofl K, Jude Kornelsen J. Distance matters: a population based study examining access to maternity services for rural women. *BMC Health Serv Res*. 2011;11:147

DR. ROGERS is co–emergency department medical director at Coliseum Health System in Macon, Georgia, and ACEP secretary-treasurer.

You've Arrived—Now What?

What to expect when you reach your global volunteer destination

BY KENNETH V. ISERSON, MD, MBA, FACEP, FAAEM

Part 3 of a three-part series. Part 1 was published in the Nov. 2014 issue, and Part 2 was published in the Dec. 2014 issue.

Interest in practicing and teaching emergency medicine around the world has increased exponentially. Many of our colleagues now have some international experience, many others dream of following a path to remote regions, and most academic centers are considering, if not running, fellowships related to international emergency medical care.

Yet most emergency physicians are unclear how to identify and evaluate global volunteer opportunities, what to expect when they travel to remote lands, and how to prepare for their experience. This article, the last of a three-part series based on *The Global Healthcare Volunteer's Handbook: What You Need to Know Before You Go*, provides some of the basic information that emergency physicians need for these ventures.

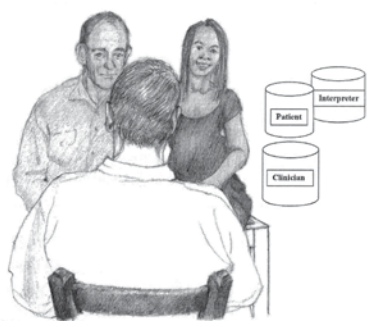
KENNETH V. ISERSON

Figure 2. Living on the Antarctic ice shelf in a tent.

Communication Issues: An Example

You arrived at the airport and, after a bit of confusion, got to your accommodations and found your way to the hospital, where you stepped into your role as a clinician/teacher. Your colleagues are friendly, but their English accents and vocabulary vary from what you are used to; you make do. However, although it is one of the country's national languages, none of the patients speak English, so you're working through makeshift interpreters, which is frustrating. A colleague helpfully suggests that you talk directly to the patient rather than to the interpreter, who should sit behind the patient (see Figure 1).[1]

Figure 1. Optimal medical interpreter positioning.



THE GLOBAL HEALTHCARE VOLUNTEER'S HANDBOOK. REPRINTED WITH PERMISSION.

"How about 'zone' for the patient?" asks the nurse. "Of course," he continues, "we should probably give her some paracetamol and pethidine first."

"Huh?" you weakly reply. The middle-age patient looks up at you with pleading eyes for some relief from her abdominal pain. What should you do?

When working internationally, you expect to see unfamiliar diseases, unusual mechanisms of injury, novel medical and surgical techniques, and sparse equipment and supplies in resource-poor regions. However, you may not be ready to suddenly need to use multiple medications with which you have little or no experience or don't immediately recognize.

"Can you show me the medications?" you ask the nurse. He hands you the three vials, and the situation becomes clear. The nurse was using a combination of local medical slang ("zone" for ceftriaxone) and the internationally more common generic names for acetaminophen (paracetamol, often called Panadol, a common brand name) and meperidine (pethidine). (See Table 1 for more commonly confused terms.) Now that you understand, he asks how much *parenteral* paracetamol you want to give (a common route around the globe).

Once the patient is medicated, you begin running through the vast array of unusual diseases you have prepared to expect. You run down your list: scrub typhus, typhoid, malaria, dengue, chikungunya, leptospirosis, gastrointestinal tuberculosis, and hepatic parasites. After your physical exam and a bedside ultrasound, you find, as is usually the case, that your patient has a more common disease, appendicitis. Common diseases and injuries may present similarly everywhere in the world. While malaria, tuberculosis, dengue, and HIV are more common in some regions than others, cardiovascular disease, stroke, cancer, and trauma remain the most common causes of death around the world. Those are the ailments that you most often see and need to treat, albeit often with limited or makeshift resources.[2]

Daily Life and Culture

Of course, outside your clinical environment, you might find life considerably different than at home. On my travels, I have resided in tents (see Figure 2), shipping containers, hospital rooms, dormitories, hotels, houses (in bedrooms and dank basements), industrial buildings (between the noisy equipment), and on ships, both at dock and in rolling seas. Occasionally, I have slept alone. More often, I have had between one and about 250 roommates, many of whom snored loudly enough to "wake the dead." Bathing and toilet facilities are usually shared and are often of strange design.

Finally, be prepared, especially after prolonged stays in resource-poor environments, to experience reentry culture shock when returning home. Initially, many daily activities that you take for granted will seem superfluous, if not decadent. Many ED patients will appear to have trivial complaints compared to many patients you saw abroad. Your first impulse may be to lecture them about the medical situation around the world. Restrain yourself! They are simply responding to their cultural norms. Reacquaint yourself with them. To help you, read a bit about reentry culture shock and how to prevent it before you initially leave on your trip; ask your loved ones, your boss, and a few colleagues to do the same. Then slowly allow yourself to reacclimate to your society and reflect on your joy and what you learned from your international experience.

Table 1. Commonly Confused Medical Terms (English)

U.S. TERM	GLOBAL TERM	GENERIC DRUG NAME
Operating Room	Theatre	
Tylenol	Panadol	Acetaminophen
Demerol	Pethidine	Meperidine
IV equipment	Giving set	
Stretcher	Trolly	
ED	A&E	
HIV/AIDS	Country-specific code names	
Motor vehicle crash	Road traffic accident	
Thorazine	Largactil; Megaphen	Chlorpromazine

When conversing in a language other than English, the medical terms, especially abbreviations, will vary widely. Many of the following terms are used in countries where English is a common language among health care professionals, even if most of the population does not use it.

References

1. Iserson KV. *The Global Healthcare Volunteer's Handbook: What You Need to Know Before You Go.* Tucson, AZ: Galen Press, Ltd. March 2014.
2. Iserson KV. *Improvised Medicine: Providing Care in Extreme Environments.* New York, NY: McGraw-Hill Publishing. December 2012.

DR. ISERSON is a fellow of the International Federation for Emergency Medicine and professor emeritus in the department of emergency medicine at The University of Arizona in Tucson.

DR. SEGAN is an emergency medicine physician and attorney based in Woodmere, New York.

Financial Serenity for Emergency Physicians

SIX STEPS TO FINDING YOURSELF ON THE BEACH

by DOUGLAS SEGAN, MD, JD

Have some exposure to the U.S. stock market and the bond market, and mix in a little international exposure. The exact mix will vary depending on your age and risk tolerance. Adjust your asset allocation yearly.

1 Plan Now

Do you recall your interview for admission to medical school? Was one of your goals to convince the physician interviewing you that you were a humanitarian and that money was not important to you?

That was then, and now you have new priorities. Thankfully, you no longer have to hide the fact that one of your career goals is financial security.

If your goals are to provide for your family, pay your monthly bills, afford your children's education, and create a nest egg that provides for a comfortable retirement and future travel, then *you need a plan*. Having the comfort of being financially secure is a key component of your effectiveness as an emergency physician, and sound financial planning is an integral factor of your mental and physical well-being. Financial worries can be distracting and impair your focus, so the aim of this article is to encourage you to commit to taking the path to financial serenity. You need a road map and a plan to achieve your financial goals, and the time to start planning is now.

2 Become Financially Savvy

Having advisors is a wonderful thing, but this is one area that you cannot totally delegate to others. You must learn the lingo and the basics. Thankfully, the number of options to learn the fundamentals of finance and investing has greatly expanded.

Websites of major financial institutions (banks and brokers) are useful sources of timely financial and investing information if you are able to overlook their ads. One of our colleagues, James M. Dahle, MD, FACEP, who writes *ACEP Now*'s "End of the Rainbow" column (see p. 18 for the latest installment), has a blog, www.whitecoatinvestor.com, that is an outstanding resource for physicians seeking to become knowledgeable investors. The archive section has more than 500 posts that make complex topics manageable. His blogs are often entertaining, and he provides a well-thought-out and careful analysis of numerous financial topics. In addition, his columns are archived at www.acepnow.com/tag/the-end-of-the-rainbow.

3 Live Within Your Means

Most emergency physicians earn an excellent salary. If current salary trends continue and you are fortunate enough to have a long and healthy career, your lifetime earnings will amount to an impressive figure. With a little planning, some sage input from ethical advisors, and a modicum of fiscal discipline, your income should be more than enough to support a comfortable lifestyle, prepare for a secure retirement, and weather the inevitable financial setbacks that will occur in everyone's lives.

Physicians are notorious for their ability to burn through a fat paycheck. The recent Great Recession was a reminder to many of our colleagues who overextended themselves with McMansions, credit card debt, vacation homes, his-and-her sports cars, and multiple ex-spouses. Even if the economy stays on course, it is prudent to prepare for a change of fortune. The risk of losing your contract, losing your group's hospital contract, or dealing with an unexpected medical problem are persuasive reasons to live within your means even when the money is flowing in. When you are in the midst of " the good times" is when you should save for a rainy day and for your retirement.

