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Resolutions

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# ACEPNow

The Official Voice of Emergency Medicine

SEPTEMBER 2014

Volume 33 Number 9

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## PLUS



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## ARM YOURSELF FOR THE “CULTURAL” DEBATE

The evidence against blood cultures

by MICHELLE P. LIN, MD, MPH, AND JEREMIAH D. SCHUUR, MD, MHS

Your last patient on a shift is a 55-year-old well-appearing woman with fever and cough in whom you suspect community-acquired pneumonia. As she steps in to draw labs, your nurse asks you, “Doc, two sets of cultures, right?”

In 2010, 4.1 percent of emergency department patients received blood culture testing.<sup>1</sup> Each set of blood cultures costs \$28 to process, with additional costs for microscopy and pathogen identification if there is growth, amounting to more than \$151 million in annual medical costs based on Medicare reimbursement rates (a low estimate as many insurers and the uninsured are charged more than Medicare reimbursement rates).<sup>2</sup>

Blood cultures test for bacteremia, a condition associated with high mortality. However, they are frequently ordered on patients with clinical diagnoses for which they add little value. The true-positive rate of blood cultures based on prospective studies is as low as 4.1 percent to 7 percent.<sup>3</sup> Up to 40 percent of positive blood cultures are false-positive from contaminants, resulting in prolonged hospital stays,

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## 2014 ACEP ELECTIONS

### Meet the Candidates

Each October at ACEP's annual conference, the ACEP Council elects new leaders for the College. The Council, which represents all 53 Chapters, 33 Sections of Membership, the Association of Academic Chairs of Emergency Medicine, the Council of Emergency Medicine Residency Directors, the Emergency Medicine Residents' Association, and the Society for Academic Emergency Medicine, will elect four members to the ACEP Board of Directors and the College's President-Elect.

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## The Triple Aim for Emergency Medicine

SEE PAGE 12

# Three peas in a pod.



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*EMP physicians Amit Arwindekar, Bradley Chappell and Shehma Khan at an EMP Nation social event in Orlando, Florida.*



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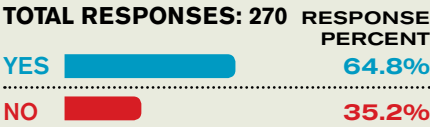
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## ACEP Council Speaks Out

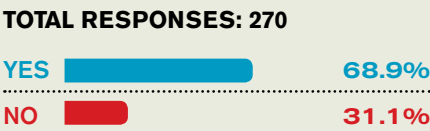
ACEP Councillors were surveyed about several topics that will be addressed\* at this October's Council meeting.

Here were their responses.

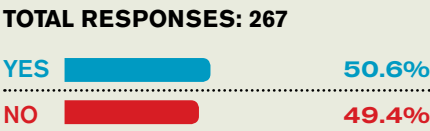
1. Do you believe that ACEP should, in some way, allow membership for physicians not board certified in EM?



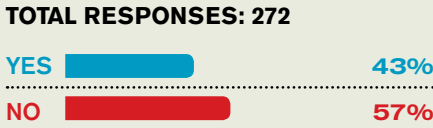
2. Do you believe that ACEP should develop a category of membership for advanced practice providers?



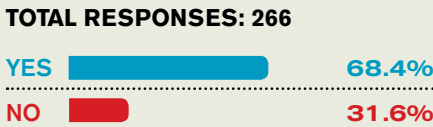
3. Do you believe that emergency physicians should prescribe naloxone to patients at risk for opiate overdose?



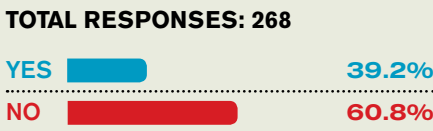
4. Do you believe marijuana should be legalized?



5. Do you believe marijuana should be decriminalized?



6. Do you believe that ACEP should support a single-payer health insurance system?



\*Survey questions based on general topics and not specific resolutions.

## THE BREAK ROOM

### Many Opinions Under the Big Tent

Our pro-con on “The Big Tent of Emergency Medicine” (Aug. 2014, p. 1), which examined the benefits and drawbacks of requiring certification in emergency medicine for ACEP membership, drew an overwhelming response from readers. Here are just a few of the letters we received.

Visit [www.ACEPNow.com](http://www.ACEPNow.com) to read all the responses, and email [acepnow@acep.org](mailto:acepnow@acep.org) with your thoughts to keep the debate going!

I'm personally against allowing non-emergency medicine-certified physicians acceptance into the College.

Why can't I get acceptance into the American College of Surgeons? Or Cardiology? There are plenty of regions throughout the country that are in need of specialists and the services that they provide. This is hardly a problem unique to ER and, pardon my sarcasm, a lousy reason to allow someone admission into what is supposed to be a crowning achievement.

I'm a pretty smart guy. I know my anatomy, I am procedurally adept, and I learn fast. Furthermore, all specialty books and procedures can be found online on YouTube. I can learn on the job just like anyone else. So why can't I just start practicing?

What? You mean to tell me that even if I began practicing in some rural area where no specialist wants to go, performing successful cardiac cath, appendectomies, etc., I still wouldn't be “accepted” into their college? Strange, that is.

The fact is *all* other specialties would (appropriately) scoff at the idea that I be accepted as an equal into their college without formal training. You *can't* lower your standards just because there is a shortage of board-certified physicians—in any specialty. If we did, it would basically undermine everything our predecessors fought for (and we still do) in order to be considered something beyond simple triage monkeys. To do otherwise essentially says that anyone can do this job. And if that's true, then why go through residency? And if you're the hospital, why spend extra money on a “board-certified physician” when it's own College states that non-emergency medicine-certified physicians have the same rights and privileges as those that are?

—Kurt Kaczander, DO  
Laingsburg, Michigan

YES! Open membership to all those who practice EM.

—Saul F. Weinstein, MD, FACS  
Jacksonville, Florida

I do not think that we should allow non-boarded physicians to be members of ACEP. I am not a member of the College of Surgeons or any other specialty because I am not a surgeon or any other specialist. Do we think that EM board certification stands for nothing? Why have it if it means nothing? Start another group called doctors who staff EDs if you

CONTINUED on page 4

want every licensed physician to join. Emergency medicine is a specialty and should be maintained as one, and our College should be just that—our College.

—Charlene A. Doyle, MD  
Johnson City, Tennessee

The major reason to consider opening ACEP membership to non-boarded physicians is that it is best for the specialty and for our patients. The editorials by Dr. Smith and Dr. Radtke are both articulate and rational. They both wisely recognize that the issue is not about board certification, it's about membership. Debates over board certification are part of our past and shouldn't affect this issue.<sup>1,2</sup> In the early years of our specialty's development, there may have been reason to be paranoid about our scope of practice, but we should now be proactive about what is best for the specialty and for our patients.

The question is not what is best for me or you or for these physicians. (They don't care. I can say this for certain because I am, or at least was, one of them.)<sup>3</sup> Most see ACEP—and all other EM professional organizations—as self-serving and self-protecting. But if ACEP wants to do what is best for our specialty, and for ED patients, there are compelling reasons to reopen membership.

Dr. Radtke correctly identifies that “there is a distinction between being an **emergency medicine physician** and being a physician who practices emergency medicine.” (Bold added for emphasis.) Emergency physicians who are residency trained in EM are true specialists in EM. Maybe we need new terminology to make this clear, but most physicians, and certainly most patients, care less about titles than competence. For example, rural EDs are still dependent on physicians who trained in family medicine, and many of these physicians are family physicians who provide emergency care who don't care about a title. They think of ACEP as an elitist organization. Dividing the workforce of EM into categories of us and them is not a new idea, and it is part of the reason that the history of EM included a stage where there was intense controversy over who was an emergency physician.

Emergency medicine has expanding scopes of practice, many of which include on-the-job training (eg, critical care, hospitalist medicine, palliative care, urgent care, etc.). But the phrase “on the job training” is a dysphemism that minimizes many important issues in medical education. Lifelong learning is crucial for all physicians, and unlike the pioneers of EM in the 1970s, many of whom did not complete a residency, the majority of non-ABEM-boarded EP's are residency trained in other specialties.

Both Dr. Smith and Dr. Radtke alluded to the workforce data that compel us toward more evidence-based workforce policies. The 2006 Institute of Medicine report on EM made it clear that more collaboration with other specialties was essential to meeting rural EM needs. Physicians who provide care in rural EDs make up a small percentage of the workforce but are almost completely excluded from mainstream EM (academic and organizational). “Improved access to high-quality emergency care for *all* acutely ill or injured patients across the *entire* United States” needs to be our goal.<sup>4</sup>

EM is now a well-recognized specialty, and

adolescent angst about “turf wars” should be part of our past. As our specialty evolves to include broader scopes of practice, we need all physicians who provide emergency care to be part of our organization. As Rick Bukata recently wrote: “We need ALL emergency care physicians to be involved in ACEP for the sake of EM advocacy...Let's follow the lead of other medical societies...[that] allow some sort of membership for non-boarded physicians. It's also the right thing to do because we need to provide more support to our colleagues working in rural areas...It makes practical, fiscal sense, and it's the right thing to do.”<sup>5</sup>

What is best for our patients or for the specialty? Dr. Radtke is correct that the financial

benefit of open College membership will be minimal. But can we afford to exclude colleagues who work alongside us for the sake of our values and commitment to representing all emergency physicians? And, most important, our patients (in the EDs of the *entire* United States, including rural areas)? Dr. Smith is right in stating that “we shouldn't invite them to join, we should ask them to join.” ☘

—W. Anthony Gerard, MD, FACEP  
Elizabethtown, Pennsylvania

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5. Bukata R. ACEP, open wide the gates. *Emergency Physicians Monthly*. Available at <http://www.epmonthly.com/features/current-features/acep-open-wide-the-gates>. Accessed September 2, 2014.

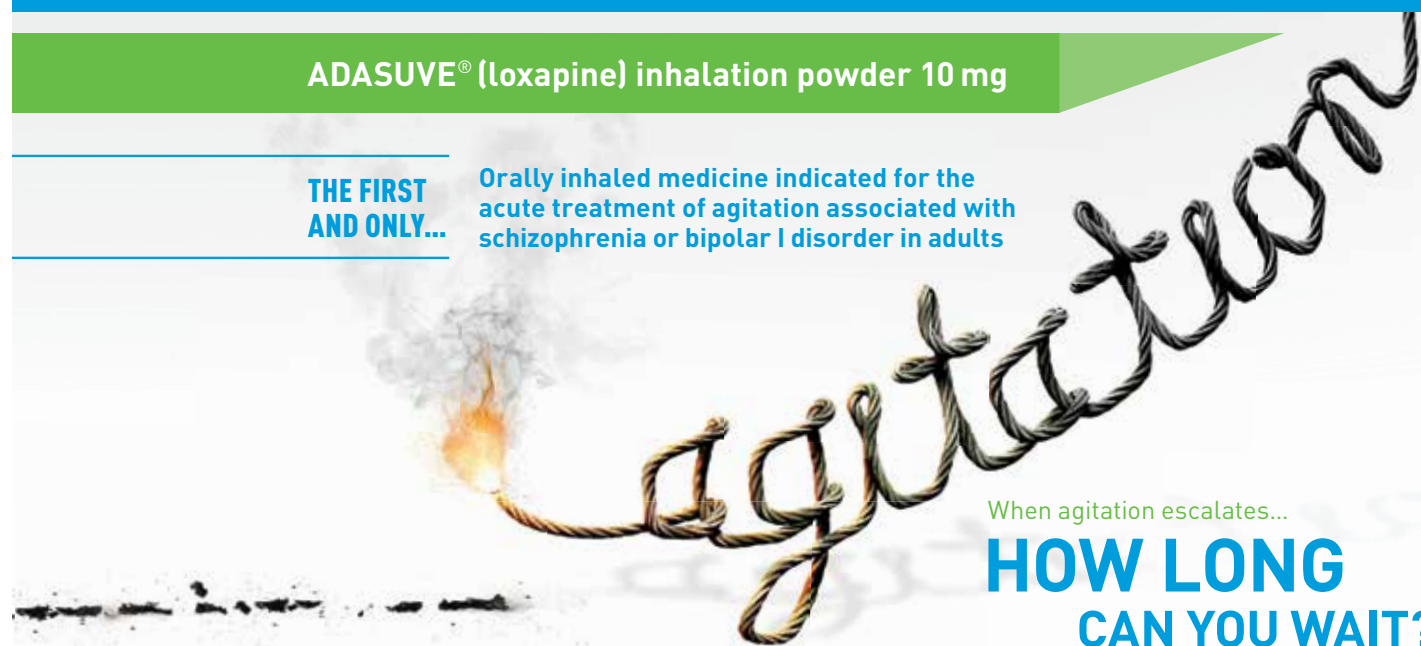
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#### INDICATIONS AND USAGE

ADASUVE® (loxapine) inhalation powder, for oral inhalation use, is a typical antipsychotic indicated for the acute treatment of agitation associated with schizophrenia or bipolar I disorder in adults. Efficacy was demonstrated in 2 trials in acute agitation: one in schizophrenia and one in bipolar I disorder.

**Limitations of Use:** As part of the ADASUVE Risk Evaluation and Mitigation Strategy (REMS) Program to mitigate the risk of bronchospasm, ADASUVE must be administered only in an enrolled healthcare facility.

#### ⚠ IMPORTANT SAFETY INFORMATION

##### **WARNING: BRONCHOSPASM and INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS**

##### **Bronchospasm**

**ADASUVE can cause bronchospasm that has the potential to lead to respiratory distress and respiratory arrest. Administer ADASUVE only in an enrolled healthcare facility that has immediate access on-site to equipment and personnel trained to manage acute bronchospasm, including advanced airway management (intubation and mechanical ventilation). Prior to administering ADASUVE, screen patients regarding a current diagnosis, history, or symptoms of asthma, COPD and other lung diseases, and examine (including chest auscultation) patients for respiratory signs. Monitor for signs and symptoms of bronchospasm following treatment with ADASUVE. Because of the risk of bronchospasm, ADASUVE is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS) called the ADASUVE REMS.**

##### **Increased Mortality in Elderly Patients With Dementia-Related Psychosis**

**Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. ADASUVE is not approved for the treatment of patients with dementia-related psychosis.**

- ADASUVE is contraindicated in patients with the following:
  - Current diagnosis or history of asthma, chronic obstructive pulmonary disease (COPD), or other lung disease associated with bronchospasm
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  - Current use of medications to treat airways disease, such as asthma or COPD
  - History of bronchospasm following ADASUVE treatment
  - Known hypersensitivity to loxapine or amoxapine. Serious skin reactions have occurred with oral loxapine and amoxapine
- ADASUVE must be administered only by a healthcare professional
- Prior to administration, all patients must be screened for a history of pulmonary disease and examined (including chest auscultation) for respiratory abnormalities (eg, wheezing)
- Administer only a single 10 mg dose of ADASUVE within a 24-hour period by oral inhalation using the single-use inhaler





UPDATES  
AND ALERTS  
FROM ACEP

# NEWS FROM THE COLLEGE

## ACEP Launches 2014 PQRS Registry Reporting System

ACEP announced in late August that it has developed a Physician Quality Reporting System (PQRS) registry reporting option and is providing it to ACEP, the Emergency Medicine Residents' Association (EMRA), and the Society of Emergency Medi-

cine Physician Assistants (SEMPA) members at a discount. The registry comes in response to the Centers for Medicare & Medicaid Services (CMS) announcement that failure to satisfy the 2014 PQRS requirements may lead to a penalty of up to 4 percent of Medicare payments, approximately \$2,500 per provider.

In 2014, a group of 10 or more eligible professionals may avoid

the 2 percent PQRS penalty as well as the 2 percent value-based modifier (VBM) penalty (both applied to 2016 payments) if at least 50 percent or more of the individual eligible professionals in the group satisfy PQRS reporting requirements in 2014.

Even one Medicare fee-for-service claim for the calendar year qualifies a provider (physician or

non-physician) as an eligible professional in a group for purposes of the 50 percent threshold.

However, emergency physicians should note that those eligible professionals in the group who do not submit PQRS measures will still be subject to the PQRS payment adjustment of 2 percent. To avoid the 2 percent VBM penalty, at least 50 percent of individual EPs in a group

must meet the minimum PQRS reporting requirements.

For more information on these requirements, please visit [www.acep.org/quality](http://www.acep.org/quality).

Groups that decide to participate in the 2014 PQRS group practice reporting option (GPRO) are required to register through the Physician Value-Physician Quality Reporting

**CONTINUED** on page 6

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Reduction from baseline in agitation symptoms<sup>2,3</sup>

ENDPOINT	SCHIZOPHRENIA		BIPOLAR I DISORDER	
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AT 2 HOURS (PRIMARY)	49%	33%	53%	27%
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The mean baseline PEC scores in all treatment groups were 17.3 to 17.7.

PEC=Positive and Negative Syndrome Scale-Excited Component. Intent-to-treat population with last observation carried forward. Agitation symptoms measured: tension, excitement, poor impulse control, uncooperativeness, hostility. Each item is scored on a scale from 1 to 7 (1=absent, 4=moderate, 7=extreme). Patient total PEC scores ranged from 14 to 31 out of a possible 35. The efficacy of ADASUVE 10 mg in the acute treatment of agitation associated with schizophrenia or bipolar I disorder was established in a short-term (24-hour), randomized, double-blind, placebo-controlled, fixed-dose trial including 344 patients who met DSM-IV criteria for schizophrenia and in another study, 314 patients who met DSM-IV criteria for bipolar I disorder, manic or mixed episodes with or without psychotic features.

### ⚠ IMPORTANT SAFETY INFORMATION (continued)

- After ADASUVE administration, patients must be monitored for signs and symptoms of bronchospasm at least every 15 minutes for at least 1 hour
- ADASUVE can cause sedation, which can mask the symptoms of bronchospasm
- Antipsychotic drugs can cause a potentially fatal symptom complex called Neuroleptic Malignant Syndrome (NMS), manifested by hyperpyrexia, muscle rigidity, altered mental state, irregular pulse or blood pressure, tachycardia, diaphoresis, and cardiac dysrhythmia. Associated features can include elevated serum creatine phosphokinase (CPK) concentration, rhabdomyolysis, elevated serum and urine myoglobin concentration, and renal failure. If NMS occurs, immediately discontinue antipsychotic drugs and other drugs that may contribute to the underlying disorder, monitor and treat symptoms, and treat any concomitant serious medical problems
- ADASUVE can cause hypotension, orthostatic hypotension, and syncope. Use with caution in patients with known cardiovascular disease, cerebrovascular disease, or conditions that would predispose patients to hypotension. In the presence of severe hypotension requiring vasopressor therapy, epinephrine should not be used
- Use ADASUVE with caution in patients with a history of seizures or with conditions that lower the seizure threshold. ADASUVE lowers the seizure threshold. Seizures have occurred in patients treated with oral loxapine and can also occur in epileptic patients
- Use caution when driving or operating machinery. ADASUVE can impair judgment, thinking, and motor skills
- The potential for cognitive and motor impairment is increased when ADASUVE is administered concurrently with other CNS depressants
- Treatment with antipsychotic drugs caused an increased incidence of stroke and transient ischemic attack in elderly patients with dementia-related psychosis; ADASUVE is not approved for the treatment of patients with dementia-related psychosis
- Use of ADASUVE may exacerbate glaucoma or cause urinary retention
- The most common adverse reactions (incidence ≥2% and greater than placebo) in clinical studies in patients with agitation treated with ADASUVE were dysgeusia, sedation, and throat irritation
- Pregnancy Category C. Neonates exposed to antipsychotic drugs during the third trimester of pregnancy are at risk of extrapyramidal and/or withdrawal symptoms after delivery. ADASUVE should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus
- Nursing mothers: Discontinue drug or nursing, taking into account the importance of the drug to the mother
- The safety and effectiveness of ADASUVE in pediatric patients have not been established

References: 1. ADASUVE [package insert]. Horsham, PA: Teva Select Brands, a division of Teva Pharmaceuticals USA, Inc.; December 2013. 2. Data on file. Clinical Study Report 004-301. Teva Pharmaceuticals. 3. Data on file. Clinical Study Report 004-302. Teva Pharmaceuticals.

Please see Brief Summary of Prescribing Information, including Boxed Warnings, on following pages.

**adasuve**  
(loxapine) inhalation powder

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System (PV-PQRS) Registration System by Sept. 30, 2014. This registration process can take up to two weeks. Groups will need an Individuals Authorized Access to the CMS Computer Services (IACS) account to access the PV-PQRS Registration System.

Registration lets CMS know which groups want to be analyzed at the group level (or TIN-level analysis). Complete information about IACS and 2014 PQRS GPRO registration is available on the CMS website.

Whether emergency physicians decide to report as a group via

GPRO registry or to report as individuals, the ACEP PQRS Wizard registry option will be available. To participate via GPRO, the group must complete the PV-PQRS registration process by Sept. 30, 2014. Those reporting as individuals may sign up through Dec. 31, 2014.

ACEP is providing its registry to ACEP, EMRA, and SEMPA members with \$100 off the \$299 per provider fee. The College has negotiated an additional discount of 10 percent for groups of 10 or more and 15 percent for groups of 20 or more. For more information, go to [www.acep.org/qualityregistry](http://www.acep.org/qualityregistry).

## Dr. Francis Counselman Becomes ABEM President; Dr. Barry Heller Named President-Elect

At its July meeting, the American Board of Emergency Medicine (ABEM) named Francis Counselman, MD, its President. Dr. Counselman is a distinguished professor of emergency medicine and chair of the department of emergency medicine at Eastern Virginia Medical School in Norfolk and a member of the Emergency Physicians of Tidewater. He received his medical degree from the Eastern Virginia Medical School, where he also completed his residency training in emergency medicine.

Taking over as President-Elect is Barry N. Heller, MD. Dr. Heller is an assistant clinical professor of medicine at UCLA School of Medicine in Los Angeles and practices emergency medicine at St. Mary Medical Center in Long Beach, California, and Providence Little Company of Mary Medical Center San Pedro in San Pedro, California. Dr. Heller received his medical degree from Indiana University in Indianapolis and completed residency training in emergency medicine at Harbor-UCLA Medical Center in Torrance, California.

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### BRIEF SUMMARY

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The following is a brief summary only; see full prescribing information, included Boxed Warnings for complete product information.

**WARNING: BRONCHOSPASM and INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS**  
**Bronchospasm**  
ADASUVE can cause bronchospasm that has the potential to lead to respiratory distress and respiratory arrest. Administer ADASUVE only in an enrolled healthcare facility that has immediate access on-site to equipment and personnel trained to manage acute bronchospasm, including advanced airway management (intubation and mechanical ventilation) [see Warnings and Precautions (5.1, 5.2)]. Prior to administering ADASUVE, screen patients regarding a current diagnosis, history, or symptoms of asthma, COPD and other lung diseases, and examine (including chest auscultation) patients for respiratory signs. Monitor for signs and symptoms of bronchospasm following treatment with ADASUVE [see Dosage and Administration (2.2, 2.4) and Contraindications (4)].  
Because of the risk of bronchospasm, ADASUVE is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS) called the ADASUVE REMS [see Warnings and Precautions (5.2)].  
**Increased Mortality in Elderly Patients with Dementia-Related Psychosis**  
Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. ADASUVE is not approved for the treatment of patients with dementia-related psychosis [see Warnings and Precautions (5.3)].

### 1 INDICATIONS AND USAGE

ADASUVE is a typical antipsychotic indicated for the acute treatment of agitation associated with schizophrenia or bipolar I disorder in adults. "Psychomotor agitation" is defined in DSM-IV as "excessive motor activity associated with a feeling of inner tension." Patients experiencing agitation often manifest behaviors that interfere with their care (e.g., threatening behaviors, escalating or urgently distressing behavior, self-exhausting behavior), leading clinicians to the use of rapidly absorbed antipsychotic medications to achieve immediate control of the agitation [see Clinical Studies (14)]. The efficacy of ADASUVE was established in one study of acute agitation in patients with schizophrenia and one study of acute agitation in patients with bipolar I disorder [see Clinical Studies (14)].

#### Limitations of Use:

As part of the ADASUVE REMS Program to mitigate the risk of bronchospasm, ADASUVE must be administered only in an enrolled healthcare facility [see Warnings and Precautions (5.2)].

### 4 CONTRAINDICATIONS

ADASUVE is contraindicated in patients with the following:

- Current diagnosis or history of asthma, COPD, or other lung disease associated with bronchospasm [see Warnings and Precautions (5.1)]
- Acute respiratory symptoms or signs (e.g., wheezing) [see Warnings and Precautions (5.1)]
- Current use of medications to treat airways disease, such as asthma or COPD [see Warnings and Precautions (5.1)]
- History of bronchospasm following ADASUVE treatment [see Warnings and Precautions (5.1)]
- Known hypersensitivity to loxapine or amoxapine. Serious skin reactions have occurred with oral loxapine and amoxapine.

### 5 WARNINGS AND PRECAUTIONS

#### 5.1 Bronchospasm

ADASUVE can cause bronchospasm that has the potential to lead to respiratory distress and respiratory arrest [see Adverse Reactions (6.1)]. Administer ADASUVE only in an enrolled healthcare facility that has immediate access on-site to equipment and personnel trained to manage acute bronchospasm, including advanced airway management (intubation and mechanical ventilation) [see Boxed Warning and Warnings and Precautions (5.2)].

Prior to administering ADASUVE, screen patients regarding a current diagnosis or history of asthma, COPD, and other lung disease associated with bronchospasm, acute respiratory symptoms or signs, current use of medications to treat airways disease, such as asthma or COPD; and examine patients (including chest auscultation) for respiratory abnormalities (e.g., wheezing) [see Dosage and Administration (2.2) and Contraindications (4)]. Monitor patients for symptoms and signs of bronchospasm (i.e., vital signs and chest auscultation) at least every 15 minutes for a minimum of one hour following treatment with ADASUVE [see Dosage and Administration (2.4)]. ADASUVE can cause sedation, which can mask the symptoms of bronchospasm.

Because clinical trials in patients with asthma or COPD demonstrated that the degree of bronchospasm, as indicated by changes in forced expiratory volume in 1 second (FEV1), was greater following a second dose of ADASUVE, limit ADASUVE use to a single dose within a 24 hour period. Advise all patients of the risk of bronchospasm. Advise them to inform the healthcare professional if they develop any breathing problems such as wheezing, shortness of breath, chest tightness, or cough following treatment with ADASUVE.

#### 5.2 ADASUVE REMS to Mitigate Bronchospasm

Because of the risk of bronchospasm, ADASUVE is available only through a restricted program under a REMS called the ADASUVE REMS. [see Boxed Warning and Warnings and Precautions (5.1)] Required components of the ADASUVE REMS are:

- Healthcare facilities that dispense and administer ADASUVE must be enrolled and comply with the REMS requirements. Certified healthcare facilities must have on-site access to equipment and personnel trained to provide advance airway management, including intubation and mechanical ventilation.
- Wholesalers and distributors that distribute ADASUVE must enroll in the program and distribute only to enrolled healthcare facilities.

Further information is available at [www.adasuverems.com](http://www.adasuverems.com) or 1-855-755-0492.

#### 5.3 Increased Mortality in Elderly Patients with Dementia-Related Psychosis

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at increased risk of death. Analyses of 17 placebo-controlled trials (modal duration of 10 weeks), largely in patients taking atypical antipsychotic drugs, revealed a risk of death in drug-treated patients of 1.6 to 1.7 times the risk of death in placebo-treated patients. Over the course of a typical 10-week controlled trial, the rate of death in drug-treated patients was about 4.5%, compared to a rate of about 2.6% in the placebo group. Although the cases of death were varied, most of the deaths appeared to be either cardiovascular (e.g., heart failure, sudden death) or infectious (e.g., pneumonia) in nature. Observational studies suggest that, similar to atypical antipsychotic drugs, treatment with conventional antipsychotic drugs may increase mortality. The extent to which the findings of increased mortality in observational studies can be attributed to the antipsychotic drug as opposed to some characteristic(s) of the patients is not clear. ADASUVE is not approved for the treatment of elderly patients with dementia-related psychosis [see Boxed Warning].

#### 5.4 Neuroleptic Malignant Syndrome

Antipsychotic drugs can cause a potentially fatal symptom complex termed Neuroleptic Malignant Syndrome (NMS). Clinical manifestations of NMS include hyperpyrexia, muscle rigidity, altered mental status, and autonomic instability (irregular pulse or blood pressure, tachycardia, diaphoresis, and cardiac dysrhythmia). Associated features can include elevated serum creatine phosphokinase (CPK) concentration, rhabdomyolysis, elevated serum and urine myoglobin concentration, and renal failure. NMS did not occur in the ADASUVE clinical program.

The diagnostic evaluation of patients with this syndrome is complicated. It is important to consider the presence of other serious medical conditions (e.g., pneumonia, systemic infection, heat stroke, primary CNS pathology, central anticholinergic toxicity, extrapyramidal symptoms, or drug fever).

The management of NMS should include: 1) immediate discontinuation of antipsychotic drugs and other drugs that may contribute to the underlying disorder, 2) intensive symptomatic treatment and medical monitoring, and 3) treatment of any concomitant serious medical problems. There is no general agreement about specific pharmacological treatment regimens for NMS.

If a patient requires antipsychotic drug treatment after recovery from NMS, the potential reintroduction of drug therapy should be carefully considered. The patient should be carefully monitored, since recurrences of NMS have been reported.

#### 5.5 Hypotension and Syncope

ADASUVE can cause hypotension, orthostatic hypotension, and syncope. Use ADASUVE with caution in patients with known cardiovascular disease (history of myocardial infarction or ischemic heart disease, heart failure or conduction abnormalities), cerebrovascular disease, or conditions that would predispose patients to hypotension (dehydration, hypovolemia, or treatment with antihypertensive medications or other drugs that affect blood pressure or reduce heart rate).

In the presence of severe hypotension requiring vasopressor therapy, the preferred drugs may be norepinephrine or phenylephrine. Epinephrine should not be used, because beta stimulation may worsen hypotension in the setting of ADASUVE-induced partial alpha blockade.

In short-term (24-hour) placebo-controlled trials of patients with agitation associated with schizophrenia or bipolar I disorder, hypotension occurred in 0.4% and 0.8% in the ADASUVE 10 mg and placebo groups, respectively. There were no cases of orthostatic hypotension, postural symptoms,





# The Job Market for Emergency Physicians 2014–2015

Part One: The Location Report **BY BARB KATZ**

This is a year of change. Some trends, like the increase in opportunity for non-EM-trained physicians, are now on a downward spiral. Though the total number of job openings is slightly down from last year, the overall spread throughout the country has improved. You'll find opportunity in places that rarely see a glimmer of activity, like San Diego, the Dakotas, Alaska, and even Charleston, South Carolina. There has been a meteoric rise in urgent care and lo-

cum tenens opportunities, including a fairly new locum tenens to permanent movement. A lot of the small regional groups, hospital employers, and larger national groups are opening freestanding satellite EDs. These sites are most often included in the rotation for their physicians, though some of these positions appear to be exclusive to the new site. This year's "When Pigs Fly" award goes to my old favorite, Raleigh-Durham, North Carolina, or "The Research Triangle," as it is widely known. Pigs

will be flying before a job turns up there! Back in the 1990s when grandfathering was still allowed, primary care-trained physicians filled jobs all over the country. As the number of EM residency-trained physicians increased, the number of jobs open to primary care decreased, and eventually, toward the end of the century, we reached critical mass. Subsequently, hospitals closed and merged everywhere, the real estate market crashed, and physicians who would normally make moves

didn't because they couldn't afford to sell their homes. In the early part of this century, the first crop of emergency physician graduates from the late '70s and '80s started retiring, and all of this added up to a candidate-driven job market with a serious shortage of physicians. The rate of emergency medicine jobs open to physicians with primary care boards is definitely trending down from the high of 40 percent hit last year to 35 percent this year. Exclusive

**CONTINUED** on page 8

presyncope or syncope. A systolic blood pressure  $\leq 90$  mm Hg with a decrease of  $\geq 20$  mm Hg occurred in 1.5% and 0.8% of the ADASUVE 10 mg and placebo groups, respectively. A diastolic blood pressure  $\leq 50$  mm Hg with a decrease of  $\geq 15$  mm Hg occurred in 0.8% and 0.4% of the ADASUVE 10 mg and placebo groups, respectively. In 5 Phase 1 studies in normal volunteers, the incidence of hypotension was 3% and 0% in ADASUVE 10 mg and the placebo groups, respectively. The incidence of syncope or presyncope in normal volunteers was 2.3% and 0% in the ADASUVE and placebo groups, respectively. In normal volunteers, a systolic blood pressure  $\leq 90$  mm Hg with a decrease of  $\geq 20$  mm Hg occurred in 5.3% and 1.1% in the ADASUVE and placebo groups, respectively. A diastolic blood pressure  $\leq 50$  mm Hg with a decrease of  $\geq 15$  mm Hg occurred in 7.5% and 3.3% in the ADASUVE and placebo groups, respectively.