An achievable goal is to save 25 percent of your gross (pretax) income. Set aside as much of this money as you can in those retirement accounts for which you and your partner qualify. There will usually be tax benefits and asset-protection benefits for putting this away, but more important, once the money is in a formal retirement account, you are less likely to spend it.

4 Build Your Team

To be successful in the realm of financial planning, it helps to have a good team in your corner. Finding ethical advisors who charge reasonable fees can be a challenge. A good way to find these valuable advisors is to ask senior colleagues in the community for the names of experts who they have worked with for decades.

At the minimum, have a certified public accountant (CPA) on your team. There are few gifts received from the federal government, but the smorgasbord of IRA and other retirement plans available should be fully utilized. A CPA will help you do this.

A lawyer will help you write your will, assist with real estate transactions, and explain the various options in your state for estate planning and trusts.

An insurance agent who will educate you about the nuances of various policies without pressuring you to buy a particular product is a great asset to help you navigate this critically important marketplace.

There are pros and cons to having a financial planner/advisor. If you don't have the time or temperament to manage your own investments, it may give you peace of mind to have someone else take care of this, but the costs can be substantial. If you want an advisor without conflicts of interest, consider an independent advisor who charges a straight hourly fee and does not directly benefit financially from any particular purchases.

5 Protect Thyself (Insurance)

In addition to medical malpractice insurance, most physicians will need auto and homeowner's (or renter's) insurance. An umbrella policy that supplements these polices provides a great deal of additional personal liability coverage at little cost and should be strongly considered.

Disability insurance is advisable for most physicians. This is a complicated product, and it is important to do some due diligence to find the right fit for your situation.

Life insurance is recommended if you have family members who are dependent on your income. Long-term care insurance is appropriate for some physicians with such family needs and requires careful evaluation of the company and a review of the fine print of the policy.

6 Investing—Simple Is Smart

If you like to watch CNBC, read *The Wall Street Journal*, study the markets, explore various investment options, and play with individual stocks, then by all means, do so at your own financial risk. The likelihood that you will beat the averages is remote when even the best financial gurus in the country have difficulty consistently beating a mix of 60/40 of low-cost index funds in stocks and bonds.

The vast majority of investors will be well-served by the following guidelines: 1) keep it simple, 2) stick with very-low-cost index funds or exchange-traded funds from large discount brokerage firms, and 3) block out the noise of the talking heads on the financial shows. Be skeptical of all advice. Have some exposure to the U.S. stock market and the bond market, and mix in a little international exposure. The exact mix will vary depending on your age and risk tolerance. Adjust your asset allocation yearly. Don't try to be a market timer. You won't hit a home run every year with this plan, but you won't strike out either. Over the long haul, there is good evidence that this type of investment plan is the wisest course for most investors. Invest your money; don't gamble with it.

This area is filled with sharks and con artists eager to separate you from your money. Some do it legally (with outrageous fees while providing no added value), and some belong in prison. Rick Ferri, a leading expert on exchange-traded funds, warns, "Many Wall Street firms exist to make money from you, not for you." Certainly there are countless ethical and reliable practitioners in the field, so "doctor, beware."

SEVEN FINANCIAL TIPS

1. Make a plan now for financial serenity—your family and your patients will benefit.
- Financial peace of mind will make you a better partner, parent, and physician.
- Financial serenity will be forever elusive without a realistic plan.

2. You must learn the basics of investing to avoid becoming shark bait.
- Your financial well-being is too important to delegate.
- There are plenty of "advisors" eager to separate you from your hard-earned money.
- Knowledge and skepticism are your prophylactics to becoming a victim of unscrupulous financial advice.

3. Do something radical—live below your means and feed your piggybank.
- Become a disciplined saver.
- Live less extravagantly now, and you can better weather the unexpected events in the future.

4. Build an ethical, prudent team of advisors.
- Find a CPA, lawyer, and insurance agent who will make your well-being a priority.
- If you need a financial advisor, hire one who will charge you an hourly fee.

5. Have sufficient insurance in case unexpected mayhem finds you.
- Most doctors should have disability insurance.
- Ask your insurance agent about umbrella insurance.
- Finding the right balance between obtaining appropriate coverage and being overinsured is essential.

6. Fully fund your retirement plans.
- The federal government is giving you a gift with tax-advantaged retirement plans.
- Ask your CPA which IRA and retirement plans you and your partner qualify for.
- Maximally funding these plans should be your top investing goal.

7. Keep your investment portfolio very simple and very low cost.
- Very-low-cost index funds are the foundation for a sound portfolio.
- A simple allocation of assets (60 percent stock funds and 40 percent bond funds) is appropriate for most investors.

Even if the economy stays on course, it is prudent to prepare for a change of fortune. The risk of losing your contract, losing your group's hospital contract, or dealing with an unexpected medical problem are persuasive reasons to live within your means even when the money is flowing in.

THE END OF THE RAINBOW

DR. DAHLE is the author of *The White Coat Investor: A Doctor's Guide to Personal Finance and Investing* and blogs at http://whitecoatinvestor.com. He is not a licensed financial advisor, accountant, or attorney and recommends you consult with your own advisors prior to acting on any information you read here.

Pay Down Debt or Invest?

10 GUIDING PRINCIPLES

by JAMES M. DAHLE, MD, FACEP

Question. ***I am a new attending for a private employer and owe a lot of money. I have the following debts:***

- ***$400,000 5/1 adjustable-rate mortgage at 3.5 percent***
- ***$60,000 student loan at 7.9 percent fixed***
- ***$80,000 student loan at 6.8 percent fixed***
- ***$40,000 student loan at 5.4 percent fixed***
- ***$20,000 student loan at 4.5 percent variable***
- ***$20,000 seven-year car loan at 5 percent fixed***
- ***$11,000 on a credit card at 11 percent***
- ***$8,000 on a credit card at 15 percent***

I would also like to get started investing. My employer offers a pretty standard 401(k) and will match the first $6,000 that I invest. My stay-at-home spouse and I are also excited about starting backdoor Roth IRAs. How can we decide when to pay back loans and when to invest?

A. **This is a complex problem and one to which there is no definite right answer. The correct answer for you will depend on a lot of factors, such as current interest rates, total debt in relation to your income, expected return on investments, the fixed versus variable nature of your loans, job security, your tax situation, your asset protection plan, and your comfort level with debt. There are, however, some guiding principles you can apply when making such decisions.**

1

Physicians, in general, are entirely too comfortable with debt.

Many doctors live primarily, or even entirely, on borrowed money for nearly a decade while in school. At times, it seems like those debts are not real due to their large size and changing interest rates. This long association with debt encourages physicians to assume

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that owing hundreds of thousands of dollars is somehow OK. It isn't. Although there are exceptions, most of the time paying off debt will improve your financial situation as much or more than anything else you are likely to do. Buying depreciating items, such as automobiles, on credit is a "rookie mistake." Likewise, credit cards aren't for credit. Those who find themselves routinely carrying balances on them would be better served using a debit card or even cash. Paying down debt not only improves your cash flow but is far better than the usual alternative—spending the money.

2

Improve debt when possible.

Some debt is more easily managed than other debt. If you can convert a debt that is nondeductible, high-interest, variable, and/or short-term into a debt that is tax-deductible, low-interest, fixed, and/or long-term, it's usually a good idea to do so. If going for student loan forgiveness isn't right for you, refinancing your student loans at a lower rate is a good idea. Given all the 0 percent credit card offers out there, it seems silly to carry 15 percent interest on credit card debt. If you still have a mortgage greater than 5 percent, refinancing should be priority before you lose your opportunity.

3

Always consider the after-tax interest rate on your debt.

When your debt is completely deductible, use the after-tax interest rate to make comparisons. As a general rule, student loan interest is deductible as a resident but not as an attending. Conversely, mortgage interest may not be deductible as a resident due to the standard deduction being more than your itemized deductions, but it generally is as an attending. Auto and credit card loans are generally not deductible. If your marginal tax rate is 28 percent federal and 5 percent state, a fully deductible 5 percent mortgage has an after-tax interest rate of 5 percent x (100 percent – 28 percent – 5 percent) = 3.35 percent.

4

Variable-rate loans are riskier than fixed-rate loans.

If interest rates rise, variable-rate loans can become very burdensome. So when deciding whether to pay down a variable loan versus an equivalent fixed loan, choose the variable one. That doesn't mean variable-rate loans are a bad tool. Rather than paying the lender extra to run the interest rate risk, you're taking it on yourself, and that will usually get you a lower rate. The shorter the time period before you can pay off the loan, the less risk you are taking.

5

Always consider the effects of inflation on your debt.

I once had a student loan with very attractive terms. I borrowed $5,000 in 1993 at 8 percent interest. However, the interest did not accumulate nor did I have to make payments while I was in college, medical school, residency, or the military. When I left the military in 2010 (17 years after I took out the original loan), I still owed $5,000. However, thanks to inflation, $5,000 in 2010 was not worth nearly as much as it was in 1993. It was as if I had borrowed $5,000 and paid back just $3,000. Inflation is good for borrowers, as long as the interest rates are fixed, because the loans are paid back with depreciated dollars.