**5.6 Seizures**

ADASUVE lowers the seizure threshold. Seizures have occurred in patients treated with oral lorazepam. Seizures can occur in epileptic patients even during antiepileptic drug maintenance therapy. In short-term (24-hour), placebo-controlled trials of ADASUVE, there were no reports of seizures.

**5.7 Potential for Cognitive and Motor Impairment**

ADASUVE can impair judgment, thinking, and motor skills. In short-term, placebo-controlled trials, sedation and/or somnolence were reported in 12% and 10% in the ADASUVE and placebo groups, respectively. No patients discontinued treatment because of sedation or somnolence. The potential for cognitive and motor impairment is increased when ADASUVE is administered concurrently with other CNS depressants [see Drug Interactions (7.1)]. Caution patients about operating hazardous machinery, including automobiles, until they are reasonably certain that therapy with ADASUVE does not affect them adversely.

**5.8 Cerebrovascular Reactions, Including Stroke, in Elderly Patients with Dementia-Related Psychosis**

In placebo-controlled trials with atypical antipsychotics in elderly patients with dementia-related psychosis, there was a higher incidence of cerebrovascular adverse reactions (stroke and transient ischemic attacks), including fatalities, compared to placebo-treated patients. ADASUVE is not approved for the treatment of patients with dementia-related psychosis [see Boxed Warning and Warnings and Precautions (5.3)].

**5.9 Anticholinergic Reactions Including Exacerbation of Glaucoma and Urinary Retention**

ADASUVE has anticholinergic activity, and it has the potential to cause anticholinergic adverse reactions including exacerbation of glaucoma or urinary retention. The concomitant use of other anticholinergic drugs (e.g., antiparkinson drugs) with ADASUVE could have additive effects.

**6 ADVERSE REACTIONS**

The following adverse reactions are discussed in more detail in other sections of the labeling:

- Hypersensitivity (serious skin reactions) [see Contraindications (4)]
- Bronchospasm [see Warnings and Precautions (5.1)]
- Increased Mortality in Elderly Patients with Dementia-Related Psychosis [see Warnings and Precautions (5.3)]
- Neuroleptic Malignant Syndrome [see Warnings and Precautions (5.4)]
- Hypotension and syncope [see Warnings and Precautions (5.5)]
- Seizure [see Warnings and Precautions (5.6)]
- Potential for Cognitive and Motor Impairment [see Warnings and Precautions (5.7)]
- Cerebrovascular Reactions, Including Stroke, in Elderly Patients with Dementia-Related Psychosis [see Warnings and Precautions (5.8)]
- Anticholinergic Reactions Including Exacerbation of Glaucoma and Urinary Retention [see Warnings and Precautions (5.9)]

**6.1 Clinical Trials Experience**

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice. The following findings are based on pooled data from three short-term (24-hour), randomized, double-blind, placebo-controlled clinical trials (Studies 1, 2, and 3) of ADASUVE 10 mg in the treatment of patients with acute agitation associated with schizophrenia or bipolar I disorder. In the 3 trials, 259 patients received ADASUVE 10 mg, and 263 received placebo [see Clinical Studies (14)].

**Commonly Observed Adverse Reactions:** In the 3 trials in acute agitation, the most common adverse reactions were dysgeusia, sedation, and throat irritation. These reactions occurred at a rate of at least 2% of the ADASUVE group and at a rate greater than in the placebo group. (Refer to Table 1).

**Table 1. Adverse Reactions in 3 Pooled Short-Term, Placebo-Controlled Trials (Studies 1, 2, and 3) in Patients with Schizophrenia or Bipolar Disorder**

Adverse Reaction	Placebo (n = 263)	ADASUVE (n = 259)
Dysgeusia	5%	14%
Sedation	10%	12%
Throat Irritation	0%	3%

**Airway Adverse Reactions in the 3 Trials in Acute Agitation**

**Agitated patients with Schizophrenia or Bipolar Disorder:** In the 3 short-term (24-hour), placebo-controlled trials in patients with agitation associated with schizophrenia or bipolar disorder (Studies 1, 2, and 3), bronchospasm (which includes reports of wheezing, shortness of breath and cough) occurred more frequently in the ADASUVE group, compared to the placebo group: 0% (0/263) in the placebo group and 0.8% (2/259) in the ADASUVE 10 mg group. One patient with schizophrenia, without a history of pulmonary disease, had significant bronchospasm requiring rescue treatment with a bronchodilator and oxygen.

**Bronchospasm and Airway Adverse Reactions in Pulmonary Safety Trials**

Clinical pulmonary safety trials demonstrated that ADASUVE can cause bronchospasm as measured by FEV1, and as indicated by respiratory signs and symptoms in the trials. In addition, the trials demonstrated that patients with asthma or other pulmonary diseases, such as COPD are at increased risk of bronchospasm. The effect of ADASUVE on pulmonary function was evaluated in 3 randomized, double-blind, placebo-controlled clinical pulmonary safety trials in healthy volunteers, patients with asthma, and patients with COPD. Pulmonary function was assessed by serial FEV1 tests, and respiratory signs and symptoms were assessed. In the asthma and COPD trials, patients with respiratory symptoms or FEV1 decrease of  $\geq 20\%$  were administered rescue treatment with albuterol (metered dose inhaler or nebulizer) as required. These patients were not eligible for a second dose; however, they had continued FEV1 monitoring in the trial.

**Healthy Volunteers:** In the healthy volunteer crossover trial, 30 subjects received 2 doses of either ADASUVE or placebo 8 hours apart, and 2 doses of the alternate treatment at least 4 days later. The results for maximum decrease in FEV1 are presented in Table 2. No subjects in this trial developed airway related adverse reactions (cough, wheezing, chest tightness, or dyspnea).

**Asthma Patients:** In the asthma trial, 52 patients with mild-moderate persistent asthma (with FEV1  $\geq 60\%$  of predicted) were randomized to treatment with 2 doses of ADASUVE 10 mg or placebo. The second dose was to be administered 10 hours after the first dose. Approximately 67% of these patients had a baseline FEV1  $\geq 80\%$  of predicted. The remaining patients had an FEV1 60-80% of predicted. Nine patients (17%) were former smokers. As shown in Table 2 and Figure 7, there was a marked decrease in FEV1 immediately following the first dose (maximum mean decreases in FEV1 and % predicted FEV1 were 303 mL and 9.1%, respectively). Furthermore, the effect on FEV1 was greater following the second dose (maximum mean decreases in FEV1 and % predicted FEV1 were 537 mL and 14.7 %, respectively). Respiratory-related adverse reactions (bronchospasm, chest discomfort, cough, dyspnea, throat tightness, and wheezing) occurred in 54% of ADASUVE-treated patients and 12% of placebo-treated patients. There were no serious adverse events. Nine of 26 (35%) patients in the ADASUVE group, compared to one of 26 (4%) in the placebo group, did not receive a second dose of study medication, because they had a  $\geq 20\%$  decrease in FEV1 or they developed respiratory symptoms after the first dose. Rescue medication (albuterol via metered dose inhaler or nebulizer) was administered to 54% of patients in the ADASUVE group [7 patients (27%) after the first dose and 7 of the remaining 17 patients (41%) after the second dose] and 12% in the placebo group (1 patient after the first dose and 2 patients after the second dose).

**COPD Patients:** In the COPD trial, 53 patients with mild to severe COPD (with FEV1  $\geq 40\%$  of predicted) were randomized to treatment with 2 doses of ADASUVE 10 mg or placebo. The second dose was to be administered 10 hours after the first dose. Approximately 57% of these patients had moderate COPD [Global Initiative for Chronic Obstructive Lung Disease (GOLD) Stage II]; 32% had severe disease (GOLD Stage III); and 11% had mild disease (GOLD Stage I). As illustrated in Table 2 there was a decrease in FEV1 soon after the first dose (maximum mean decreases in FEV1 and % predicted FEV1 were 96 mL and 3.5%, respectively), and the effect on FEV1 was greater following the second dose (maximum mean decreases in FEV1 and % predicted FEV1 were 125 mL and 4.5%, respectively). Respiratory adverse reactions occurred more frequently in the ADASUVE group (19%) than in the placebo group (11%). There were no serious adverse events. Seven of 25 (28%) patients in the ADASUVE group and 1 of 27 (4%) in the placebo group did not receive a second dose of study medication because of a  $\geq 20\%$  decrease in FEV1 or the development of respiratory symptoms after the first dose. Rescue medication (albuterol via MDI or

THE KATZ TOP 10 FOR JOB AVAILABILITY 2014–2015	
STATES	CITIES
1. Texas	1. Houston
2. Florida	2. Chicago
3. Ohio	3. New York
4. California	4. Dallas/Ft. Worth
5. Pennsylvania	5. Washington, D.C.
6. New York	6. Pittsburgh
7. Illinois	7. St. Louis
8. Tennessee	8. Philadelphia
9. North Carolina	9. Miami
10. Kentucky	10. Baltimore

THE KATZ 10 WORST FOR JOB AVAILABILITY 2014–2015	
STATES	CITIES
1. Utah	1. Raleigh/Durham
2. Vermont	2. Seattle
3. South Dakota	3. Milwaukee
4. Montana	4. Madison, Wisconsin
5. Idaho	5. Charleston
6. Hawaii	6. Salt Lake City
7. Rhode Island	7. New Orleans
8. Delaware	8. Denver
9. Alaska	9. Minneapolis/St. Paul
10. Nebraska	10. Indianapolis

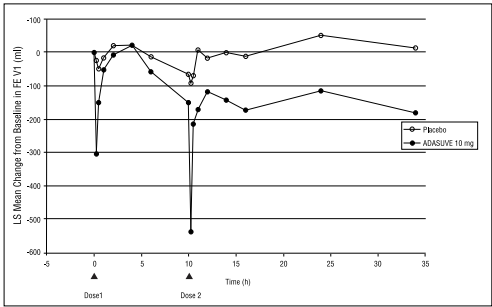
nebulizer) was administered to 23% of patients in the ADASUVE group: 8% of patients after the first dose and 21% of patients after the second dose, and to 15% of patients in the placebo group.

Table 2: Maximum Decrease in FEV1 from Baseline in the Healthy Volunteer, Asthma, and COPD Trials

	Healthy Volunteer		Asthma		COPD	
	Maximum % FEV ↓	Placebo n (%)	Placebo n (%)	Placebo n (%)	Placebo n (%)	Placebo n (%)
After any Dose		N=26	N=26	N=26	N=27	N=25
≥10	7 (27)	7 (27)	3 (12)	22 (85)	18 (67)	20 (80)
≥15	1 (4)	5 (19)	1 (4)	16 (62)	9 (33)	14 (56)
≥20	0	1 (4)	1 (4)	11 (42)	3 (11)	10 (40)
After Dose 1		N=26	N=26	N=26	N=27	N=25
≥10	4 (15)	5 (19)	2 (8)	16 (62)	8 (30)	16 (64)
≥15	1 (4)	2 (8)	1 (4)	8 (31)	4 (15)	10 (40)
≥20	0	0	1 (4)	6 (23)	2 (7)	9 (36)
After Dose 2		N=26	N=25	N=17	N=26	N=19
≥10	5 (19)	6 (24)	3 (12)	12 (71)	15 (58)	12 (63)
≥15	0	5 (20)	1 (4)	9 (53)	6 (23)	10 (53)
≥20	0	1 (4)	1 (4)	5 (30)	1 (4)	5 (26)

FEV1 categories are cumulative; i.e. a subject with a maximum decrease of 21% is included in all 3 categories. Patients with a ≥ 20% decrease in FEV1 did not receive a second dose of study drug.

Figure 7: LS Mean Change from Baseline in FEV1 in Patients with Asthma



Patients with a ≥ 20% decrease in FEV1 did not receive a second dose of study drug and are not included in the curves beyond hour 10.

**Extrapyramidal Symptoms (EPS):** Extrapyramidal reactions have occurred during the administration of oral loxapine. In most patients, these reactions involved parkinsonian symptoms such as tremor, rigidity, and masked facies. Akathisia (motor restlessness) has also occurred.

In the 3 short-term (24-hour), placebo-controlled trials of ADASUVE in 259 patients with agitation associated with schizophrenia or bipolar disorder, extrapyramidal reactions occurred. One patient (0.4%) treated with ADASUVE developed neck dystonia and oculogyration. The incidence of akathisia was 0% and 0.4% in the placebo and ADASUVE groups, respectively.

**Dystonia (Antipsychotic Class Effect):** Symptoms of dystonia, prolonged abnormal contractions of muscle groups, may occur in susceptible individuals during treatment with ADASUVE. Dystonic symptoms include spasm of the neck muscles, sometimes progressing to tightness of the throat, difficulty swallowing or breathing, and/or protrusion of the tongue. Acute dystonia tends to be dose-related, but can occur at low doses, and occurs more frequently with first generation antipsychotic drugs such as ADASUVE. The risk is greater in males and younger age groups.

**Cardiovascular Reactions:** Tachycardia, hypotension, hypertension, orthostatic hypotension, lightheadedness, and syncope have been reported with oral administration of loxapine.

7 DRUG INTERACTIONS

7.1 CNS Depressants

ADASUVE is a central nervous system (CNS) depressant. The concurrent use of ADASUVE with other CNS depressants (e.g., alcohol, opioid analgesics, benzodiazepines, tricyclic antidepressants, general anesthetics, phenothiazines, sedative/hypnotics, muscle relaxants, and/or illicit CNS depressants) can increase the risk of respiratory depression, hypotension, profound sedation, and syncope. Therefore, consider reducing the dose of CNS depressants if used concomitantly with ADASUVE.

7.2 Anticholinergic Drugs

ADASUVE has anticholinergic activity. The concomitant use of ADASUVE and other anticholinergic drugs can increase the risk of anticholinergic adverse reactions including exacerbation of glaucoma and urinary retention.

8 USE IN SPECIFIC POPULATIONS

In general, no dose adjustment for ADASUVE is required on the basis of a patient's age, gender, race, smoking status, hepatic function, or renal function.

8.1 Pregnancy  
Pregnancy Category C  
Risk Summary

There are no adequate and well-controlled studies of ADASUVE use in pregnant women. Neonates exposed to antipsychotic drugs during the third trimester of pregnancy are at risk for extrapyramidal and/or withdrawal symptoms following delivery. Loxapine, the active ingredient in ADASUVE, has demonstrated increased embryofetal toxicity and death in rat fetuses and offspring exposed to doses approximately 0.5-fold the maximum recommended human dose (MRHD) on a mg/m<sup>2</sup> basis. ADASUVE should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Human Data

Neonates exposed to antipsychotic drugs during the third trimester of pregnancy are at risk for extrapyramidal and/or withdrawal symptoms following delivery. There have been reports of agitation, hypertonia, hypotonia, tremor, somnolence, respiratory distress, and feeding disorders in these neonates. These complications have varied in severity; in some cases symptoms have been self-limited, but in other cases neonates have required intensive care unit support and prolonged hospitalization.

Animal Data

In rats, embryofetal toxicity (increased fetal resorptions, reduced weights, and hydronephrosis with hydroureter) was observed following oral administration of loxapine during the period of organogenesis at a dose of 1 mg/kg/day. This dose is equivalent to the MRHD of 10 mg/day on a mg/m<sup>2</sup> basis. In addition, fetal toxicity (increased prenatal death, decreased postnatal survival, reduced fetal weights, delayed ossification, and/or distended renal pelvis with reduced or absent papillae) was observed following oral administration of loxapine from mid-pregnancy through weaning at doses of 0.6 mg/kg and higher. This dose is approximately half the MRHD of 10 mg/day on a mg/m<sup>2</sup> basis.

No teratogenicity was observed following oral administration of loxapine during the period of organogenesis in the rat, rabbit, or dog at doses up to 12, 60, and 10 mg/kg, respectively. These doses are approximately 12-, 120-, and 32-fold the MRHD of 10 mg/day on a mg/m<sup>2</sup> basis, respectively.

8.3 Nursing Mothers

It is not known whether ADASUVE is present in human milk. Loxapine and its metabolites are present in the milk of lactating dogs. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from ADASUVE, a decision should be made whether to discontinue nursing or discontinue ADASUVE, taking into account the importance of the drug to the mother.

8.4 Pediatric Use

The safety and effectiveness of ADASUVE in pediatric patients have not been established.

8.5 Geriatric Use

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death [see Boxed Warning and Warnings and Precautions (5.3)]. ADASUVE is not approved for the treatment of dementia-related psychosis. Placebo-controlled studies of ADASUVE in patients with agitation associated with schizophrenia or bipolar disorder did not include patients over 65 years of age.