USING THESE PRINCIPLES, I CAN NOW MAKE SOME GENERAL RECOMMENDATIONS.

- Live similarly to the way you did as a resident for a couple of years so you have the cash flow to pay down your debts within two to five years while still maximizing retirement account contributions.
- Be sure to contribute enough to your 401(k) to get the entire match.
- Pay off those credit cards as soon as possible.
- Stop buying cars on credit. Once the car loan is paid off, continue to make car payments into a savings account so you can pay cash for your next car.
- Stop using credit cards for credit.
- Consider refinancing student loans with a private bank.
- Consider refinancing your mortgage into a fixed-rate mortgage to protect you from rising interest rates.
- Decide on what order to pay off the students loans, either smallest first or highest interest rate first. If interest rates rise, move the variable rate student loan to the top of the list.

6

Paying down debt can increase your risk to creditors.

Sometimes, carrying debt can provide asset protection. Some states, such as Texas and Florida, have large homestead exemptions, meaning a creditor cannot take your house very easily. In other states, the exemption is very small. Because home equity may not be very well-protected in those states, paying down a mortgage instead of investing in a better-protected asset may increase your risk to creditors. Likewise, an automobile whose value is equal to the loan on it is not particularly attractive to a creditor. Keep in mind that asset protection considerations often run counter to investing considerations in situations such as these (ie, that asset protection will cost you money).

7

A 401(k) match is part of your salary.

Always make sure you contribute enough to your 401(k) to get the entire match from your employer. Failing to do this is simply leaving money on the table. Getting any available match is generally the single best investment available to you.

8

Paying off high-interest debt is a great investment.

Paying down a 15 percent loan is the exact equivalent of making an investment that pays a guaranteed 15 percent. Investments like that are exceedingly rare, so if you have one available to you, take advantage of it. An investment growing at 15 percent will quadruple in value in less than a decade, and remember that compound interest works both ways.

9

Maximizing retirement accounts is preferable to paying down low- and moderate-rate debt.

There are very real benefits to maximizing contributions to retirement accounts. This tax-protected "space" in 401(k)s, Roth IRAs, and similar accounts is gone forever if you do not max it out each year. These accounts lower your overall lifetime tax bill, protect your money from creditors in most states, and allow your money to grow faster than it would otherwise. While paying off a debt at 4–8 percent may be preferable to investing in a taxable account, a retirement account contribution is usually better than both options. The cutoff between where investing is better than paying off debt is inexact at best and relies on a lot of factors, including your comfort level with debt, the expected return on your portfolio, and the availability of additional retirement account contributions. However, few would argue that you should invest while carrying debt with an interest rate greater than 8 percent. Likewise, paying off low interest rate debt is less attractive than investing, especially within a retirement account.

10

Becoming debt-free is more behavior than math.

Mathematically speaking, the best way to pay off debt is to choose the debt with the highest interest rate and pay it off first while paying the minimum due on the debts with lower interest. However, people are much more likely to stick with a debt-reduction plan if they feel they are building momentum as they go. The best way to build momentum is to pay off the smallest debts first. In the end, either method is fine, but pick the one you can stick with.

This tax-protected "space" in 401(k)s, Roth IRAs, and similar accounts is gone forever if you do not max it out each year. These accounts lower your overall lifetime tax bill, protect your money from creditors in most states, and allow your money to grow faster than it would otherwise.

DR. LEVITAN is an adjunct professor of emergency medicine at Dartmouth College's Geisel School of Medicine in Hanover, N.H., and a visiting professor of emergency medicine at the University of Maryland in Baltimore. He works clinically at critical care access hospitals in rural New Hampshire and teaches cadaveric and fiber-optic airway courses.

Avoiding Airway Catastrophes on the Extremes of Ventilation

I now appreciate that 15 Lpm via a non-rebreather mask may not meet the minute ventilation of patients in extremis; this explains how a non-rebreather can collapse with inspiration and why many patients feel suffocated with a mask over their face.

by RICHARD M. LEVITAN, MD, FACEP

Emergency airways commonly involve challenges of tube placement and oxygenation before and during the procedure. There are a handful of instances, however, when the issue is ventilation and, more specifically, extremes of minute ventilation. Minute ventilation is the amount of air the patient moves in one minute; it is a product of the ventilatory rate and tidal volume (minus dead-space ventilation).

Normal minute ventilation is between 5 and 8 L per minute (Lpm). Tidal volumes of 500 to 600 mL at 12–14 breaths per minute yield minute ventilations between 6.0 and 8.4 L, for example. Minute ventilation can double with light exercise, and it can exceed 40 Lpm with heavy exercise. As defined by the alveolar gas equation, increasing ventilation rate is our body's only innate mechanism to acutely increase oxygenation. Breathing faster and deeper, we increase the alveolar oxygen tension by decreasing the partial pressure of CO_2. Therapeutically, the main method of boosting oxygenation is increasing the inspired oxygen concentration (FiO_2). An additional method is to increase the barometric pressure (ie, in a hyperbaric chamber or by rapidly descending from high altitude). Adding positive end-expiratory pressure (PEEP) maintains a pressure in the alveolus throughout the ventilation cycle (and stents open the alveolus, thereby providing more surface area for oxygen absorption).

It's useful to consider minute ventilation when assessing patients in severe distress. I now appreciate that 15 Lpm via a non-rebreather mask may not meet the minute ventilation of patients in extremis; this explains how a non-rebreather can collapse with inspiration and why many patients feel suffocated with a mask over their face. Patients also do not want to rebreathe their expired CO_2, and standard emergency airway equipment, unlike the systems used in the operating room, lacks any CO_2 absorption. Nasal oxygen boosts FiO_2, flushes the nasopharynx, and fills the upper airway with a high concentration of oxygen available for the next breath. Combining nasal and mask oxygen increases the volume of oxygen available for the patient to inspire. Since I began using nasal oxygen routinely as part of preoxygenation, I have found fewer instances of mask or continuous positive airway pressure (CPAP) intolerance. Even 4–6 Lpm via nasal cannula, which is what I start with in patients who are not critically hypoxic, is very helpful for maximizing pulse oximetry and mask tolerance. I turn nasal cannula up to 15 Lpm after induction and throughout the intubation.

Minute ventilation is not only relevant to pulmonary function and oxygenation, it can affect acute and chronic acid-base balance. Blowing off CO_2 increases pH through the conversion of bicarbonate and hydrogen ions to CO_2 and H_20 (via the carbonic anhydrase reaction). While most ED patients with high minute ventilation have hypoxemia, some patients with respiratory distress have normal pulse oximetry and clear lungs. Their high minute ventilation is to compensate for an underlying severe metabolic acidosis. Compensatory respiratory alkalosis is common in diabetic ketoacidosis, acute renal failure (from rhabdomyolysis and other causes), and salicylate toxicity.

At the other extreme of minute ventilation are patients with chronic obstructive pulmonary disease (COPD) and asthma, who have very low minute ventilation. Their problem is not oxygenation and not acid-base related; it's primarily a problem with air egress. The inability to get air out prevents getting air in, and hyperinflation (breath stacking) results.

I now make minute ventilation a standard part of my airway assessment. In patients who are placed on noninvasive mechanical ventilation, the machine provides the actual minute ventilation directly. I frequently use noninvasive mechanical ventilation as part of preintubation oxygenation in the sickest of patients, especially if PEEP is required. Very high minute ventilation values should trigger suspicion of an acid-base issue. Significant metabolic acidosis (and a compensatory respiratory alkalosis) is usually identified from chemistry values or a blood gas. In my experience, patients with high minute ventilation from respiratory alkalosis often do not have subjective dyspnea, even though their breathing pattern is evidently abnormal to any observer. This is especially true of salicylate poisoning. Severe salicylate poisoning has impressive hyperpnea (excessively deep breathing) with marked tachypnea.