10 OVERDOSAGE

Signs and Symptoms of Overdosage

As would be expected from the pharmacologic actions of loxapine, the clinical findings may include CNS depression, unconsciousness, profound hypotension, respiratory depression, extrapyramidal symptoms, and seizure.

Management of Overdosage

For the most up to date information on the management of ADASUVE overdose, contact a certified poison control center (1-800-222-1222 or www.poison.org). Provide supportive care including close medical supervision and monitoring. Treatment should consist of general measures employed in the management of overdose with any drug. Consider the possibility of multiple drug overdose. Ensure an adequate airway, oxygenation, and ventilation. Monitor cardiac rhythm and vital signs. Use supportive and symptomatic measures.

Manufactured by: Alexza Pharmaceuticals, Inc., Mountain View, CA 94043  
Manufactured for: Teva Select Brands, Horsham, PA 19044, Division of Teva Pharmaceuticals USA, Inc.

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of jobs in rural areas and those at low-volume EDs (under 15,000), the rate goes down to 17.5 percent primary care board certification. While some physicians believe it is the contract management groups, which comprise 52 percent of the job market, that are keeping this trend alive, it is, in fact, the hospitals they serve. I spoke with Marcie Baker, an emergency physician recruiter with ApolloMD, and she assured me that the decision to accept primary care board certification from candidates lies solely in the hands of hospital clients and is often based on their bylaws. Most of these groups understand that until there are enough residency-trained and board-certified emergency physicians to go around in rural and less geographically desirable areas, they must remain flexible to fill their needs. One of the bigger players, TeamHealth, is providing a wide variety of clinical education, as well as leadership development and training programs to optimize the effectiveness of their physicians, according to Susan Master-

The rate of EM jobs open to non-EM-trained physicians is definitely trending down.

son, TeamHealth's national vice president of provider recruitment. Dan Culhane, MD, vice president of CEP America emphasized that leadership training is also a focus for his company. It offers both leadership and medical director academies, an administrative fellowship, and a host of committees that create higher levels of inclusion for their physician partners. Another national group, EMP, focuses on offering its physicians "a rich, tax-free benefits plan to enhance retirement funding and financial preparedness as well as stability and control," said Ann Benson, EMP's vice president of recruiting. One thing is certain: there are not enough EM residency-trained physicians to fill the needs of the nation's EDs, particularly in rural and less-popular geographic areas. Until that situation changes, opportunities for primary care physicians will remain strong.

Next month we will look at compensation trends in the EM market. ☛

**BARB KATZ** is president of The Katz Company EMC, a member of ACEP's Workforce and Career Sections, and a frequent speaker and faculty at conferences and residency programs. She can be reached at katzco@cox.net.



## MEET THE CANDIDATES | CONTINUED FROM PAGE 1

### PRESIDENT-ELECT

The following Board members are candidates for the office of President-Elect.

#### Jay Kaplan, MD, FACEP (California)

##### Current Professional Position:

Director of Service and Operational Excellence, CEP America; Attending Physician, Department of Emergency Medicine, Marin General Hospital; Medical Director, Studer Group



##### Internships and Residency:

Family Medicine Residency, University of California, Davis, Sacramento Medical Center, 1975-1978; Teaching

Fellowship, University of California, Davis, Sacramento Medical Center (1978-1979)

**Medical Degree:** MD, Harvard Medical School (1975)

**Years Elected to the Board:** 2009, 2012

#### Rebecca B. Parker, MD, FACEP (Illinois)

##### Current Professional Position:

Attending emergency physician, Centegra Health System, McHenry and Woodstock, Illinois and Presence Covenant Medical Center, Urbana, Illinois. Vice President, EmCare North Division. President,



Team Parker LLC, Consulting Group Coding, Billing, and Compliance, Clinical Assistant Professor, Texas Tech El Paso Department of Emergency Medicine

**Internships and Residency:** Texas Tech University Health Sciences Center at El Paso (1998)

**Medical Degree:** MD, Northwestern University (1995-1998)

**Years Elected to the Board:** 2009, 2012

#### Robert O'Connor, MD, MPH, FACEP (Virginia)

##### Current Professional Position:

Professor, Chair, Physician-in-Chief, Department of Emergency Medicine, University of Virginia Health System, Charlottesville, Virginia; Emergency Physician, Culpeper Regional Hospital, Culpeper, Virginia



##### Internships and Residency:

Emergency Medicine Residency,

Medical Center of Delaware (1982-1985)

**Medical Degree:** MD, Medical College of Pennsylvania (1982)

**Years Elected to Board:** 2010, 2013

### BOARD OF DIRECTORS

ACEP's Board of Directors provides day-to-day management and direction of the College. The ACEP Board Nominating Committee nominates members to three-year terms.

#### Stephen Anderson, MD, FACEP (Washington)

**Current Professional Position:** Emergency Attending, MultiCare, Auburn Medical Center, MAMC Director of Emergency Medicine Student and Resident Rotations,



ATSU; Chair and Director of Stroke Services at South King County MultiCare Health Foundation

##### Internships and Residency:

General Surgical Internship/Residency, University

of Michigan (1981-1983), University of Washington (1984-1986); Chief Resident, University of Michigan Emergency Department (1983-1984)

**Medical Degree:** MD, University of Michigan (1981)

CONTINUED on page 10

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**Jon Mark Hirshon, MD, PhD, MPH, FACEP (Maryland)**

**Current Professional Position:**

Associate Professor, Departments of Emergency Medicine and of Epidemiology and Public Health, University of Maryland School of



Medicine; Attending Physician at the University of Maryland Medical Center and Baltimore VA Medical Center; Senior Vice Chair,

University of Maryland Baltimore Institutional Review Board

**Internships and Residency:**

Emergency Medicine Residency, Johns Hopkins Hospital, Johns Hopkins University (1990–1993); Preventive Medicine Residency, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University (1994–1995)

**Medical Degree:** MD, University of Southern California Keck School of Medicine (1990)

**Hans House, MD, FACEP (Iowa)**

**Current Professional Position:**

Professor of Emergency Medicine and Vice Chair for Education, University of



Iowa; former Residency Program Director, University of Iowa Emergency Medicine Residency

**Internships**

**and Residency:** Emergency Medicine/Internal Medicine Residency, Olive View-UCLA Residency Program

**Medical Degree:** MD, University of Southern California Keck School of Medicine (1997)

**Year Elected to Board:** 2011 (incumbent)

**Mark Mackey, MD, MBA, FACEP (Illinois)**

**Current Professional Position:**

Vice Chairman, Clinical Affairs, Department of Emergency Medicine, University of Illinois Hospital and Health Sciences



System, Chicago, Illinois.

**Internships and Residency:**

Pediatric Internship, Children's Hospital of Wisconsin, Milwaukee; Emergency Medicine Residency, University of Florida, Jacksonville

**Medical Degree:** MD, Creighton (1991)

**Year Elected to Board:** 2011 (incumbent)

**John Rogers, MD, CPE, FACEP (Georgia)**

**Current Professional Position:**

Co-ED Medical Director, President of the Medical Staff, and



Emergency Physician at Coliseum Northside Hospital, Macon, Georgia; Co-ED Medical Director and

Emergency Physician, Coliseum Medical Center, Macon, Georgia; Board of Trustees of Coliseum Health System

**Internships and Residency:** Surgery, Medical Center of Central Georgia, Macon (1983)

**Medical Degree:** MD, University of Iowa College of Medicine (1978)

**Year Elected to Board:** 2011 (incumbent)

**Mark Rosenberg, DO, MBA, FACEP, FACOEP-D (New Jersey)**

**Current Professional Position:**

Chairman, Department of Emergency Medicine; Chief, Geriatric Emergency



Medicine, and Chief, Palliative Medicine at St Joseph's Healthcare System, Paterson, New Jersey; Associate Professor, Emergency

Medicine, at the University of New England, Biddeford, Maine; Assistant Professor of Clinical Emergency Medicine, New York Medical College, Valhalla, New York

**Internships and Residency:**

Emergency Medicine, Metropolitan Hospital, Philadelphia, Pennsylvania (1978–1980)

**Medical Degree:** DO, Philadelphia College of Osteopathic Medicine (1978) ☺

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2014 COUNCIL RESOLUTIONS

RESOLUTION NAME	SUBMITTED BY	PREVIOUSLY DISCUSSED BY THE COUNCIL	NOTES
Commendation for Marilyn Bromley, RN	Emergency Ultrasound Section	No	
Commendation for W. Calvin Chaney, JD, CAE	Washington Chapter	No	
Commendation for Andrew E. Sama, MD, FACEP	New York Chapter	No	
In Memory of Ben C. Corballis, MD, FACEP	Delaware Chapter	No	
In Memory of Noelle A. Rotondo, DO, FACEP	Pennsylvania Chapter	No	
Election Procedures	Council Steering Committee	Yes	Council Standing Rules Amendment
Fellow Status–Housekeeping Changes	Bylaws Committee, Board of Directors	Yes	Bylaws Amendment
Fellow Status Continued vs. Continuous Membership	Mark DeBard, MD, FACEP; Todd Taylor, MD, FACEP	No	Bylaws Amendment
Membership Classification Restructure	Membership Restructuring Task Force, Board of Directors	No	Bylaws Amendment
Subspecialty Certification & ACEP Fellow Status	Board of Directors	Yes	Bylaws Amendment
Eligibility Criteria for Fellow Emeritus	Bylaws Committee, Board of Directors	Yes	College Manual Amendment
Affiliate Membership Feasibility Study	Michael Bishop, MD, FACEP; Frederick Blum, MD, FACEP; Brooks Bock, MD, FACEP; Gregory Henry, MD, FACEP; Nicholas Jouriles, MD, FACEP; Richard Stennes, MD, FACEP	Yes	Affiliate or Associate membership resolutions not adopted in 2008, 2007, 2005, 2002, 2000,1998, 1995, 1993, 1992, 1991, 1989, 1981, 1979, and 1977. ACEP previously had an affiliate membership category that was eliminated in 1975.
Candidate Members in Fellowship Training	Emergency Medicine Residents’ Association	Yes	Amended resolution adopted in 2013.
Medical Student Voice in ACEP Council	Texas College of Emergency Physicians	No	Medical students are not currently eligible
National and Chapter Dues Waived First Six Months of Practice	Texas College of Emergency Physicians	No	Graduated residents currently pay reduced dues for the first three years of practice.
Communication Rules for Fair and Open Dialogue	Howard Mell, MD, FACEP; Anand Swaminathan, MD, FACEP; Liam Yore, MD, FACEP	No	Pertains to ACEP’s Candidate Campaign Rules.
Freedom of Speech	Larry Bedard, MD, FACEP; Jerome Hoffman, MD, FACEP	No	Pertains to ACEP’s Candidate Campaign Rules.
Advocacy for Professional Licensure of EMS Providers	EMS-Prehospital Care Section Howard Mell, MD, FACEP; Harry Sibold, MD, FACEP	No	
Assistant Physician Designation	Kerry Forrestal, MD; Erika Powell, MD, FACEP	No	
Cannabis Recommendations by Emergency Physicians	Larry Bedard, MD, FACEP; Joseph Fastow, MD, FACEP; Dan Morhaim, MD, FACEP	Yes	Resolutions pertaining to marijuana not adopted in 2009, 2010, 2011, and 2013.
ED Information System Safety Issue Recognition and Management	Emergency Medicine Informatics Section	Yes	Similar amended resolution adopted in 2013.
ED Mental Health Information Exchange	Washington Chapter, CAL/ACEP (California Chapter)	Yes	Similar amended resolution adopted in 2013.
EMTALA-Related Liability Reform	New York Chapter	Yes	Multiple resolutions have been adopted pertaining to EMTALA and liability reform.
Establishment of a Registry for PQRS and VBM Programs for ACEP Members	Minnesota Chapter		
Examination of Stark Law Potential Implications	EMS-Prehospital Care Section	No	
Future Funding for ACEP Report Cards in the Emergency Care Environment	Maryland Chapter	No	
Human Trafficking	Florida College of Emergency Physicians	No	
Impact of High-Deductible Insurance Plans	Massachusetts College of Emergency Physicians	No	
National Decriminalization of Possession of Marijuana for Personal and Medical Use	Larry Bedard, MD, FACEP; Joseph Fastow, MD, FACEP; Dan Morhaim, MD, FACEP	Yes	Resolutions pertaining to marijuana not adopted in 2009, 2010, 2011, and 2013.
Parity in Reimbursement for Telemedicine Services	Iowa Chapter; Rural Emergency Medicine Section; Emergency Telemedicine Section	No	
Safe Citizen Day	New Jersey Chapter; James Pruden, MD, FACEP; Mark Rosenberg, DO, FACEP	No	
Sexual Assault Victims’ DNA Bill of Rights	Louise Andrew, MD, JD, FACEP; Larry Bedard MD, FACEP	No	
Single-Payer Health Insurance	Larry Bedard, MD, FACEP; Kathleen Cowling, DO, MS, FACEP James Mitchiner, MD, MPH, FACEP; Charles Pattavina, MD, FACEP Megan Ranney, MD, MPH, FACEP; Robert Solomon, MD, FACEP Nicholas Vasquez, MD, FACEP; Bradford Walters, MD, FACEP	Yes	Similar resolutions not adopted in 2012, 2011, and 2009. Similar resolutions referred to the Board of Directors in 2007 and 2005.
Anonymous Expert Physician Testimony for a State Medical Licensing Board	Texas College of Emergency Physicians	No	Several resolutions on expert testimony adopted previously, but none related to anonymous testimony.
Bariatric Emergency Department Guidelines	Maryland Chapter	No	
Clinical and Academic Equivalence Among Pediatric Emergency Physicians	Dual Training Section	No	
CME for Nurse Practitioners and Physician Assistants	Nicholas Jouriles, MD, FACEP; Sandra Schneider, MD, FACEP	No	
Development of Telemedicine Policy for EM	Emergency Telemedicine Section	No	
EDs as Primary Sites for Organ Donation Registration	Pennsylvania Chapter	No	
Geriatric Emergency Department Accreditation	Mark Rosenberg, MD, FACEP; Geriatric Emergency Medicine Section	No	
Naloxone Prescriptions by Emergency Physicians	Larry Bedard, MD, FACEP; Richard Bukata, MD, FACEP Jerome Hoffman, MD, FACEP; Kathryn Hawk, MD; Megan Ranney, MD, MPH, FACEP; Lauren Whiteside, MD; Trauma & Injury Prevention Section	Yes	Similar resolution not adopted in 2013.
Pain Management in the Emergency Department	New Jersey Chapter	Yes	Multiple resolutions have been adopted regarding pain management.
Pedestrian Injuries Are Preventable	New York Chapter	No	
Reverse an Overdose, Save a Life	Larry Bedard, MD, FACEP; Richard Bukata, MD, FACEP Jerome Hoffman, MD, FACEP; Kathryn Hawk, MD; Megan Ranney, MD, MPH, FACEP; Lauren Whiteside, MD; Trauma & Injury Prevention Section	Yes	Similar resolution not adopted in 2013.
State Medical Licensing Board Anonymous Complaint	Texas College of Emergency Physicians	No	Several resolutions on expert testimony adopted previously, but none related to anonymous testimony.
Support for Clinical Pharmacists as Part of the Emergency Medicine Team	New York Chapter	No	
Trauma Center Certification Task Force	CAL/ACEP (California Chapter)	No	
Triage Screening Questions	Pennsylvania Chapter	No	

# The Triple Aim for Emergency Medicine

Shifting markets, benchmarking, and payment concerns are key concerns for EM today

BY JOHN G. HOLSTEIN



Donald Berwick, MD, first coined the term “Triple Aim” for the goals of the emerging health care world.<sup>1</sup> Emergency medicine has clinical ABCs as cornerstones of the specialty. Today, as the new health care world emerges, there are significant challenges and opportunities that will redefine the meaning of EM’s practice management ABCs; a new “EM Triple Aim” is at hand.

The first significant impetus to change was the Centers for Medicare & Medicaid Services (CMS) announcement making provider payment data available to the public.<sup>2</sup> This change now provides critical information to everyone on how physicians have been paid by Medicare. In the context of other changes, this initial move by CMS will likely stand as an industry cornerstone/landmark change as it will have an impact throughout the provider community.

The second industry move of importance for physicians was the recent announcement by Aetna, Humana, and UnitedHealthcare of virtually the same change, namely the release of their payment data to the public.<sup>3</sup>

Along these same lines, it is important to recognize a very important article by Bob Herman, in which he potentially links the first two and begins exploring the potential for Medicare to become the health care industry’s sole payer.<sup>4</sup> Although the article itself addresses hospital finances, it is prudent to take note of it. This may not be as far-fetched as one might think. Emergency physicians need to be armed with the facts and prepared to aggressively deal with several related changes and industry maneuverings that could potentially have a dramatic impact on the finances and even the survival of individual EM practices (see sidebar).