Normal minute ventilation cannot be used to exclude the presence of severe acidosis, however. Some patients present so fatigued from increased work of breathing when they can no longer compensate; as they tire out and CO_2 rises, they become increasingly lethargic. I try to include an elevated CO_2 in my differential for lethargy and altered mental status. CO_2 retention is easily overlooked, particularly in patients without hypoxia who have baseline mental status problems and limited communication. Hypoxemia is

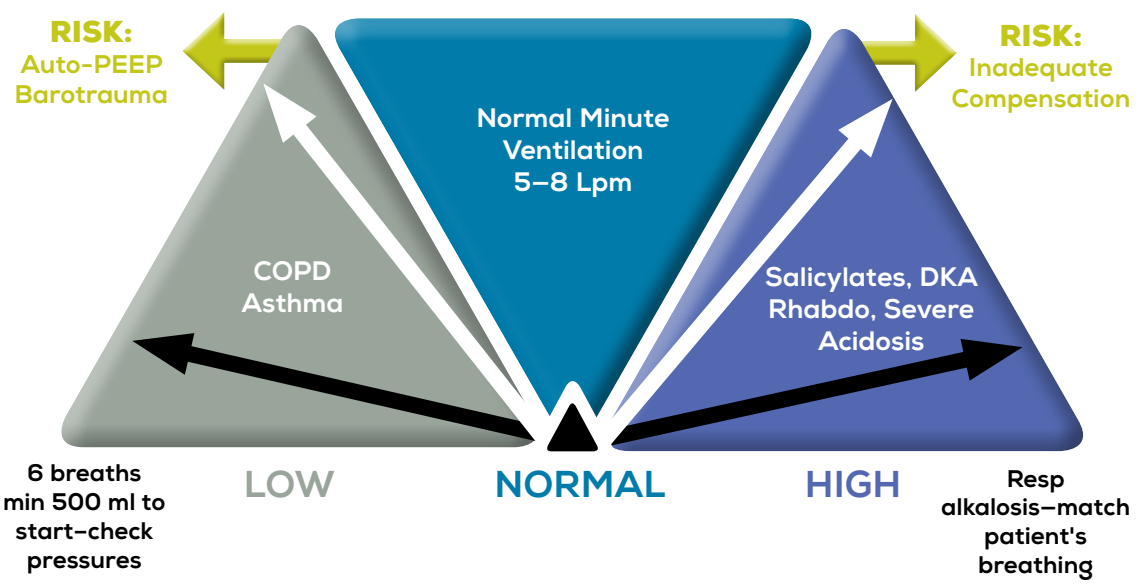


Figure 1.
A normal minute ventilation involves a minute ventilation between 5 and 8 L [ie, 500–600 mL, rate 10–14 breaths/minute]. In severely ill COPD and asthma patients, overventilation risks auto-PEEP and barotrauma; a starting rate of six breaths with a 500 mL volume allows maximum time for exhalation. Closely monitor blood pressure and vent pressures for auto-PEEP, and adjust up minute ventilation as tolerated. In severely acidotic patients who must maintain a compensatory respiratory alkalosis, match preprocedural minute ventilation during the onset phase of muscle relaxants and after intubation.

a late manifestation of hypercarbia. Always consider opioid intoxication when patients present with hypoventilation.

We need to be aware of minute ventilation at the extremes because it can cause catastrophic problems in the peri- and postintubation period. Failure to ventilate enough, for instance, failure to maintain respiratory alkalosis in salicylate poisoning (should emergent dialysis not be available prior to intubation), causes worsening of acidosis and has been linked to sudden death. I know of several cases in severe diabetic ketoacidosis where induction and muscle relaxation precipitated death. In hindsight, I think the combination of severe fluid depletion and acute worsening of an already severe acidosis triggered these events. Maintaining a high minute ventilation may have helped the situation.

Conversely, when extreme low minute ventilation is present, operators must be hypervigilant not to create auto-PEEP by breath stacking, which can lead to cardiovascular collapse or barotrauma, resulting in pneumothorax. COPD and asthma patients have as much as a 10 times greater risk of life-threatening hypotension with emergent intubation compared to other ED patients. This results from intubation and over-bagging in a patient with an impaired ability to expel air from the lungs. More volume goes in with each breath than comes out. Hyperinflation of the lungs increases intrathoracic pressure, collapsing the heart, and decreases venous return, leading to hypotension. If not recognized quickly, pulseless electrical activity arrest ensues. The first clue will be a falling pulse oximetry reading, which might be erroneously believed to be a tube problem or barotrauma. In COPD patients (all of whom are at risk of pneumonia), operators also frequently misinterpret postintubation hypotension as a consequence of sepsis instead of auto-PEEP.

Postintubation hypotension should immediately prompt concern for auto-PEEP in COPD and asthma. High plateau pressures will alarm on the vent, and high pressures are felt through the bag, but this may be dismissed as a marker of disease severity. Auto-PEEP is easily corrected by disconnecting the tube from the bag (or vent) and pressing on the chest (pushing air out and suspending ventilation for 30–60 seconds); blood pressure and pulse oximetry will improve quickly.

My goal with every intubation is to avoid a catastrophic event in the peri-intubation and immediate postintubation period. I obsess about oxygenation: preoxygenation with nasal cannulas and face mask or CPAP in the very ill, upright preoxygenation, and NO-DESAT nasal oxygen during all intubations. I try to avoid regurgitation and emesis by avoiding high-pressure face mask ventilation in a flat position, and always positioning the head higher than the stomach (ear-to-sternal notch, or tilting the cervical-spine patient feet down). I decompress the bowel obstructed and massive gastrointestinal bleeders before intubation.

PHOTO COURTESY OF DARRELL HARRIS, LPN, AND JIM PISATURO, EMT-P.

Figure 2.
Think about minute ventilation and oxygenation when patients are intolerant of a non-rebreather. The patients are telling you the flow rate through the mask is not meeting their minute ventilation, and they do not want to re-breathe their CO_2. Adding nasal cannula (under the face mask) when treating hypoxemia (and preoxygenating prior to intubation) boosts flow rate, washes out CO_2, and significantly increases the effective FiO_2.

My goal with every intubation is to avoid a catastrophic event in the peri-intubation and immediate postintubation period. I obsess about oxygenation...I try to avoid regurgitation and emesis.

In addition to these techniques that I have adopted for oxygenation and regurgitation prevention, I now try to pick the ventilation strategy that will mimic the patient's preprocedural minute ventilation. In situations of severe respiratory alkalosis, I aim to re-create the patient's high minute ventilation after induction and during the onset phase of muscle relaxation (waiting 60 seconds for succinylcholine, or double dose rocuronium or vecuronium, before inserting my direct or video laryngoscope). When bicarbonate has a clear role, (eg, salicylate poisoning, rhabdomyolysis, renal failure with hyperkalemia, etc.), I give it before and sometimes again during induction and intubation. There is controversy about the benefits of sodium bicarbonate in many situations, but when pH is pushed below 7.0, I am liberal with its use, along with maintaining a high minute ventilation.

In the severely ill COPD and asthma patient, I start with a simple ventilation strategy for postintubation: six breaths a minute and 500 cc tidal volume (3 L minute ventilation). By deliberately going slow, I allow the maximal time between breaths for air to get out. I check plateau pressures on the vent and blood pressure. I aim to increase minute ventilation, but I do so slowly, making sure not to trigger auto-PEEP and hypotension. In addition to nebulized bronchodilators, you can also add intravenous ketamine, postintubation, for both bronchodilation and sedation. The 3 L minute ventilation of 500 cc/6 breaths will not correct the CO_2 retention, but it is safest to correct this slowly as the patient's pulmonary function allows (watching vent pressures and blood pressure). "Permissive hypercapnia" is the deliberate strategy of not correcting the CO_2 quickly; a bicarbonate drip may be added if acidosis drops the pH below 7, but have not been proved to improve outcomes.

For the vast majority of ED airways, ventilation is not a major concern. Use a strategy of relatively low volume (6–7 mL/kg) and relatively low rates with low pressures (and gentle inflation); the goal is to avoid overinflation, gastric distention, and regurgitation. When the patient presents at the extremes of ventilation, however, remember that plastic in trachea is not the primary solution. If intubation cannot be avoided, aim to re-create the immediate preintubation minute ventilation while bagging during the onset of muscle relaxation and immediately postintubation. By recognizing patients with a compensatory respiratory alkalosis, and the very low minute ventilation of COPD and asthma patients, you will avoid precipitating a peri-intubation catastrophe.

JAMES J. AUGUSTINE, MD, FACEP, is director of clinical operations at EMP in Canton, Ohio; clinical associate professor of Emergency Medicine at Wright State University in Dayton, Ohio; vice president of the Emergency Department Benchmarking Alliance; and on the ACEP Board of Directors.

The ED Patients Keep Coming!

National Hospital Ambulatory Medical Care Survey results

There were about 35 million hospital discharges, which included newborn infants from hospital delivery units. That means about 63 percent of inpatients were processed through the ED.

by JAMES J. AUGUSTINE, MD, FACEP

For more on the National Hospital Ambulatory Medical Care Survey, see the Nov. 2014 Special Ops column, available at http://www.acepnow.com/?p=5571.

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

The Centers for Disease Control and Prevention provides a wealth of information on emergency medicine in America through the National Hospital Ambulatory Medical Care Survey. The 2011 data report is based on a sampling of 31,084 ED patient care reports from 322 emergency departments. National population census data were used to estimate utilization of ED services by populations. The calendar year 2011 emergency department summary table is available at http://www.cdc.gov/nchs/data/ahcd/nhamcs_emergency/2011_ed_web_tables.pdf.

It is critical that emergency physicians and ED leaders understand the data and trends in this report and apply results to local operations. The report, with local community analysis, should be discussed with hospital and community leaders.

The data indicate that the emergency department is an important and valuable element of the health care system. The survey now has 20 years of annual data. In that time, ED visits have grown from 90 million to approximately 136 million, and per capita utilization has grown from 357 visits per 1,000 population to 445 visits per 1,000. Injuries continue to shrink as the cause for an ED visit and now account for about 29 percent of our patients. Those older than 75 are most affected by injuries.

Private insurance or other coverage accounted for about 35 percent of ED visits, Medicaid and the Children's Health Insurance Program (CHIP) for 32 percent, Medicare for 8 percent, and no insurance for 16 percent. About 16 percent of ED patients arrived by ambulance. A matching number, 16 percent of ED visits, resulted in admission or transfer for admission.

There were 5.3 million ED visits in which a primary mental health issue was noted. About 1.7 million of those visits resulted in hospital admission to a mental health or detoxification unit.

The use of diagnostic testing and treatment continues several trends. More patients are presenting with symptoms that raise issues about a cardiac etiology. Nineteen percent of ED patients had an electrocardiogram performed, and about 14 percent had cardiac enzyme studies. There was a slight decrease in utilization of CT scans but an increasing number of MRIs being performed.

Also, 3.2 percent of ED visits ended with patients leaving before the ED visit was completed, and about 183,000 persons died in the ED or were dead on arrival.

There are hospital-quality indicators related to readmissions to the hospital and revisits to the ED. Emergency physicians must be aware of the baseline level of activity in these metrics. The 2011 data indicate that 6.3 percent of patients admitted through the ED had been discharged from a hospital in the previous seven days, and at least 4 percent of visits were made by patients who had been seen in the same ED in the preceding 72 hours.

There is continuing growth in the percentage of overall hospital admissions presenting through the ED. The 2011 data survey finds that about 22 million admissions occurred through the ED. There were about 35 million hospital discharges, which included newborn infants from hospital delivery units. That means about 63 percent of inpatients were processed through the ED. The Emergency Department Benchmarking Alliance data survey finds an even higher number, with 68 percent of hospital inpatients arriving through the ED. The ED is clearly the "front door of the hospital."

There is a long-term trend that American EDs are seeing between 2 and 3 percent more visits every year. More patients arrive with medical illnesses rather than injuries. More patients are elderly and arrive by emergency medical services.

The growing number of patients with primary mental health and substance abuse issues represents a serious challenge for emergency physicians.

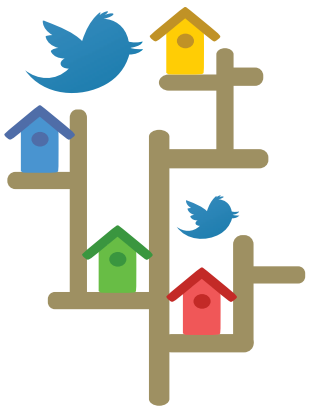
It is clear that Americans have come to trust the quality of our service and the value for the time and money spent for their ED visits. Emergency physicians should continue to deliver services that provide a reliable and cost-effective system of unscheduled care.

SERVING UP THE BEST EM TWEETS

THE FEED

DR. FAUST is an emergency-medicine resident at Mount Sinai Hospital in New York and Elmhurst Hospital Center in Queens. He tweets about #FOAMed and classical music @jeremyfaust.

The Rise of the FOAM Journal Club



by JEREMY SAMUEL FAUST, MD, MS, MA

History records that the first journal club was started by Sir William Osler, MD, at McGill University in the late 19th century, though Sir James Paget referred to journal club–like groups even earlier in England.

Similarly, no one person can claim credit for creating the online journal club, but it is an idea that's time has come and that took off in 2014 thanks in large part to Michelle Lin, MD, associate professor of emergency medicine at the University of California San Francisco San Francisco General Hospital, and Ken Milne, MD, chief of emergency medicine and chief of staff at South Huron Hospital, Ontario, Canada. Each has partnered their free open-access medical education (FOAM, #FOAMed) platforms with major emergency medicine academic journals.

FOAM takes the academic tradition of the journal club to the next level by including the interactive participation of the lead authors of the papers themselves. This gives learners and educators all over the world access to the minds behind the papers and allows a level of conversation and discourse that Dr. Osler and Dr. Paget could never have imagined possible. It's another example of the promise of FOAM and the genuine advantages it can provide.

And the key to the success of this is the social component of social media. Anyone can attend from anywhere and participate in a number of different ways. Unlike traditional journal clubs, online journal clubs unfold in several venues and platforms over several days, not one hour in a conference room. Talking about important papers is cool, very 20th century. Talking about papers with the authors themselves is extremely cool, very 21st century.

This year, Dr. Lin's (@M_Lin) popular blog, Academic Life in Emergency Medicine (ALiEM), began a partnership with the *Annals of Emergency Medicine* to take the journal club component of *Annals* online. It's called the Global EM Journal Club, hosted by ALiEM and the *Annals of Emergency Medicine*.

Here's how it works: An article featured in the print edition of the successful *Annals of Emergency Medicine* Journal Club (celebrating its 40th year) is chosen and promoted on the ALiEM blog, Twitter, Facebook, and Google+. Links to the article and other relevant articles/FOAM posts are provided. Then, over a several day period, anyone can comment on the article on any of these platforms (using the hashtag #ALiEMJC on Twitter).

After several days of remarkably thoughtful and nuanced posts, the climax of the journal club is a live video Google Hangout with the authors of the paper. The authors are joined by an all-star panel of EM providers, and they discuss the *Annals* study questions, incorporating the online comments posted in the last few days. These hangouts are recorded and posted online so anyone can access them at any time. So far, the journal club has hosted hangouts where the likes of Jeffrey Kline, MD (age-adjusted D-dimer); Ian Stiell, MD, MSc; Jeff Perry, MD, MSc (clinical decision rule for subarachnoid hemorrhage); and others have been happily placed in the hot seat.

Dr. Milne's popular Skeptics Guide to Emergency Medicine (@theSGEM) recently joined the online journal club party, partnering with the *Canadian Journal of Emergency Medicine* and *Academic Emergency Medicine*. His new series "SGEM Hot Off the Press," or "SGEM-HOP," makes a reality of Dr. Milne's dream to shorten the window between knowledge acquisition and clinical application from longer than a decade to less than one year. But Dr. Milne is taking it even further. In this series, he interviews the lead author of a brand-new paper the same week it is published. Though Dr. Milne is the archetypal polite Canadian gentleman, he isn't afraid to ask authors tough questions.

His goal is that people not only keep up to date with the literature but that they scrutinize it and form their own opinions. After the interview is published on his podcast, comments from the FOAM world are invited. The best of these comments are then published in the print versions of these top journals. So, yes, you can tweet your way into a top journal.

Meanwhile, the so-called "flipped classroom" model of learning is making waves in the academic world. In my institution, our journal club has been combined with FOAM. We now not only read new or controversial papers, we pair them with relevant blog posts and listen to podcasts about the articles. Then we discuss the articles as well as criticism and insights from top commentators. This elevates the discussion and is another example of the merging of FOAM and classic learning modalities.

So far, the journal club has hosted hangouts where the likes of Jeffrey Kline, MD (age-adjusted D-dimer); Ian Stiell, MD, MSc; Jeff Perry, MD, MSc (clinical decision rule for subarachnoid hemorrhage); and others have been happily placed in the hot seat.

One resource that can be helpful is FOAMbase.org, a website by my co-resident Ben Azan, MD (@BenAzan), that categorizes FOAM publications by topic. FOAMbase is a great resource to quickly find high-quality FOAM that may be relevant to the paper being discussed in the journal club.

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

DO YOU HAVE ANY FAVORITE FOAM RESOURCES THAT *ACEP NOW* READERS SHOULD KNOW ABOUT VIA THE FEED?

TWEET AT ME @JEREMYFAUST OR EMAIL TO JSFAUST@GMAIL.COM.

KIDS KORNER

DR. JONES is assistant professor of pediatric emergency medicine at the University of Kentucky in Lexington. **DR. CANTOR** is professor of emergency medicine and pediatrics, director of the pediatric emergency department, and medical director of the Central New York Poison Control Center at Upstate Medical University in Syracuse, New York.

Pediatric Roundtable

Know the score when treating bronchiolitis

by LANDON JONES, MD, AND RICHARD M. CANTOR, MD, FAAP, FACEP

As educators, we love—and are always humbled by—those moments when we get to say, "I don't know." For some of these questions, you may already know the answers. For others, you may never have thought to ask the question. For all, questions, comments, concerns, and critiques are encouraged. Welcome to the Kids Korner.

While it may have been warm outside a few weeks ago, the cold days to have returned, which means the bronchiolitics and croupers are on their way, too.

QUESTION: Under what age (in months) is there a significant association with central apnea in respiratory syncytial virus (RSV)-positive bronchiolitis?

The association between RSV-positive bronchiolitis and central apnea was recognized as early as the late 1960s.[1,2] In an early multicenter retrospective study of 274 infants younger than 6 months with RSV-positive bronchiolitis, the overall incidence of apnea was found to be 20.4 percent (95% CI, 16.1–25.6%).[1] While this study provided no p-values, the data suggested that the highest-risk group for apnea was infants under three months of age. Additionally, the authors recognized that premature infants were more likely to develop apnea. Since then, there have been other studies that have found similar results, with an association between RSV-positive bronchiolitis and central apnea, but the overall incidence varies widely. The incidence ranges from 1.2 percent to 23.8 percent, with more recent studies in the 5 percent to 10 percent range.[3,4] So why do we care? Ultimately, the reason we care about this topic is because studies recurrently recognize that apnea can be the *first* sign of RSV-positive bronchiolitis.