What might these changes mean for EM? These are major structural changes and shifts in the macroeconomic and demographic landscape that could have significant impact EM practices. The big-picture issues involve hospitals maneuvering to engage the insurance industry. Medicaid expansion certainly offers the potential for EM reimbursement to increase at least slightly, but it will be dependent on the actual levels of reimbursement. The explosion of the urgent care industry coupled with the retailization of health care definitely have the potential to significantly change the acuity mix of EM practices.

Simultaneous, with these changes, we are living in an emerging health care world of physician engagement, alignment, and integration, with the hospital C-suite expecting the physician community to “get on board” with these changes that are beginning to significantly impact hospital finances. A hallmark

of EM is its central role in triggering hospital admissions, with the emergency department accounting for at least 68 percent of hospital admissions.<sup>5</sup> This landscape is, however, changing as hospitals move toward providing more care in outpatient settings. As the latter occurs, it can have a devastating financial impact on hospital finances, especially if hospital admissions substantially decline, which has been seen recently in suburban Philadelphia.<sup>6</sup> The central role of EM in the hospital admission issue remains paramount.

The insurance industry poses a very significant challenge that necessitates constant vigilance of critical indices of EM practices, resulting in a new “EM Triple Aim.” The announcement by Aetna, Humana, and UnitedHealthcare of the publication of reimbursement data represents a watershed moment in payer-provider relations. This is a calculated move requiring constant monitoring and may very well be followed by similar moves by other payers. Why the monitoring vigilance? It is important to remember that over the past 20 years virtually every payer has gone through a class-action settlement for inappropriate denials and/or payments to physician practices. The result of these settlements has been the payout to physicians of millions of dollars. These payments came, of course, years after the services were pro-

vided. Now, we fast-forward to today, with three major payers mirroring the Medicare announcement. EM physicians, take note—these maneuvers change the contracting landscape significantly. The new “EM Triple Aim” will be:

**A**cuity mix of the EM practices monitoring.

**B**aseline/benchmark contractual payment tracking and monitoring.

**C**laims denials monitoring and resultant appeal processing.

The necessity of monitoring practice acuities is warranted by the macro industry shifts noted above. The urgent care boom will certainly drain some of the lower acuity mix patients from the ED. However, until the primary care network is capable of handling the newly insured, the ED remains the option of choice for these patients. As the former change (the urgent care boom) erodes the lower ED acuities, the overall practice acuities stand to increase. The combination of these patient acuity changes and the coincidental demographic changes absolutely mandates these practice indices be watched constantly because they can have significant impacts on the financial standing of EM practices.

Baseline/benchmark contractual payments likewise require vigilance to first ensure the accuracy of the payments. It will additionally be prudent to fortify and substantiate the quality and value metrics indigenous to every EM practice when engaging any payer in a contract negotiation or renegotiation. The payer-industry tactic of mirroring moves by Medicare needs to be recognized as a forerunner for payers to potentially try “negotiating rates down” for EM practices. It is incumbent on every EM practice to be prepared for this

## Changes to the Health Care Industry That Could Impact Emergency Medicine

- 1. Hospitals moving into the insurance business.**
  - Most recent major move is Ascension Health.<sup>9</sup>
- 2. The explosion of the urgent care industry.**
- 3. Patients being able to self-direct portions of their care (eg, lab studies).<sup>10</sup>**
- 4. Patients being able to negotiate with providers ahead of treatment.**
  - The health care version of Priceline.com.<sup>11</sup>
- 5. Medicaid expansion for the uninsured.**
- 6. Increase in high-deductible insurance plans.**
- 7. The overall trend toward the retailization of health care.**
  - Major health systems contracting with pharmacy retailers.<sup>12</sup>
  - Insurers seeing no other option.<sup>13</sup>



possibility and to be ready with both a strong data and quality/value position when engaging payers. EM simply cannot survive as we know it at Medicare reimbursement rates. It is imperative we be fully armed with strong data metrics coupled with a quality/value proposition when engaging payers.

Regarding payments, there is a new special case today for EM. The ever-increasing incidence of the new self-pay patient, engendered by the increasing incidence of high-deductible insurance patients, requires new patient follow-up techniques and protocols. As a first step, the quality of patient ED registration data and information becomes critical. The self-pay patient has always been a nemesis for EM practices, and we now have a new category of these patients. This impacts cash flow and the overall financial strength of EM practices. Payments by these patients need constant monitoring and new and creative follow-up protocols.

The issue of claims denials and appeals is important even along with a move toward partnering with payers, which in some instances can be part of hospital plans regarding physician integration. It is one thing to consider closer relationships with payers, but it is also imperative to be fully knowledgeable of the insurance industry's historical track record, both before and after the numerous class-action settlements. The Medicare program today, its payments and denials, neces-

## The insurance industry poses a challenge that necessitates constant vigilance of critical indices of EM practices.

sitates strong management and monitoring as evidenced in the recent lawsuit filed by several hospitals against the Department of Health and Human Services, with millions of dollars remaining outstanding due to substantial appeal backlogs.<sup>7</sup> Today's denials processing for hospitals and physician groups requires aggressive revenue-cycle tracking and follow-up protocols coupled with technological tools that can wrap and send all appeals and required supporting documentation quickly and expeditiously to payers. The market is changing on a daily basis, and it is imperative for EM practices to rethink, retool, and aggressively monitor these practice indices along with all other standard indices to ensure the financial health and strength of the specialty. The most recent alarm is sounded by *Medscape Medical News* journalist Robert Lowes, who notes that the Affordable Care Act rollout involving exchanges is causing significant accounts-receivable issues, which is again a warning for EM practices.<sup>8</sup>

EM has its own "Triple Aim" and a new practice-management ABC protocol. Acuties, baseline/benchmark payments, and appeals/denials analysis require strong management, constant monitoring, and sophisticated tools to ensure the financial strength and longevity of EM practices. As the landscape continues to

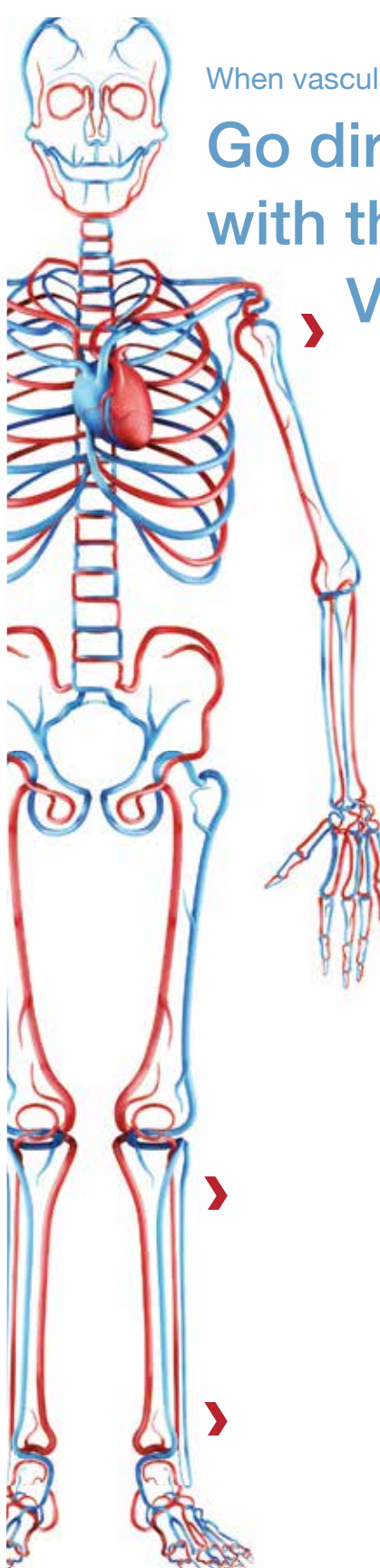
substantially change, EM practices must adjust to meet these challenges. It is an opportunity to emerge as strong financial leaders in this new world. ☼

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**MR. HOLSTEIN** is director of business development for Zotec Partners in Bala Cynwyd, Pennsylvania.



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**References:** 1. Rogers JJ, Fox M, Miller LJ, Philbeck TE. Safety of intraosseous vascular access in the 21st century [WoCoVA abstract O-079]. *J Vasc Access*. 2012;13(2): 1A-40A. 2. Paxton JH, Knuth TE, Klausner HA. Proximal humerus intraosseous infusion: a preferred emergency venous access. *J Trauma*. 2009;67(3):1-7. 3. Cooper BR, Mahoney PF, Hodgetts TJ, Mellor A. Intra-osseous access (EZ-IO®) for resuscitation: UK military combat experience. *J R Army Med Corps*. 2007; 153(4):314-316. 4. Dolister M, Miller S, Borron S, et al. Intraosseous vascular access is safe, effective and costs less than central venous catheters for patients in the hospital setting [published online ahead of print January 3, 2013]. *J Vasc Access*. doi:10.5301/jva.5000130.

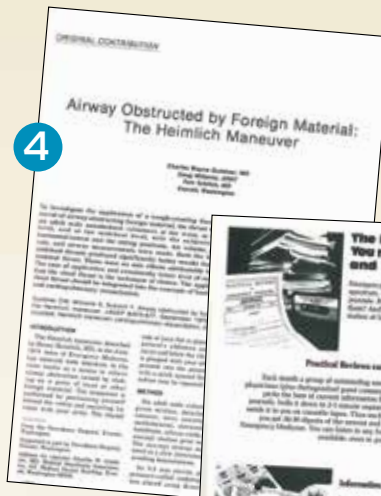
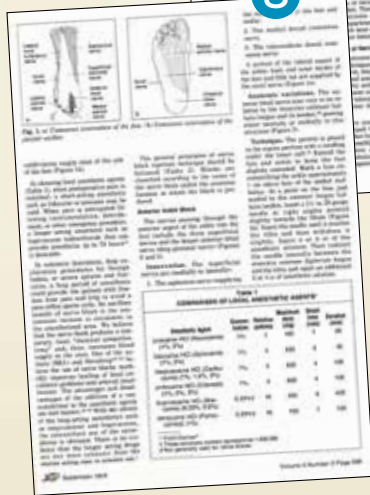
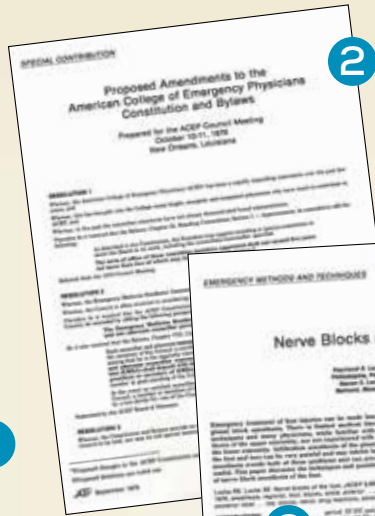
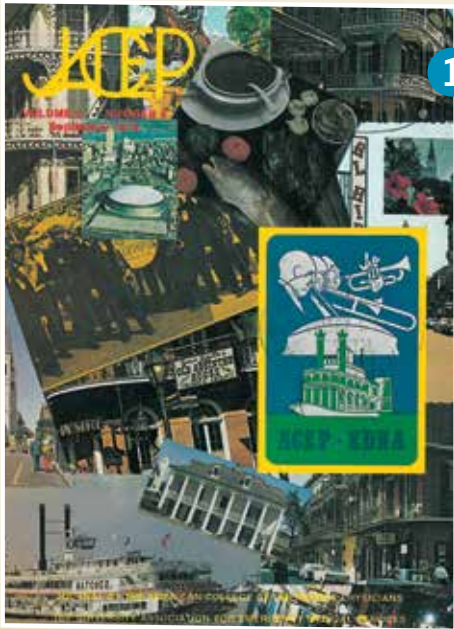
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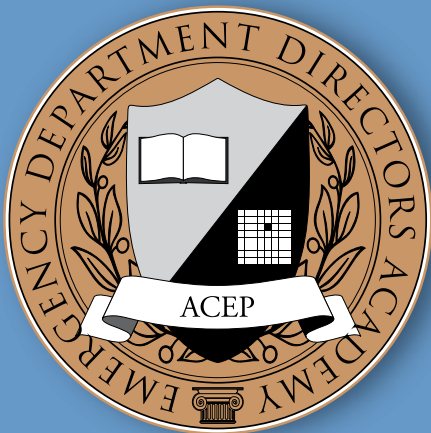


**SOME THINGS CHANGE, SOME STAY THE SAME**  
Emergency physicians in 1976 were gearing up for the ACEP annual meeting, too, although the cutting edge of knowledge and education was a little different back then.



1. Preparing for ACEP Scientific Assembly in New Orleans, October 1976.
2. Council Resolutions from 1976: EMRA gains its Councillor.
3. Nerve Blocks of the Foot: Outstanding! Why are they not mainstream practice in 2014?!
4. Heimlich Maneuver first described in 1974: Somewhat validated with interesting methodology in 1976.
5. Practical Reviews in EM? Great source of Education! Put the 3x5 card with the abstract into your file drawer at home and listen to the tapes in your car, while rocking a fancy pair of double knit pants!

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# Beware of Button Batteries!

Small and easy to swallow, these increasingly common devices can spell trouble if ingested

BY SEAN M. FOX, MD

Kids love to put odd objects in their mouths (and ears and nostrils and other interesting places), which can cause significant problems and lead to emergencies. Object location (eg, airway) and the object itself may also cause problems and severe tissue destruction. Button batteries are unique objects that warrant special concern and respect. While a button battery in the nostril can cause problems, button battery ingestion can be a more devastating problem.

## Small Batteries, Big Problem

With the proliferation of small electronic devices, button batteries have become more prevalent, and the number of battery-related ED visits has increased significantly over the past 20 years. In 2009, about 6,000 children were seen in U.S. emergency departments for battery-related complaints; that's more than 16 visits per day.<sup>1</sup> Not surprisingly, cases involving children under four years of age, lithium batteries, and batteries more than 20 mm in diameter are more likely to result in poor outcomes.

## Presentation, Imaging, and Diagnosis

Button battery ingestion often presents similar to ingestion of other foreign bodies, with such symptoms as cough and gagging, drooling, dysphagia, labored breathing, or stridor. Patients may exhibit symptoms that are related to tissue damage, including vomiting, fever, irritability, or listlessness. In addition to obstruction/compression, batteries can cause chemical (especially alkaline) and electrical tissue damage; liquefaction ne-



crosis and other damage can occur in a little as two hours.<sup>2</sup>

Vigilance and care are needed in diagnosing button battery ingestion. Fully 54 percent of fatalities due to button battery ingestion were misdiagnosed; many had nonspecific presentations, or the batteries were diagnosed as a swallowed coin.<sup>3</sup> Fortunately, button batteries are radiopaque,

coin-like objects that are evident on most plan films. Viewed en face, a button battery will have a halo rim (a ring of radiolucency just inside the outer edge of the object). Viewed on edge, a button battery may have a central bulge or step off (this can be difficult to appreciate if seen obliquely or with the newer, thinner lithium batteries).

**A** 3-year-old male was well until he vomited bright-red blood and became unresponsive; EMS transported the patient to the hospital. He arrived in asystole cardiac arrest, with blood around his nose and mouth, and received continuous pediatric advanced life support. Despite this, he expired.

CASE  
1

At postmortem, a button battery was found impacted in the esophagus at the level of the transverse aorta. There was a fistula connecting the esophagus and aorta, with the esophagus packed with bright-red blood and with gastric content of large dark-colored blood clots. The small and large bowels were also found to be packed with dark-colored stool.

Case submitted by Eugene Varghese, MD, Rutgers New Jersey Medical School in Newark, and David Woodkotch, MD, chief resident of emergency medicine at Rutgers.