A retrospective study by Kneyber et al looked at 185 infants under 12 months of age who were admitted with RSV-positive bronchiolitis over a four-year period.[5] They found that age was a statistically significant independent risk factor for RSV-associated apnea and that infants younger than 2 months were the highest-risk group.[5] Along with age, a number of studies have identified prematurity (commonly defined as <37 weeks gestation) as a significant risk factor as well.[2,3]

A retrospective study by Kneyber et al looked at 185 infants under 12 months of age who were admitted with RSV-positive bronchiolitis over a four-year period.[5] They found that age was a statistically significant independent risk factor for RSV-associated apnea and that infants younger than 2 months were the highest-risk group.[5]

Recent studies continue to demonstrate an association between bronchiolitis and central apnea or need for a significant medical intervention in children younger than 2 months of age. A 2014 study by Pruikkonen et al retrospectively reviewed the cases of 353 children younger than 6 months of age with bronchiolitis and found that 19 percent of hospitalized infants with bronchiolitis required a major medical intervention—defined as supplemental oxygen, intravenous fluids or antibiotics, or admission to the ICU.[4] While not all of these interventions were secondary to apnea, all apneic events occurred in children younger than 2 months. Ninety-two percent of patients requiring medical interventions were RSV-positive, and the largest majority of these interventions were necessary within the first five days of symptom onset.

While we are currently unaware of any prospective studies addressing which infants need to be admitted with specific regard to age, prospective observational studies of hospitalized bronchiolitic infants have also found an increased risk of apnea in hospitalized infants younger than 2 months and an increased odds of the need for intubation or continuous positive pressure ventilation.[6,7]

SUMMARY: With the current data, the best cutoff for identifying term infants with an increased risk of central apnea in RSV-positive bronchiolitis is probably two months. Multiple studies also recognize that apnea can be one of the first presenting signs of RSV-positive bronchiolitis, particularly in the first five days. Prematurity is also a well-recognized risk factor.

Q: After receiving nebulized epinephrine for croup, how long do patients need to be observed before they can be safely discharged?

Initial studies involving children with croup were rather conservative and recommended admission after giving a single nebulized epinephrine treatment. We now recognize that this is not necessary, and subsequent observation periods have progressively gotten shorter.

A prospective study by Rizos et al evaluated a two-hour observation time following the administration of nebulized racemic epinephrine and intramuscular dexamethasone administration in the emergency department.[8] The authors followed 654 consecutive

patients with croup. Of these 654 children, 174 kids with moderate or severe croup required a nebulized racemic epinephrine treatment. Of these 174 children, 92 were discharged. None of the patients developed rebound phenomenon (eg, rebound stridor) after two hours of observation following their nebulized epinephrine treatment. Other retrospective studies have found similar results.[9]

A 2013 Cochrane review on this topic identified a single randomized prospective study and found no statistical difference in croup score two hours after administration of nebulized epinephrine when comparing placebo versus nebulized epinephrine.[10] This suggests that the effects of the nebulized epinephrine had subsided by the two-hour mark. This study was limited, though, including only 10 children in each treatment arm.

SUMMARY: Early studies were more conservative and recommended three to four hours of observation after administering a nebulized epinephrine treatment. There have been prospective and retrospective studies that suggest a two-hour observation period is probably adequate.

References

1. Bruhn FW, Mokrohisky ST, McIntosh K. Apnea associated with respiratory syncytial virus infection in young infants. *J Pediatr.* 1977;90:382-6.
2. Church NR, Anas NG, Hall CB, et al. Respiratory syncytial virus-related apnea in infants: demographics and outcome. *Am J Dis Child.* 1984;138:247-50.
3. Willwerth BM, Harper MB, Greenes DS. Identifying hospitalized infants who have bronchiolitis and are at high risk for apnea. *Ann Emerg Med.* 2006;48:441-7.
4. Pruikkonen H, Uhari M, Dunder T, et al. Infants under 6 months with bronchiolitis are most likely to need major medical interventions in the 5 days after onset. *Acta Paediatr.* 2014;103:1089-93.
5. Kneyber MC, Brandenburg AH, de Groot R, et al. Risk factors for respiratory syncytial virus associated apnoea. *Eur J Pediatr.* 1998;157:331-5.
6. Schroeder AR, Mansbach JM, Stevenson M, et al. Apnea in children hospitalized with bronchiolitis. *Pediatrics.* 2013;132:e1194-201.
7. Mansbach JM, Piedra PA, Stevenson MD, et al. Prospective multicenter study of children with bronchiolitis requiring mechanical ventilation. *Pediatrics.* 2012;130:e492-500.
8. Rizos JD, DiGravio BE, Sehl MJ, et al. The disposition of children with croup treated with racemic epinephrine and dexamethasone in the emergency department. *J Emerg Med.* 1998;16:535-9.
9. Kelley PB, Simon JE. Racemic epinephrine use in croup and disposition. *Am J Emerg Med.* 1992;10:181-3.
10. Bjornson C, Russell K, Vandermeer B, et al. Nebulized epinephrine for croup in children. *Cochrane Database Syst Rev.* 2013;10:CD006619.

MORE ON RESPIRATORY ILLNESS IN CHILDREN

Turn the page to read a critical look at clinical practice guidelines for treating bronchiolitis by **Ryan Patrick Radecki, MD, MS,** in "Emergency Medicine Literature of Note."

DR. RADECKI is assistant professor of emergency medicine at The University of Texas Medical School at Houston. He blogs at Emergency Medicine Literature of Note (emlitofnote.com) and can be found on Twitter @emlitofnote.

Bronchiolitis: Just Stand There!

The best predictors of complicated disease course, including apnea and critical illness, are underlying comorbid conditions such as prematurity, neuromuscular disease, or reported witnessed episodes of apnea.

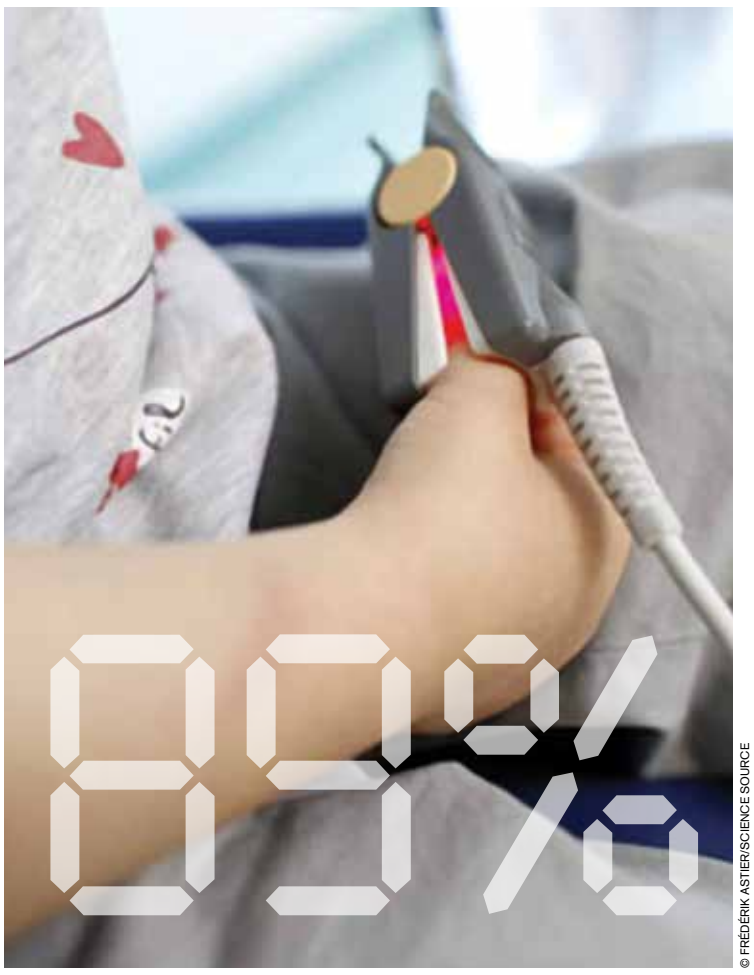
by RYAN PATRICK RADECKI, MD, MS

Buried in mid-winter, January generally portends the ramping up of bronchiolitis season in the majority of the United States. Of particular note for this season, the American Academy of Pediatrics has published a new clinical practice guideline, updated from the 2006 edition.[1]

The guideline document is divided into three sections: diagnosis, treatment, and prevention. Only the diagnosis and treatment sections have relevance to emergency physicians. Specifically covered by these guidelines are infants ages 1 month to 23 months, but reasonable generalizations may be made beyond the upper limit of this population. As with all guidelines, it should be emphasized that these reflect reasonable practice principles, and acknowledging appropriate variation may be considered both acceptable and necessary.

The pattern toward simplicity starts with making the initial diagnosis. Bronchiolitis is a clinically distinct syndrome generally recognizable by history and physical examination alone. After confounders of upper respiratory illness and other diagnoses are adequately considered, classic tachypnea, wheezing, and rales in the proper context support the diagnosis. Assessment of the severity of bronchiolitis is best made, again, solely on the basis of clinical evaluation. The best predictors of complicated disease course, including apnea and critical illness, are underlying comorbid conditions such as prematurity, neuromuscular disease, or reported witnessed episodes of apnea.

The use of pulse oximetry has proven to be controversial as otherwise well-appearing children with bronchiolitis frequently display impaired oxygen exchange. The best evidence suggests utilizing pulse oximetry as part of a decision-making process to predict disease severity is **not appropriate** and even harmful. A recent trial published in *JAMA* systematically altered pulse oximetry readings of patients with bronchiolitis, displaying higher numbers to treating clinicians than actually present.[2] Patients randomized to such artifice had reductions in hospitalization without corresponding increases in adverse outcomes. The implication is that clinicians were giving oximetry readings too much importance compared to their clinical evaluation. These guidelines go on to state that supplemental oxygen is unnecessary unless ≤89 percent, and mild hypoxemia is reasonable.



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No testing in the evaluation of bronchiolitis has been demonstrated to confer individual benefit. Viral testing for the etiologic agent, such as readily available respiratory syncytial virus assays, provides no additional prognostic information. Chest radiography is also of routine disutility, with no specific radiologic findings providing additive value for prediction of disease severity. Furthermore, use of radiography frequently identifies abnormalities leading to initiation of antibiotic therapy, which is unwanted, unnecessary, and obviously of no benefit for a viral process. Only children with severe or complicated symptoms are appropriate for radiography.

One of the biggest changes from the 2006 guideline, and almost certainly part of most current routine practice, is a trial of bronchodilator therapy in children suspected of viral bronchiolitis. The authors use the phrase "overall ineffectiveness outweighs possible transient benefit," which very precisely describes the reasonable elimination of albuterol (or salbutamol) from therapy for children with bronchiolitis. The limited subjective improvement observed in trials did not translate to any meaningful or durable clinical improvement and only subjected patients to, albeit mild, adverse effects of beta-agonist therapy.

Similarly, use of two other nebulized therapies, epinephrine and hypertonic saline, is discouraged in the emergency department. Using the same language regarding lack of effectiveness, the authors found no value from use, or trial, of nebulized epinephrine compared with placebo. Nebulized hypertonic saline has had a slightly more favorable evaluation in the recent literature. Unfortunately, the pooled data from multiple trials finds the best—yet still weak—evidence for benefit was by decreasing the length of stay of patients whose hospitalization might exceed three days. This is clearly the exception to the cohort evaluated in the emergency department, and given the lack of prognostic tools at our disposal, there is no reason to routinely consider nebulized hypertonic saline.

Finally, the last pharmacological intervention covered by this clinical policy recommends against use of systemic corticosteroids. Outside of one aberrant and controversial trial showing an unexpected reduction in hospitalization for patients receiving both nebulized epinephrine and oral dexamethasone, multiple other reviews and meta-analyses of corticosteroids alone observed no benefit.

Despite all of our advances in the evaluation and treatment in other areas of medicine, we've simply circled back to square one with bronchiolitis: no useful testing and no effective interventions. Just as our ancestors assessed and treated these patients, clinical evaluation should guide hospitalization, and supportive care, hydration, nutrition, and respiratory support remain the most important elements of management.

So, in summary:

- Do not perform chest radiography or viral testing routinely as part of individual patient clinical evaluation.
- There is no routine role for use of albuterol, nebulized epinephrine, or nebulized hypertonic saline in the emergency department. The use of steroids is likewise not indicated.
- Pulse oximetry alone should not determine the need for admission, and patients are unlikely to have tissue effects of hypoxemia at 90 percent or above.

As challenging as it may be to present our limited and lacking treatment options to parents and families, the prudent course is the simplest one.

References

1. Ralston SL, Lieberthal AS, Meissner HC, et al. Clinical practice guideline: the diagnosis, management, and prevention of bronchiolitis. *Pediatrics*. 2014;134:e1474-502.
2. Schuh S, Freedman S, Coates A, et al. Effect of oximetry on hospitalization in bronchiolitis: a randomized clinical trial. *JAMA*. 2014;312:712-8.

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Memorial Hospital of Jacksonville *(Jacksonville)* 93K visits/yr.
Lake City Medical Center *(Lake City)* 25K visits/yr. **Medical Director and Staff.**
Fishermen's Hospital *(Marathon)* 9K visits/yr.
NEW! Hunter's Creek ER *(Orlando)* Brand new freestanding ED affiliated with Osceola Regional. Est 18K visits/yr.
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West Florida Hospital *(Pensacola)* 51K annual visits.
NEW! Westside Medical Center *(Plantation)* 45K visits/yr. Brand new freestanding ED in Davie, FL.
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Doctor's Hospital of Sarasota *(Sarasota)* 23K visits/yr.
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Bayonet Point *(Tampa Bay)* 36K visits/yr., Level II Trauma.
Bayfront Health Brooksville *(Brooksville)* 26K visits/yr.
Bayfront Health Spring Hill *(Spring Hill)* 35K visits/yr.
Northside Hospital *(St. Petersburg, FL)* 31K visits/yr. **Associate Medical Director and Staff.**
Capital Regional *(Tallahassee)* 65K visits/yr. Affiliated Freestanding ED - **Gadsden Memorial Campus** *(Quincy)* 15K visits/yr.
Bayfront Health *(Tampa Bay)* 2 campus system. 26-30K visits/yr.
Brandon Regional *(Tampa Bay)* 106K visits/yr. Second campus in *Plant City* - 15K visits/yr.
Medical Center of Trinity *(Tampa Bay)* 50K visits yr.
NEW! Tampa Community Hospital *(Tampa Bay)* 18K visits/yr. **Medical Director and Staff.**
West Palm Hospital *(West Palm Beach)* 28K visits/yr.
Oakhill Hospital *(Springhill)* 35K visits/yr.
Broward Health *(Ft. Lauderdale)* 4-hospital system, Adult & Pediatric Eds, 32K-130K visits/yr.
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Portsmouth Regional Medical Center *(Portsmouth)* 30K visits/yr. **Medical Director.**
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West Houston Regional *(Houston)* 46K visits/yr.
CHRISTUS Jasper *(Jasper)* 23K visits/yr.
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TENNESSEE OPPORTUNITIES

NEW! Sequatchie Valley *(Dunlap)* **Brand new FSED, affiliated with Erlanger Health. Est. 5k visits/yr.**
Southern Hills Medical Center *(Nashville)* 41K visits/yr. **Medical Director and Staff.**
TriStar ER Portland *(Nashville)* Brand new freestanding ED, affiliated with TriStar Hendersonville.
University Medical Center *(Nashville)* 30K visits/yr.
NEW! TriStar Parkridge West *(Jasper)* 18K visits/yr. **Medical Director and Staff.**
Erlanger Bledsoe ED *(Pikeville)* 7K visits/yr.

VIRGINIA OPPORTUNITIES

LewisGale Health System *(Roanoke/Blacksburg area)* 13-41K visits/yr. **Medical Director and Staff.** *(Montgomery)*.
Henrico Doctors' Hospital *(Richmond)* 4 Hospital System. 14-34K visits/yr.

For details, contact:
SoutheastOpportunities@EmCare.com or Call 727-507-2526

BC/BE EMERGENCY MEDICINE PHYSICIAN

PENN HIGHLANDS HEALTHCARE is seeking a **BC/BE Emergency Medicine Physician** to join our Penn Highlands DuBois Emergency Department. We offer excellent salary, benefits and incentives. This position is full time with flexible scheduling.

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- Relocation expenses reimbursed up to $10,000
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- Malpractice and tail coverage paid
- Clinical hours required – 1,872/year
- Medical, Vision and Dental Insurance
- 2 Retirement Plan Options – dollar for dollar match up to 4% after 1 year of employment
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PH DUBOIS EMERGENCY DEPARTMENT:

- 35,000 visits annually
- 40 hours physician coverage daily
- 20 hours APP coverage daily
- Broad on-call specialty support including Cardiology, ENT, GI, Gen. Surgery, Hem/Onc, Ortho and Peds represented
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Physician Recruiter at
dwsaxton@phhealthcare.org
or call at 814-375-3793.

Penn Highlands Healthcare

The Emergency Group, Inc.
Honolulu, Hawaii

The Emergency Group, Inc. (TEG) is a growing, independent, democratic group that has been providing emergency services at The Queen's Medical Center (QMC) since 1973. QMC is the largest and only trauma hospital in the state and cares for more than 60,000 ED patients per year.

QMC's newest medical center opened in west Oahu in May and is expected to see an additional 40,000 ED patients annually.

TEG is actively recruiting for EM Residency Trained, Board Certified or Eligible Physicians. Physicians will be credentialed at both facilities and will work the majority of shifts at the west Oahu facility in Ewa Beach, Hi.

We offer competitive compensation, benefits and partnership track.

Our physicians enjoy working in QMC's excellent facilities and enjoy the wonderful surroundings of living in Hawaii.

For more information, please visit our web site at www.teghi.com or email your CV to teghawaii@gmail.com.