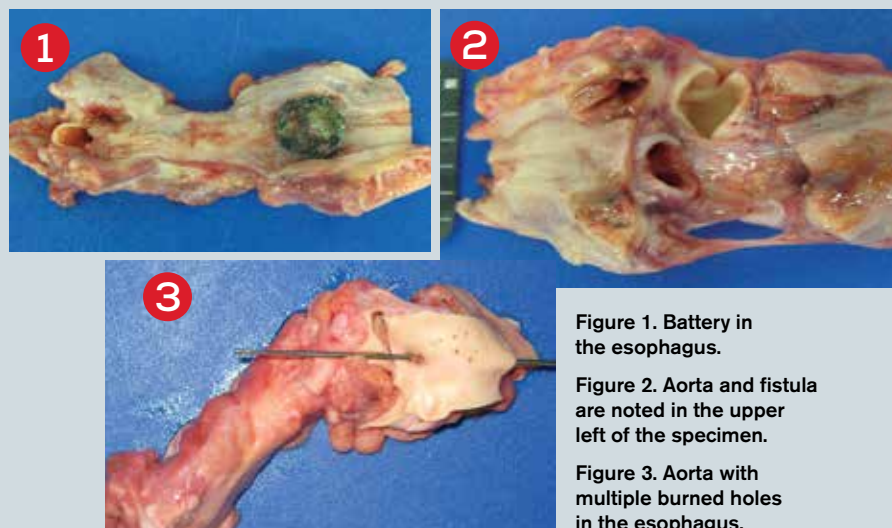


Figure 1. Battery in the esophagus.

Figure 2. Aorta and fistula are noted in the upper left of the specimen.

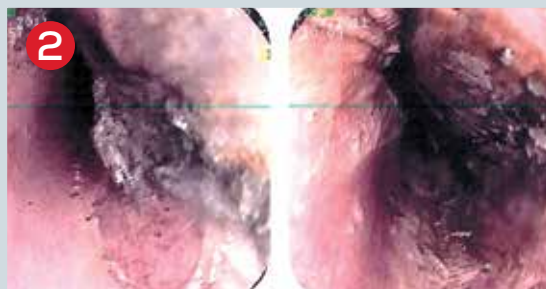
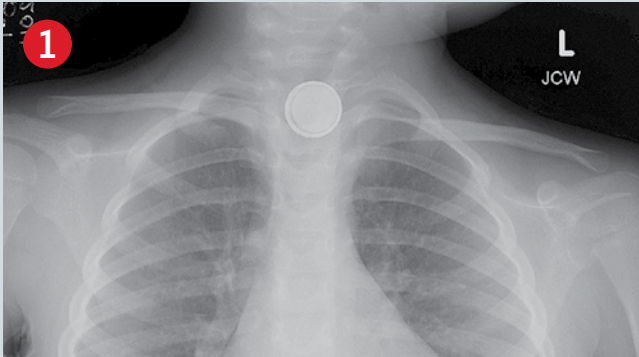
Figure 3. Aorta with multiple burned holes in the esophagus.

PHOTOS COURTESY OF ROGER MITCHELL, MD, NEW JERSEY OFFICE OF THE STATE MEDICAL EXAMINER.



## CASE 2

**A** 5-year-old female who was “playing around” with her grandma’s battery while hanging out in her grandma’s car ingested a button battery. She waited a few hours before telling anyone and was seen about six hours after ingestion. She complained of a sore throat and had no difficulty with secretions or breathing. Lateral and anteroposterior chest X-rays showed a battery lodged in her upper esophagus (see Figure 1).



the upper esophagus noted by the gastroenterologist (see Figure 2). She was initially placed on antibiotics by us and steroids by the gastroenterologist out of concern for possible perforation

Figure 1. Anteroposterior chest X-ray showing button battery lodged in upper esophagus.

Figure 2. Intraoperative photo of upper esophagus showing necrotic damage.

Figure 3. Button battery postretrieval.

and/or mediastinitis (which did not occur). Figure 3 shows the button battery after retrieval.

Case and photos submitted by Peter Chase, MD, PhD, assistant professor of pharmacy practice and science at The University of Arizona in Tucson.

We used propofol for endoscopy done by a pediatric gastroenterologist while in the ED. She was admitted by pediatrics after retrieval of the battery for concern of necrotic tissue in

### Management

Treat any button battery ingestion as an emergency—time is of the essence to minimize local tissue damage. Removal can be difficult, especially because local tissue damage can lead to friable structures that can be further damaged by instrumentation. A battery should be removed under direct visualization. A surgical team often needs to be called. A helpful algorithm is found on the National Capital Poison Center website, <http://www.poisson.org/battery/guideline.asp>.

In an asymptomatic patient, a battery in the stomach or beyond can be monitored and allowed to pass. Repeat radiographs are reasonable: repeat in four days for patients less than 6 years of age or for larger button batteries (more than 15 mm in diameter), and repeat in 10–14 days for older children or for a smaller battery. After that time, if the battery is still in the stomach, endoscopic removal is recommended. Note that strict anticipatory guidance and return precautions should be given, emphasizing the need for patients to be evaluated for any abdominal pain, fever, or vomiting.

Co-ingestion of a magnet with a button battery necessitates removal. After removal, some advocate for a delayed second-look endoscopy to ensure no damage has occurred. It is important to note that perforations and fistulas may develop up to 18 days after removal. Strictures can develop weeks and months after removal.

Even though button batteries represent a genuine hazard, emergency physicians alert to the signs and symptoms of button battery ingestion can effectively manage them and help their patients achieve good outcomes. ➔

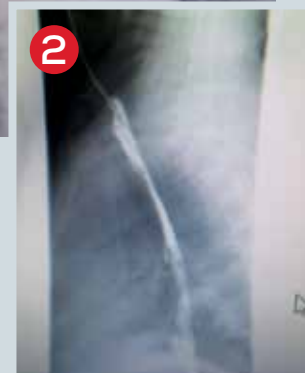
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**DR. FOX** is associate professor of adult and pediatric emergency medicine at Carolinas Medical Center in Charlotte, North Carolina.

## CASE 3

**A** 14-month-old male was seen at an outside hospital on a Saturday in late April for a choking episode. An X-ray (see Figure 1) was done, and physicians there thought the round metallic foreign body was a coin and asked the family to return in 24 hours. The patient was seen again on Sunday. Another chest X-ray (anteroposterior only) was done, and the esophageal coin was seen again. Because it had not moved, the patient was transferred to our hospital. On arrival, we looked at the X-ray and saw that the foreign body was clearly a battery.



Surgery was called, and the patient was taken to the operating room. An initial swallow study done the day after retrieval appeared normal. The patient did well but returned two weeks later with coughing and aspiration and had developed a tracheoesophageal fistula (see Figure 2). Visit [www.ACEPNow.com](http://www.ACEPNow.com) for a video of this case.

Figure 1. Anteroposterior X-ray showing button battery in upper esophagus.

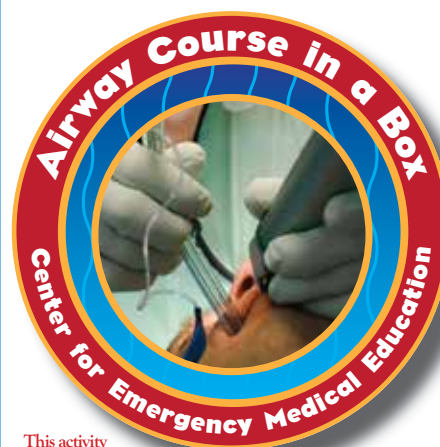
Figure 2. A tracheoesophageal fistula caused by button battery.

Case, photos, and video submitted by Cindy Nielsen, MD, The Children’s Hospital at OU Medical Center in Oklahoma City.

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# Warning to the “Experts”

A look at expert witness guidelines and tort reform

BY KEVIN M. KLAUER, DO, EJD, FACEP, AND JENNIFER L'HOMMEDIEU STANKUS, MD, JD

Where is tort reform headed? Caps, safe harbors—perhaps nowhere? The jury is out. Caps (financial limits) on noneconomic damages, review panels, and many other seemingly viable strategies have been implemented with mixed but overall disappointing results. Safe harbors, providing legislative protection for following decided-upon standards, are a far-reaching goal that has gained some traction in the past year. However, if you're waiting for a safe harbor, you'll run aground with respect to liability reform while waiting for its protection. Perhaps the most viable solution at our fingertips is adjusting the standard for negligence (ie, ordinary negligence to gross negligence) in medical liability tort claims. This is often confused with the “burden of proof” required to prove your position. The burden of proof for “ordinary negligence,” the current standard in medical malpractice cases, is defined as a “preponderance of evidence.” The other end of the spectrum is “beyond a reasonable doubt,” the standard for criminal cases. Somewhere in between is the “clear and convincing” standard in which plaintiffs would need to prove that it is substantially more likely than not that their allegation is true. Although this is beyond the scope of this article, several states have or are pursuing adjustments to the standards for the burden of proof.

## A Possible Solution?

Perhaps the most intriguing avenue, which is also related to burden of proof, is the duty standard. If you have a duty to act, what is the standard of care required to fulfill that duty? For ordinary negligence, the standard is one of reasonableness: what a reasonable provider with similar training would do in a similar situation. Doesn't it sound reasonable that much of what we do while practicing the art of medicine could be deemed reasonable? Yes, if someone else wasn't trying extra hard to prove exactly the opposite. Herein lies the problem—and the ray of hope with changing the duty standard, which appears to be one of the most viable solutions for tort reform currently available. If the duty standard were changed to a standard much further from normal practice, we could easily identify when negligence really has occurred. With the current reasonableness standard, variations in practice and patient outcomes are all too often deemed negligent. Despite the fact that we all try very hard to provide the highest quality of care possible, reasonable choices may result in unanticipated and even disastrous outcomes. Should a well-intentioned provider be subject to allegations of negligence under such circum-



stances? In our opinion, absolutely not. Using a gross negligence standard would require that the provider's actions are less reasonable than what would be required under an ordinary negligence standard, and it would identify cases in which little or no care at all is being taken to provide acceptable quality of care. Such a standard should result in identifying those cases in which the duty to the patient was clearly breached, avoiding labeling cases of medical nuance as negligent. Gross negligence is defined as reckless behavior or conscious disregard for the risk of one's actions, actions so unreasonable that a layperson without medical training could easily recognize the negligence with little or no need for expert witness testimony. In addition, when the allegation is more serious (eg, gross negligence), the burden of proof is often simultaneously increased. In most jurisdictions, the burden of proof for gross negligence requires clear and convincing evidence as opposed to just the preponderance of evidence, which is most common with the ordinary negligence standard.

Legislatively, these are hard-fought battles, and even when won, sometimes the new laws are overturned on appeal to state supreme courts by a tenacious plaintiff's bar. Forces undermining these new standards are even closer than we think. Our colleagues providing expert witness testimony for plaintiffs may knowingly or unknowingly undermine the use of increased negligence standards and the burden of proof. They are the expert witnesses who testify falsely, misleadingly, or in a biased way, propagating and fueling our litigious medical-legal environment. We have an obligation to identify those who are violating the ethical obligations of the expert witness and to ensure unbiased testimony in our courts for a more level playing field, guaranteeing the most appropriate legal outcomes.

## Case in Point

As an illustrative example, in 2010, Georgia passed a major tort reform measure. This measure requires a plaintiff to present “clear and convincing evidence” to prove gross negligence has occurred. The legislative initiative is applied to emergency medicine cases.

“[G]ross negligence is the absence of even slight diligence, and slight diligence is defined...as that degree of care which every man of common sense, however inattentive he may be, exercises under the same or similar circumstances. In other words, gross negligence has been defined as equivalent to the failure to exercise even a slight degree of care or lack of diligence that even careless men are accustomed to exercise.” *Johnson v. Omondi GA Sup Ct. decided Nov. 14, 2013, p. 7. O.C.G.A. § 51-1-4*

Even the Supreme Court of Georgia recognizes that this is a confusing definition, particularly as applied to medical malpractice cases. However, many other courts have simply stated that gross negligence is a significant deviation from negligence. While it may yet be ill-defined by case law, it is meant to be a very high hurdle to overcome. This legislative change is a very positive movement in tort reform and has the ability to prompt meaningful tort reform in many other states. However, a single expert witness who convinces a jury that a case constitutes gross negligence, even if the majority of the medical community would disagree, can nullify the risk-management benefits and legislative momentum gained. When we hear of or see such testimony, be it from the defense or plaintiff, we have an obligation to scrutinize it and act accordingly.

The above-cited case included testimony for the plaintiff from emergency physicians Peter Rosen, MD, and Steven Gabaeff, MD.

Remember, if the standard of negligence in Georgia is one of gross negligence, then the testimony provided is to support the allegation that the defendant physician was grossly negligent. An argument could be made that if gross negligence is not clear, then this matter is not appropriate for advancement in the legal system, and summary judgment may be awarded. However, when it is determined that sufficient evidence exists to support the gross negligence allegation, then this may become a matter of fact and not of law. A jury deliberates matters of fact, and matters of law are decided by the court (ie, judge). In order to find sufficient evidence to pursue the question of gross negligence, qualified expert witnesses must have provided testimony to that exact fact. So the plaintiff's experts in this case were willing to testify that the physician was grossly negligent. Although admittedly an oversimplification of the facts, the patient presented with an unusual left-sided chest pain. A history was obtained, and he was examined. Several tests (eg, electrocardiogram, chest radiograph, etc.) were ordered, and the patient improved with symptomatic treatment and was discharged. He died two weeks later from a pulmonary embolism. An ideal outcome? Of course not. A complicated case? Probably. Grossly negligent (reckless care)? Not even close.

Testimony that goes beyond what is medically certain or reasonable may result in unfair outcomes in individual cases, but more important, such testimony undermines the validity of the gross negligence standard and the clear and convincing burden of proof, thus damaging our ability to achieve meaningful tort reform nationally. All expert witnesses need to be aware of the far-reaching implications of their testimony and must read and comply with the ACEP policy “Expert Witness Guidelines for the Specialty of Emergency Medicine,” available at <http://www.acep.org/Clinical---Practice-Management/Expert-Witness-Guidelines-for-the-Specialty-of-Emergency-Medicine>. ☛

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# What's Your Diagnosis?

A 65 year old with fever, bloating, and a rash

BY JARED H. BROCK, BS, BLAINE M. HANNAFIN, MD, RDMS, AND FRANK LOVECCHIO, DO, MPH

Temperature of 100.3°F and tachycardia at 122 beats per minute. His skin is noted to have a generalized beet-red, scaling rash that covers the majority of his body. Severe anasarca is noted and was most pronounced in his face and extremities.

## The Case

A 65-year-old man with a history of psoriasis presents to the emergency department with a three-day history of subjective fever, polydipsia, and swelling of his face and extremities. Current medications: adalimumab and moxifloxacin.

His vital signs are remarkable for temperature of 100.3°F and tachycardia at 122 beats per minute. His skin is noted to have a generalized beet-red, scaling rash that covers the majority of his body (see Figures 1 and 2). Severe anasarca is noted and was most pronounced in his face and extremities (see Figures 3 and 4).

The patient's labs demonstrate a white blood cell count of  $10.7 \times 10^9/L$  and an elevated lactic acid of 5.8 mmol/L. The electrolyte panel shows evidence of acute renal insufficiency, with a creatinine of 2.45 mg/dL, and the albumin is noted to be low at 2.7 g/L. Chest X-ray and urinalysis are normal.

## Diagnosis

The patient's presentation is consistent with an erythrodermic psoriasis flare.

Erythrodermic psoriasis is the most severe form of psoriasis and is potentially life-threatening. It is characterized by a widespread, fiery erythematous rash and exfoliation often affecting the majority of the patient's skin. Severe itching and pain, fluctuating body temperatures, and tachycardia are common.<sup>1</sup>

Acute management focuses on restoring intravascular volume, managing anasarca, and monitoring temperature instability. Recent research indicates that medications such as intravenous cyclosporine and infliximab that regulate epithelial cell growth and immune system response are usually effective, but therapy will be dictated by the patient's condition and comorbidities.<sup>2</sup> Secondary infection and development of septic shock can cause significant morbidity and mortality with erythrodermic psoriasis flares. Therefore, evaluation for underlying infection is critical.<sup>3</sup>

To restore the patient's intravascular volume, he is given aggressive intravenous hydration with normal saline. A 500 mL 5% albumin solution is also infused to mitigate the anasarca and hypoalbuminemia. Vital signs are monitored, and his tachycardia gradually resolves. The patient is pan cultured, and after consultation with the patient's dermatologist, the patient is admitted to the hospital and started on intravenous cyclosporine.

During his hospital stay, the patient is seen by the infectious disease and nephrology services. The patient initially responds favorably to therapy, but subsequently develops worsening renal insufficiency, and the cyclosporine is discontinued in favor of adalimumab. The patient is started on intravenous antibiotics because some of the involved areas of skin appeared cellulitic.

On day four in the hospital, the patient is transferred to another facility to continue

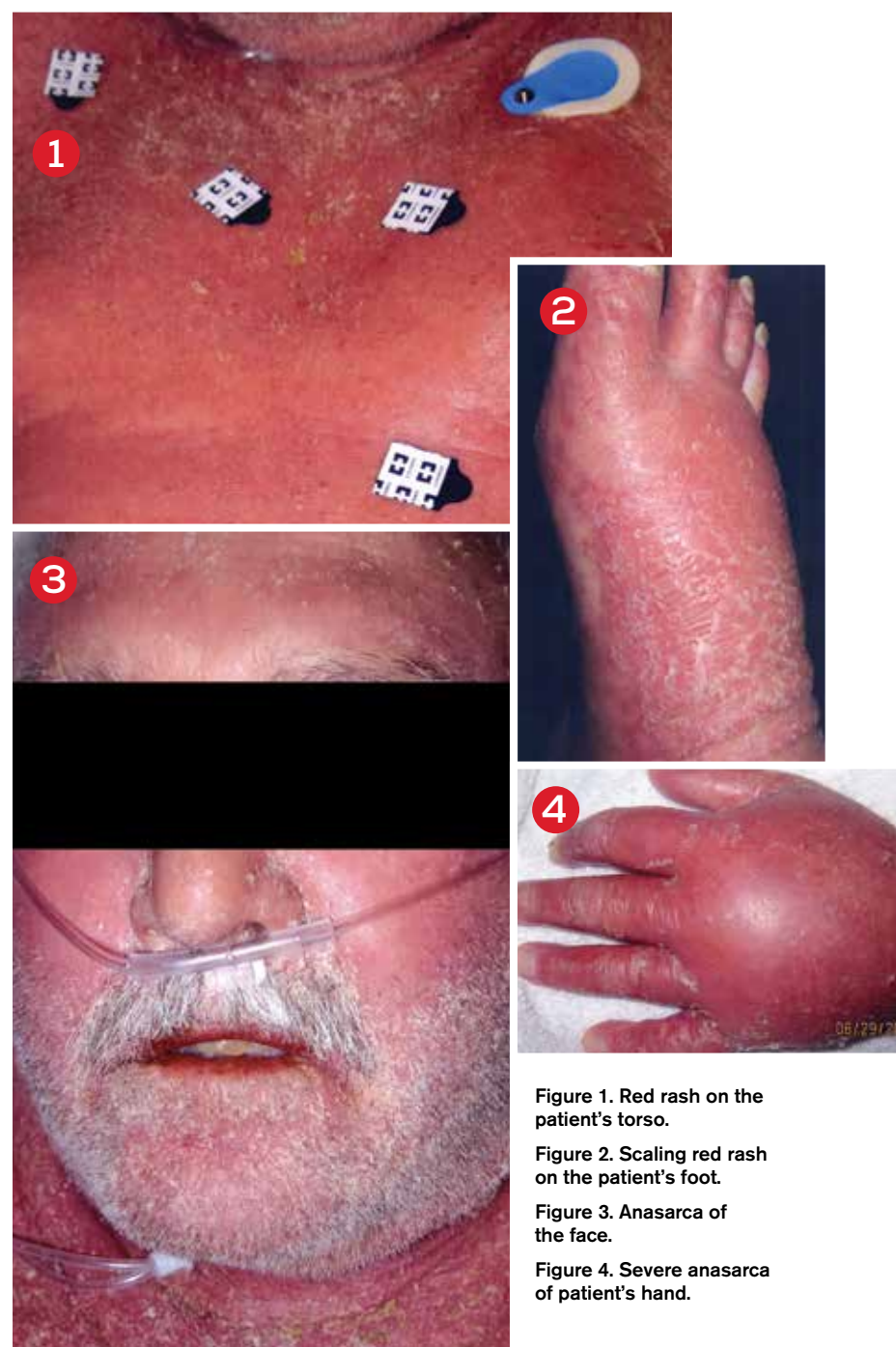


Figure 1. Red rash on the patient's torso.

Figure 2. Scaling red rash on the patient's foot.

Figure 3. Anasarca of the face.

Figure 4. Severe anasarca of patient's hand.

therapy under the direct care of his dermatologist. The anasarca has lessened, and his lactic acidosis and acute kidney injury have resolved. Blood cultures are negative, and the generalized fiery red rash has significantly improved.

There is disagreement on the epidemiology of psoriasis, but a recent meta-analysis concluded that the adult prevalence in the United States ranges from 2.2 percent to 3.15 percent.<sup>4</sup> Erythrodermic psoriasis is estimated to affect between 1 percent and 2.25 percent of those who have psoriasis.<sup>5</sup> While erythrodermic psoriasis can be associated with a high risk of deterioration and mortality due to secondary infection and sepsis, there are no data on mortality rates, due to the overall low incidence of erythrodermic psoriasis flares.<sup>5</sup> ➔

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# Positive Pressure High-Flow Oxygen for Nasal Foreign Body Removal Using Standard Suction Tubing

by JUSTIN MCNAMEE, DO, AND JORDAN JEONG, DO

## The Case

A 3-year-old female presents to the emergency department after placing a small bead into her left nostril. The bead became lodged, and the child is unable to move any air out of the left naris. All efforts to remove the foreign body prior to arrival have failed. The child is currently cooperative but apprehensive. Is there a minimally invasive way to safely, quickly, and easily remove or dislodge the foreign body?

## Background

Children often present to the ED with foreign bodies lodged in their nares, with various explanations as to how they got there. On occasion, parents will have given a valiant effort to remove the object prior to arrival in the ED, usually without success. While some of the techniques attempted are more successful than others, there is one such method that may, in fact, straddle the line between anecdotal and evidence based. The Parent's Kiss is a technique that has been perpetuated by social media and word of mouth as a way for parents to attempt removal before presenting to the ED. With this method, parents or guardians place their mouth over the child's mouth while at the same time occluding the child's nonoccluded nostril. They then blow forcefully into the child's mouth in hopes of dislodging the nasal foreign body.

The question is, does this technique have any merit?

Looking at the evidence, it seems that it might. As it turns out, the use of positive pressure techniques for removal of nasal foreign bodies is not a novel concept. In 2002, Navitsky et al were the first to report the use of high-flow oxygen to remove a nasal foreign body. The technique, referred to as the Beamsley Blaster, is well-described and uses oxygen tubing with a male-male adapter to deliver positive pressure.<sup>1</sup> While the technique shown above is similar, it differs slightly in that suction tubing, which usually comes with a prepackaged adapter, is uti-



ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

lized, but the end result is the same.

## The Technique

Use wall oxygen or medical air (positive pressure technique) to dislodge a unilateral nasal foreign body with the use of standard suction tubing and a suction adapter.

While there are several ways to attempt removal, using high-flow oxygen or medical air in the contralateral nostril delivered through suction tubing is a safe alternative to more traditional techniques and utilizes equipment easily found in every emergency department. This technique allows for a quick, clean, and painless way to dislodge a nasal foreign body with a high rate of success.

## Equipment Needed (Figure 1)

- Wall suction unit
- Suction tubing adapter
- Suction tubing
- Yeah, that's it!

1. Have the patient sit up, lean slightly forward, and tilt the head down.
2. Ensure wall oxygen is available, and attach one end of the standard suction tubing to the wall oxygen or compressed air. The opposite end of the suction tubing should have the plastic suction tubing adapter piece firmly implanted (see Figure 2).
3. Place the tubing with the attached adapter into the nostril contralateral to that containing the foreign body (see Figure 3).
4. Titrate the wall oxygen or medical air to high flow (usually 10–15 L/min) until the foreign body becomes dislodged. Periorbital emphysema or blowing a globe out of its socket reflects a lack of understanding of the term titration.

## Patient Selection

This technique may be most applicable for cooperative pediatric patients. However, na-

sal foreign bodies are not always a problem unique to the pediatric population. Often, adult psychiatric patients will place objects where they do not belong, including the nose.

This technique may be inappropriate for patients who are not amenable to having suction tubing inserted into their nostril. In the case of an uncooperative but otherwise nonviolent pediatric patient, this minimally invasive approach is still of value because it can be performed under procedural sedation or with the use of a papoose.

## Caution

Complications from removal of nasal foreign bodies are infrequent, regardless of the approach clinicians choose. Navitsky et al reported no complications with the nasal positive pressure technique using wall oxygen for removal.<sup>1</sup> A comprehensive review of nasal foreign body removal by Kiger et al reports no known complications from positive pressure techniques, including the Parent's Kiss, Big Kiss, nasal positive pressure, or Ambu bag.<sup>2,3</sup> As with any foreign body within or near the airway, aspiration is always a risk. In theory, by using positive pressure techniques such as the one described, the risk of aspiration should be lessened. Forcing air from the contralateral side should help expel the foreign body out of the nose as opposed to pushing it posteriorly into the airway. This is one advantage over the traditional methods of extraction such as Foley balloon catheters, Katz extractors, and other forms of mechanical extraction that may result in worsening the situation. Some known complications may include mucosal irritation, swelling, and bleeding. ☹

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**Figure 1.** Wall suction unit, a suction tubing adapter, and suction tubing.

**Figure 2.** Assembly for the positive pressure technique.

**Figure 3.** Place the tubing into the nostril contralateral to the foreign body.



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# COST-EFFECTIVE CARE SERIES



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The true-positive rate of blood cultures based on prospective studies is as low as 4.1 percent to 7 percent. Up to 40 percent of positive blood cultures are false positive.

CONTINUED FROM PAGE 1

avoidable testing (such as repeat cultures and echocardiograms), and antibiotic use. False-positive blood cultures are associated with three- to five-day increases in hospital length of stay and \$4,400 to \$8,800 in additional costs compared with true negatives.<sup>4,5</sup>

## Common Clinical Scenarios in Which Blood Cultures Are Unnecessary

**Patients with community-acquired pneumonia.** These patients should *not* routinely receive blood culture testing. Per the 2009 ACEP Clinical Policy, “Critical Issues in the Management of Adult Patients with Community-Acquired Pneumonia,” patients who do not require admission to the ICU and are not immunocompromised (eg, leukopenia, chronic alcohol abuse, liver disease, or steroids) are at low risk for bacteremia.<sup>6</sup> Positive blood cultures rarely change management in pneumonia; retrospective studies document that only 0.4 percent to 3.4 percent of patients had antibiotic coverage changed.<sup>7</sup> While the Centers for Medicare & Medicare Services (CMS) and The Joint Commission previously required blood cultures be drawn in the ED prior to administration of antibiotics as a pneumonia quality measure, this has been retired as of Jan. 1, 2014. The same is true for children. The Pediatric Infectious Diseases Society and the Infectious Diseases Society of America discourage routine blood cultures in their clinical practice guidelines.<sup>8</sup>

**Patients with cellulitis.** These patients have a pretest probability for bacteremia of 2 percent, so blood cultures in this population are very low yield.<sup>9</sup> Numerous studies have documented the predominance of strep and staph species in skin and soft tissues infections; thus when antibiotics are indicated, they may be initiated empirically without culture data.

**Patients with uncomplicated pyelonephritis.** Urine cultures are higher yield than blood cultures. In the rare cases where blood cultures identify organisms, they rarely differ from those identified in urine and very rarely alter clinical management.<sup>10</sup>

**Patients being discharged from the ED.** Blood cultures are a test for bacteremia, and bacteremia is a serious condition requiring close monitoring—ergo, you should not send blood cultures on patients being discharged from the ED. Outpatient blood cultures expose



Blood culture bottles. Bacteriology laboratory.

you to significant medical legal risk as positive results require contacting the patient and determining if further ED or inpatient care is needed. Like any general rule, there are exceptions: nonacute diseases for which blood cultures are the diagnostic test of choice, such as subacute bacterial endocarditis. If you will be sending blood cultures on an outpatient, be clear who will follow up on the results and make sure you have correct contact information.

**Patients with normal vital signs or those with isolated fever and otherwise normal vital signs.** The presence of systemic inflammatory response syndrome (SIRS) was found to be 96 percent sensitive for bacteremia among patients who had blood cultures drawn on a general medical service, meaning that the absence of SIRS greatly reduces the likelihood of bacteremia.<sup>11</sup>

What about patients with sepsis? The Surviving Sepsis Campaign recommends blood cultures as part of the three-hour bundle for patients with severe sepsis or septic shock (based on low-strength evidence).<sup>12</sup> This accounts for a small proportion of the patients with the above-mentioned infections.

## What Can You Do to Improve the Cost-Effectiveness of Blood Culture Testing?

Do not send blood cultures on patients for whom you have a low clinical suspicion of bacteremia. Talk to your clinical director about removing blood cultures from routine order sets for patients with community-acquired pneumonia, cellulitis, and urine infections including pyelonephritis. Have an

educated discussion with the next admitting physician who asks if you sent cultures on the pneumonia patient you are admitting to the floor; the references for this article should be the evidence they need!

When cultures are sent, be sure they are collected appropriately to minimize contamination (see Table 1). Consider a protocol to have cultures drawn by staff trained in blood culture collection technique, and reinforce best practices with your staff. ➔

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Table 1. How to Reduce False-Positive Blood Cultures<sup>13</sup>

- Use chlorhexidine or iodine tincture (preferred over povidone-iodine).
- Use peripheral venipuncture site.
- Collect at least two sets of cultures and inoculate 20–30 mL of blood per set. Each additional cc increases yield by 7 percent.<sup>8</sup> Quantity is more important than timing (in relation to fever, etc.). If less than 10 mL obtained, send single aerobic culture bottle.





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# The Beloved Bougie

by RICHARD M. LEVITAN, MD, FACEP

In the world of airway devices, there are few that have more fans than the beloved bougie. Although it has a British history—it was first described in 1949 by Sir Robert Macintosh, a New Zealander who moved to Britain—it seems wherever I travel people love their bougies. In many of the Commonwealth countries and throughout

laryngeal exposure. Portex subsequently developed a tracheal tube introducer with a Coudé tip made of resin-covered fiberglass, but somehow the device has been labeled the “gum elastic bougie” despite that it is neither gum, elastic, nor a bougie (ie, a dilator). The Portex device can be reprocessed, but as the world of airway devices became disposable,

a variety of companies introduced single-patient use plastic “bougies” with both straight and Coudé tip designs, such as one by SunMed USA in Grand Rapids, Michigan (see Figure 1). Not only are bougies available in different colors of plastic, there are different versions with special features, such as the Frova catheter by Cook Medical Critical Care in Bloomington, Indiana,

teristics that make it a useful adjunct for tube delivery. First, it has a smaller outer diameter than a tracheal tube. Most bougies are 5 mm (15 Fr); a tracheal tube of 7.5 mm inner diameter is almost twice as large in outer diameter as a bougie. Second, the upturned distal tip of the bougie, originally with a 38-degree bend angle, has an overall long axis dimension that does not exceed the dimensions of the trachea. The trachea is more narrow than most clinicians realize. In females, it is only 14–16 mm; in males, 15–20 mm. Because of the bougie’s flexibility and rounded distal tip, it usually passes into the trachea without hanging up on the tracheal rings. Finally, there is its tactile feel of the trachea on insertion. In 90 percent to 95 percent of cases, the bougie provides detection of the “rumblestrip” of the anterior tracheal rings, assuming the tip is oriented anteriorly. The posterior

narrow axis shape, with a bend angle that respects the dimensions of the trachea (straight to cuff and 35 degrees, see Figure 2). When placed into this shape, I find that the distal tip of such a tube can be placed from below the line of sight, and tube insertion does not need to obscure the cords. I have carried a bougie in my airway tool kit for more than 15 years, and I have never deployed it in anger; I became obsessed with stylet shaping. A styletied tube can also be inserted faster (tube placed, stylet withdrawn) compared to a bougie intubation, which is generally a three-step process of bougie insertion, tube railroading, and bougie withdrawal.

Despite my enthusiasm for a straight-to-cuff stylet, I think a bougie should be part of every airway kit. It can be useful in situations of poor laryngeal exposure, for placement into a trach, or in an emergent cric. The single-use versions are inexpensive. Some users complain it is hard to store because of its long length, about 60 cm. I address that issue by folding it in half. Bending the bougie and using a rubber band to keep it in this bent-over shape allows it to fit in intubation trays, draws, and jump bags. More important, when it is pulled out, this bent shape allows good control and preserves the long axis narrow dimension of the distal tip as it is inserted. Although the Pocket bougie is easy to carry, straightening may be needed depending on its intended use (especially for direct laryngoscopy).

In an epiglottis-only view, always perform bimanual laryngoscopy (either with direct or video laryngoscopy) to try to visualize the interarytenoid notch, then direct the bougie tip over it to ensure you’re entering the trachea and not the esophagus. In the true epiglottis-only situation, make sure you keep the distal tip up (and feel the rings) as it can easily rotate under the epiglottis and miss the larynx.

The bougie has historically been held with a pencil grip. I find this not an easy way to keep it from rolling over; I want to track which way the distal tip is pointing. Some versions of the bougie place their depth markings (usually every 10 cm) on the same side as the direction of the Coudé tip, but this is not universal.