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Kevin Dunn:
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Phone: 201-767-4170

WYOMING, Sheridan

Community of 35,000 looking for emergency physician.

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Contact Joanne Redder, Sheridan Memorial Hospital,1401 W. 5th St., Sheridan, WY 82801; 307-672-1011 or email/fax CV to jredder@sheridanhospital.org - fax (307) 674-5405.

Chandler, Arizona

Premier Emergency Medical Specialists (PEMS) is a physician owned & led group committed to providing quality care. We are seeking FT BC/BE Emergency Physicians to work in a busy community setting. Our group staffs two Emergency Departments in the East Valley of the Phoenix Metropolitan area, Chandler Regional and Mercy Gilbert Medical Centers. We are currently seeing a combined total of approximately 110,000 patients per year.

Benefits include malpractice coverage, health/dental/vision insurance, CME allowance, 401K Safe Harbor, and an attractive compensation package. If you want to work with a group of friends and enjoy outdoor activities like hiking, camping, mountain biking, golf, and beautiful sunsets in a metropolitan setting this is the place for you.

For more information about our group please contact Debbie Valdez at 480-728-3753 or debbie.valdez@dignityhealth.org

University of Florida

College of Medicine – JACKSONVILLE

The University of Florida Department of Emergency Medicine is recruiting motivated & energetic emergency physicians to **join our new UF Health – Northside Emergency Department in Jacksonville.**

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- simulation
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- advanced airway management
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Be part of a growing and supportive academic faculty that will work to help establish your professional goals.

UF Health – Northside will begin as a 28 bed full-service, free-standing emergency department with six observation beds. There will be comprehensive radiology and laboratory services, and consultation will be available from all UF Health specialty and sub-specialty services. Phase 2 of this project will include the addition of 99 inpatient beds to this facility. This is a rare opportunity to get in on the ground floor of an exciting project, and take care of patients in a beautiful, state-of-the-art emergency department.

Join the University of Florida Faculty and earn an **extremely competitive community-based salary** as a UF assistant or associate professor **in a private practice setting**. Enjoy the full range of University of Florida State benefits including **sovereign immunity occurrence-type medical malpractice, health, life and disability insurance, sick leave, and a generous retirement package.**

All physicians are **ABEM / ABOEM Board Certified / Board Eligible**.

E-mail your letter of interest and CV to Dr. Kelly Gray-Eurom
Kelly.grayeurom@jax.ufl.edu

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To learn more about joining our practice, please contact Erin Waggoner by phone at (888) 758-3999 or via email at ewaggoner@4mdocs.com

Visit us online at www.4MDOCS.com.

Emergency Medicine Physicians

North Shore-LIJ is America's third largest, non-profit, secular health system, with a network of 17 hospitals serving the greater **New York metropolitan area**. Our Department of Emergency Medicine Services includes the Emergency Departments of five tertiary care teaching hospitals, a children's hospital, several community hospitals, urgent care centers and our new Freestanding Emergency Department in Greenwich Village.

If you're a BC/BP Emergency Medicine-trained physician with outstanding skills, we want you to join our growing team. Whether you're an experienced physician, a new graduate or an experienced EM leader seeking a Chair or Associate Chair position, there are exciting opportunities throughout the health system for you.

Recent salary increases, along with a generous benefits package, make this a very exciting time to join our EM team.

We offer a competitive salary and benefits package. For further information and to apply, please contact: **Laura Screeney, FASPR, Corporate Director, Office of Physician Recruitment, lscreeney@nshs.edu, (888) 685-7545.** To apply, please visit **www.nslijEMPhysicians.com**

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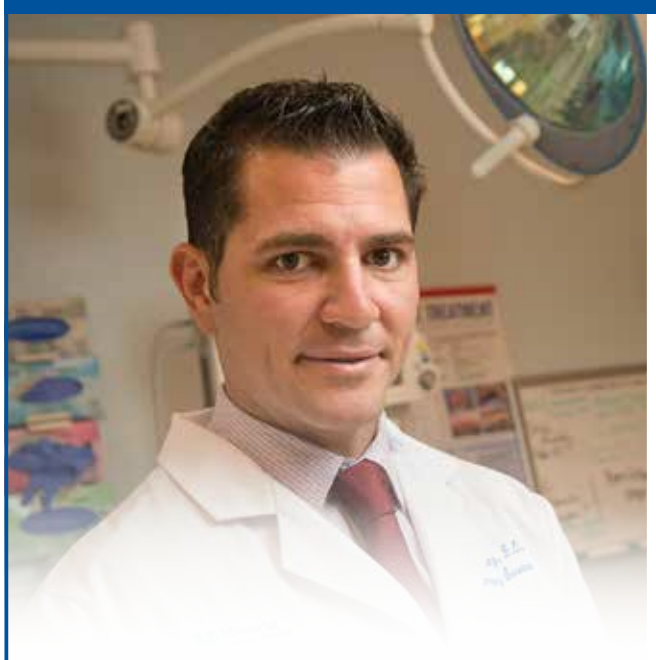

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Corpus Christi, Texas

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We seek those candidates with proven and innovative leadership skills.

Christus Spohn Health System is the largest hospital system in South Texas with 3 metro and 3 rural locations in/near Corpus Christi.

Currently, we are seeking F/T ED physicians and mid-levels with EM experience to join our team at these Christus Spohn locations.

For more details, please contact David Guffey at (423) 322-9574 or david.guffey@emcare.com. For a complete list of openings, visit www.emcare.com

Southeast Alabama Medical Center

Excellent opportunity for full- or part-time ABEM/AOBEM BC/BP emergency medicine physician to join our well-established single hospital group.

Annual ED volume 60,000. Equitable scheduling with 7-day block off each month. 420-bed Level 2 trauma center serves 600,000+ as the area's regional referral center. Excellent subspecialty and hospitalist support.

Big city medicine in a congenial small-town community, low cost of living, excellent family-oriented quality of life. Active outdoor recreation area; beautiful Gulf beaches within 75 miles.

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Contact Sarah Purvis, SAMC Physician Recruiter sbpurvis@samc.org or 1-800-248-7047 ext. 8145

Michigan

Physicians group seeking experienced, board-certified emergency medicine physicians.

We are looking for candidates to join our expanding, well staffed team environment that offers a complete benefits package. Positions available are located in Bad Axe, Clarkston, Garden City, Lapeer, Pontiac, Standish, and Tawas.

For all inquiries, please contact Denise DeLisle at 248-338-5836 or email CV to:

denise.delisle@mclaren.org

EmCare is seeking a Medical Director at Christus Hospital St. Elizabeth in Beaumont, TX.

We are also seeking ED physicians and mid-levels with EM experience to join our team there as well as Christus St Mary in Port Arthur and Christus Jasper Memorial Hospital in Jasper.

Contact Craig McGovern at (727) 437-0846 or Craig.Mcgovern@emcare.com.

For more info visit www.emcare.com

TEXAS - Houston Area

Full-time and PRN openings for emergency physicians in Bellville, TX, just 1 hour from Houston!

Enjoy working with a dedicated, experienced nursing staff in this friendly community. Open to Family Medicine physicians with Emergency Medicine experience, as well as EM-boarded physicians. The ED is undergoing a 3,500 square foot expansion. Flexible scheduling and paid malpractice.

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Contact Renaldo Johnson:

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Contact Lisa Morgan at lisa@eddocs.com and mention job #1017-11.

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Contact Tania Dilworth at tania@eddocs.com and mention job # 267220-11.

East Carolina University
Brody School of Medicine

EMERGENCY MEDICINE FACULTY

◇ Clinician-Educator ◇ Clinician-Researcher ◇ Pediatric Emergency Medicine ◇ Ultrasound ◇

The Department of Emergency Medicine at East Carolina University Brody School of Medicine seeks BC/BP emergency physicians and pediatric emergency physicians for tenure or clinical track positions at the rank of assistant professor or above, depending on qualifications. We are expanding our faculty to increase our cadre of clinician-educators and further develop programs in pediatric EM, ultrasound, and clinical research. Our current faculty members possess diverse interests and expertise leading to extensive state and national-level involvement. The emergency medicine residency is well-established and includes 12 EM and 2 EM/IM residents per year. We treat more than 120,000 patients per year in a state-of-the-art ED at Vidant Medical Center. VMC is a 960+ bed level 1 trauma center and regional stroke center. Our tertiary care catchment area includes more than 1.5 million people in eastern North Carolina, many of whom arrive via our integrated mobile critical care and air medical service. Our new children's ED opened in July 2012, and a new children's hospital opened in June 2013. Greenville, NC is a fast-growing university community located near beautiful North Carolina beaches. Cultural and recreational opportunities are abundant. Compensation is competitive and commensurate with qualifications; excellent fringe benefits are provided. Successful applicants will be board certified or prepared in Emergency Medicine or Pediatric Emergency Medicine. They will possess outstanding clinical and teaching skills and qualify for appropriate privileges from ECU Physicians and VMC.

Confidential inquiry may be made to:
Theodore Delbridge, MD, MPH
Chair, Department of Emergency Medicine
delbridget@ecu.edu

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