I think the best way to grip the



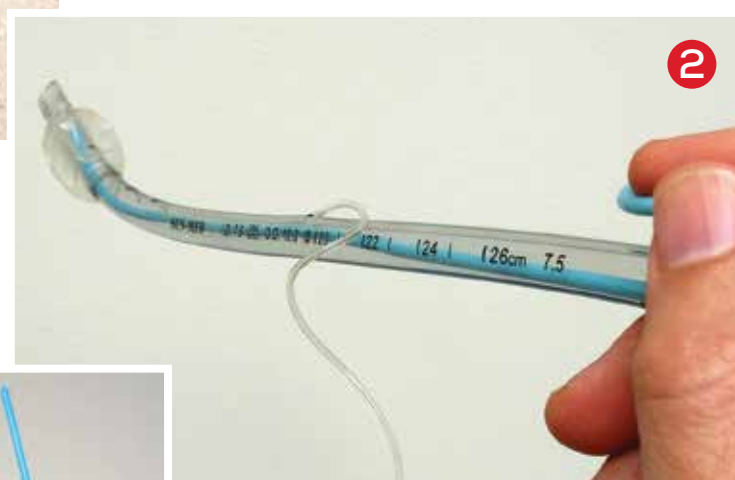
**Figure 1.** Bougies and tube introducers: Tracheal tubes have an inherent arcuate shape (top). A malleable stylet can optimally shape a tube to be straight-to-cuff (35 degree bend, second from top). Bougies have long narrow axes with an upturned distal tip (Frova, blue color, allows for insufflation) and Smiths-Portex original design (resin covered fiberglass, beige). Cook Critical Care tracheal tube exchange catheter (straight shape, hollow bore for insufflation, second from bottom). The GlideRite stylet is used with a hyperangulated video blade to get the tube around the tongue, but has too wide a side-to-side dimension to insert into the trachea (bottom).

**Figure 2.** Straight-to-cuff styletied tube. Note the narrow long-axis view. There is a 35-degree bend at the proximal cuff. The stylet stops at the distal cuff, leaving the last few centimeters of the tube pliable.

**Figure 3.** The Shake grip: By folding the bougie in half and gripping the bougie this way, it is easy to determine the direction of the distal tip, prevent tube rotation, and achieve fine control of the device.

most of Europe, airway managers treat this device as mandatory for tube insertion. Enthusiasts promote it for direct and video laryngoscopy, the “bougie-aided cric,” and placement through supraglottic airways. Some folks believe it has magical magnetic properties that guide it exclusively into the trachea (not true).

During direct laryngoscopy, Sir Macintosh observed, “One of the difficulties in passing tubes beyond a certain size is that the body of the tube obscures the view of the cords through which the tip must be directed.” He described use of a “gum-elastic catheter,” which he passed through the cords first, followed by the tracheal tube. Although Sir Macintosh’s device was straight, he described shaping it into a curve to aid in cases of poor



and the Introes Pocket Bougie by BOMImed in Bensenville, Illinois. The Frova has a hollow lumen, allowing for oxygen insufflation; the Pocket bougie is made of Teflon and packaged in a rolled shape to fit into a pocket. Bougies are also available in a pediatric version, such as the 10 Fr compared to the 15 Fr diameter bougie from SunMed USA.

So what is magical about the bougie? Why the love affair? The bougie has three distinguishing charac-

teristics that make it a useful adjunct for tube delivery. First, it has a smaller outer diameter than a tracheal tube.

While the Europeans are steadfastly married to their bougies, Americans pioneered the use of stylets to aid in shaping and inserting tracheal tubes. Tracheal tubes have an inherent arcuate shape as a consequence of the way they are formed. This arcuate shape, with a wide side-to-side dimension, is not ideal for insertion into the narrowing confines of the upper airway, which Sir Macintosh appreciated. Minor rotation of the tube causes major lateral movement of the distal tip, and combined with blocking of the view, this a contributing factor in tube misplacement during direct laryngoscopy. A styletied tube, however, can be shaped into a long



bougie is what I call the “Shaka” grip (see Figure 3). “Shaka” is the Hawaiian hand gesture with the middle fingers folded over that means “hang loose.” Gripping the device this way, the user has fine control and knows the direction of the distal tip, and the insertion end is the proper length, all of which helps avoid rolling over.

If you work in a setting where you do not have anyone to help with tube placement over the bougie (while you keep the direct or video laryngoscope retracting the tongue), you can use a one-handed bougie/tube grip. I first



Figure 5. The Kiwi-D grip, Jim Ducanto's method of inserting the bougie tip into the Murphy eye of the tube as a one handed means of tube-bougie insertion.



found out about this from Paul Baker, senior lecturer in the department of anaesthesiology at The University of Auckland in New Zealand and director at Airway Simulation Limited, but I have been since informed he learned of it from an Italian physician. I named it the “Kiwi” grip a few years ago (see Figure 4). With this grip, you place the bougie/tube with your right hand, and after entering the trachea with the exposed distal tip of the device, you drop your laryngoscope, hold the top of the bougie with your left hand, and roll the tube down the bougie into

the trachea with your right hand. Jim Ducanto, an anesthesiologist from Milwaukee who has an incredible passion for education and imaging, devised the Kiwi-D grip (tucking the tip of the bougie into the Murphy eye, see Figures 5 and 6).

Whatever grip you use when railroading tubes down a bougie, always do so with a left-handed turn of the tube as you pass the laryngeal inlet (approximately 14–16 cm from the mouth). This prevents any hang up on the laryngeal inlet (between the smaller outer diameter of the bougie and the larger inner diameter of the tube).

Make the bougie part of your airway kit. You'll never know when it may come in handy. ➔



Figure 6. Close up of the Kiwi-D grip showing tip of bougie in Murphy eye.



A 2-year-old with a **seizure**. A 9-year-old soccer player who **can't walk**. A newborn **breathing too much** and **eating too little**. A 10-year-old with **chest pain**. A cranky, **lethargic** 3-month-old. Babies in **respiratory distress**. A 5-year-old **hit by a car**. A toddler with a **fever** who's “just not acting like himself.” A **diaper full of blood**.

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# Our Collective Antibiotic Shame



by RYAN PATRICK RADECKI, MD, MS

**M**odern medicine is stuffed full of egregious waste. Whether unnecessary imaging for lower back pain, scandalous improper use of cardiac stents, or the administrative and regulatory burden on clinicians, there is ample opportunity to improve. However, no part of care should cause us greater shame than our incurable addiction to antibiotic prescribing for benign, self-limited conditions. Astoundingly, four years of medical school and three years or more of specialty training have not yet proven sufficient to prevent clinicians from choosing wrongly in the most basic ambulatory complaints—bronchitis, pharyngitis, and sinusitis.

The treatment for acute bronchitis, for example, is very clearly laid out by the Agency for Healthcare Research and Quality and the National Quality Measures Clearinghouse in the Healthcare Effectiveness Data and Information Set.<sup>1</sup> The correct treatment rate for adults ages 18 to 65 who have no comorbid respiratory condition is zero. We should never be prescribing antibiotics in this situation. This is not a surprising or novel recent medical innovation. Uncomplicated acute bronchitis has been established for 40 years as a self-limited condition for which antibiotics have conferred no benefit.<sup>2</sup> However, clinicians in the United States—both ambulatory outpatient and emergency department—prescribe antibiotics between 65 percent and 80 percent of the time, a rate that has held steady over the last two decades.<sup>3</sup> With literally a million visits to EDs for bronchitis each year, we are causing profound injury to society from the raw costs of antibiotics, adverse reactions to medication, and increased bacteria resistance; this is all completely avoidable.

Acute pharyngitis, likewise, is grossly overtreated with antibiotics. The prevalence of pathogenic group A *Streptococcus* (GAS) in acute pharyngitis is approximately 10 percent, and other concerning pathogens—*Fusobacterium* and *Neisseria*, for example—represent a tiny additional fraction.<sup>4</sup> There is a widely available rapid antigen test for GAS, and besides, GAS is an otherwise self-limited condition for which antibiotics confer minimal symptom relief. Might it be reasonable to expect prescribing rates would be low? It would. However, 60 percent of visits for uncomplicated acute pharyngitis result in antibiotic prescriptions. If this excessive rate is justified based on prevention of subsequent complications, the rate cannot be justified, as the concern is unfounded. It has been estimated that as many as 4,000 patients need to be treated with antibiotics for GAS infection to prevent a single case of peritonsillar abscess.<sup>5</sup> Rheumatic fever, the scourge of previous generations, has been eliminated in the United States, with multiple hypotheses, including simple improved hygiene, changes in host factors, and decline in rheumatogenic strains, thought to be the cause.<sup>6</sup> David Newman, MD, even

makes a very reasonable case for cessation of treatment of GAS with antibiotics, estimating it requires more than 100,000 patients to be treated to prevent a single case of rheumatic fever.<sup>7</sup> This rate of complications is far lower than the expected rate of anaphylactic and adverse reactions from antibiotic treatment; therefore, antibiotics for strep throat may do more harm than good. At minimum, however, testing and treatment should be guided by validated clinical criteria and use of rapid antigen testing, which should dramatically decrease the rate of prescribing in acute pharyngitis.

**Uncomplicated acute bronchitis has been established ... as a self-limited condition for which antibiotics confer no benefit.**

Lastly, the final upper respiratory scourge, acute sinusitis. The prevalence of bacterial infection during acute sinusitis is estimated to be only 2 percent to 10 percent, yet more than 80 percent of the 4 million annual outpatients who visit for acute sinusitis receive antibiotics.<sup>8</sup> Sinusitis is, understandably, frustrating for patients and clinicians, with persistent symptoms lasting several weeks in many cases. However, antibiotics simply don't provide much value. In clinical trials, only half of patients improved within the first week, and nearly 30 percent continued to have symptoms past 14 days.<sup>9</sup> However, allocation to the antibiotic group did not increase overall cure versus placebo, and antibiotics decreased the duration of symptoms for only one in 20 patients. Considering there are no reliable clinical signs specific for bacterial versus viral etiologies, and it is challenging to select patients for whom intervention will substantially increase the chance of cure, antibiotics are best used judiciously for only the most exceptional cases.

Further compounding all these sins, physicians are persistently using a nuclear antibiotic arsenal for these extraordinarily straightforward conditions, which is akin to smashing a teacup with a sledgehammer. For each of these conditions, in the vanishingly small subset where antibiotics are indicated, narrow-spectrum antibiotics are absolutely sufficient. The first-line antibiotic for each of these conditions is penicillin or an equivalent beta-lactam antibiotic, yet these classes represent fewer than 20 percent of antibiotic prescriptions for sinusitis. Group A *Streptococcus* is universally susceptible to penicillin, but despite this, penicillin's use in acute pharyngitis continues to drop. Extended-spectrum macrolides, such as

azithromycin, and fluoroquinolones are experiencing corresponding increases as penicillin falls out of favor. Azithromycin, in particular, has such a long half-life that its unfettered use is responsible for a rapid rise in macrolide-resistant *Streptococcus pneumoniae*.<sup>10</sup> It is estimated that more than \$250 million in direct and indirect costs in the United States alone are associated with clinical treatment failures secondary to macrolide-resistant pneumococcus.<sup>11</sup> Fluoroquinolones, on the other hand, are bactericidal antibiotics with a broad spectrum of activity. The resulting effect on the natural symbiotic flora of the human body predisposes patients to such overgrowth of pathogens such as *Clostridium difficile* along with other adverse effects such as tendinopathies and delirium in the elderly. Antibiotic spectrums of activity are part of the basic preclinical medical school curriculum; sadly, many, if not most, clinicians have forgotten this portion of their education.

If you're routinely prescribing for these conditions, please stop. If you supervise residents, nurse practitioners, or physician assistants, ensure they stop as well. Institute a quality-improvement program at your facility to track and provide feedback on antibiotic prescribing rates. Create educational materials targeted at patients to reduce the expectation of antibiotics.

The status quo is unacceptable and, frankly, embarrassing. ☹

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## Chief of Emergency Medicine

Cambridge Health Alliance (CHA), an award winning public health system, is currently recruiting for a BC, FT Chief of Emergency Medicine to oversee a well established and talented emergency medicine department consisting of a faculty of 32 physicians and 16 physician assistants. CHA is a teaching affiliate of Harvard Medical School and the Tufts University School of Medicine.

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The Chief of Emergency Medicine has both clinical and administrative responsibilities. The ideal candidate will have at least 10 years of post residency experience and 5 years of progressive leadership experience as well as successful track record of professional development and mentoring of junior staff. We seek a candidate with demonstrated ability to implement department wide protocols, identify and support clinical process improvement and quality initiatives in a multi site system. Candidates must have an understanding of the principles and requirements of Accountable Care Organizations, population health management and team based care models such as the Patient Centered Medical Home model of care. Successful experience in interdisciplinary collaboration is necessary and candidates must have excellent clinical and communication skills. Candidates must also possess a strong commitment to our underserved, multi-cultural patient population. Experience with developing and overseeing graduate and undergraduate medical education programs is strongly preferred. Previous employment in an academic, multi site, safety net system is a plus.

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Please forward CV's to Laura Schofield, Senior Director of Physician Recruitment, CHA, 1493 Cambridge Street, Cambridge, MA, 02139. Email: Lschofield@challiance.org Phone: (617)665-3555, Fax: (617)665-3553. EOE.

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### Emergency Physicians

### Department of Emergency Medicine

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**Department of Emergency Medicine University of Missouri - Columbia, School of Medicine**

1 Hospital Drive, DC029.10 Columbia, MO 65212

Phone: (573) 882-3496 • Email: [borensteinm@missouri.edu](mailto:borensteinm@missouri.edu) • Apply online: [hrs.missouri.edu/find-a-job/academic](http://hrs.missouri.edu/find-a-job/academic)

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**The Emergency Group, Inc.  
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**UNIVERSITY OF FLORIDA**  
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UCSF

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## CHIEF, EMERGENCY MEDICINE San Francisco General Hospital University of California, San Francisco

The Department of Emergency Medicine at the University of California, San Francisco (UCSF), School of Medicine, seeks an outstanding leader in Emergency Medicine to serve as Chief of Emergency Medicine at San Francisco General Hospital (SFGH). This position offers an exceptional leadership opportunity as the UCSF Department of Emergency Medicine, and SFGH in particular, are in a phase of expansion. SFGH will open a new hospital, with a 60-bed ED, at the end of 2015 incorporating both adult and pediatric emergency medicine. The Chief will have major responsibilities for faculty recruitment and evaluation, the Division's budget and overseeing the clinical service, research, residency and medical student programs at SFGH.

The UCSF Department of Emergency Medicine provides comprehensive emergency services to a large local and referral adult and pediatric population with approximately 93,000 visits a year at UCSF Medical Center and San Francisco General Hospital. In early 2015, the Department will also staff a new pediatric emergency department at Mission Bay. SFGH is a level-1 trauma center, paramedic base station and training center and currently sees 50,000 patients annually. It is a safety-net hospital serving all of San Francisco, with a clear mission to care for the under-served of the city. It is well resourced and staffed by physicians and residents from UCSF in all medical and surgical specialties. In addition to the opening of a new hospital at SFGH, The Department of Emergency Medicine has a fully-accredited 4-year Emergency Medicine Residency Program with 50 residents and directs fellowship programs in EMS, ultrasound, education, and toxicology. Research is a major priority of the Department, with over 50 ongoing studies and 100 peer-reviewed publications last year.

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### Send cover letter and curriculum vitae to:

Neil Powe, MD, Search Committee Chair  
c/o Natalya Khait

UCSF Department of Emergency Medicine  
533 Parnassus Avenue, Suite U575  
San Francisco, CA 94143-0749  
[Natalya.khait@emergency.ucsf.edu](mailto:Natalya.khait@emergency.ucsf.edu)

UCSF seeks candidates whose experience, teaching, research, or community service has prepared them to contribute to our commitment to diversity and excellence. UCSF is an Equal Opportunity/Affirmative Action Employer. The University undertakes affirmative action to assure equal employment opportunity for underutilized minorities and women, for persons with disabilities, and for covered veterans. All qualified applicants are encouraged to apply, including minorities and women. For additional information, please visit our website at <http://emergency.ucsf.edu>



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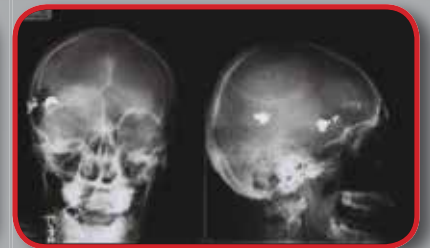
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