

# NECOEM *Reporter*

## **Features:**

### **[You're the Occ Doc!](#)**

We would like to start a new feature, "You're the Occ Doc". You will be guided through a case, with questions along the way to test your clinical acumen. Fictionalized to preserve patient privacy, these cases will be scientifically sound. Our aerospace medicine brethren have been doing this for years. This issue's occupational medicine case has been reprinted with permission from Aviation, Space, and Environmental Medicine, Vol. 81, No. 2, PP. 154-5. The full article is available for download from <http://ingentaconnect.com/content/asma/ asem/2010/00000081/00000002/art00016>.

**Do you have a case you would like to share? Please submit it!**

### **[Unconventional Gas Extraction: Social Impact; Part 3 in a series of 3](#)**

Dr Leslie Walleigh continues her outstanding series on Unconventional Gas Extraction – often referred to as hydraulic fracturing. In the March 2013 issue she detailed the potential worker exposures. In this final issue of the series, she discusses the social impacts on residents of communities where UGE takes place.

### **[Welcome Message from Our NECOEM President: Dr. Phil Lerner](#)**

Our president lays out his vision and objectives.

### **["It's a Wonderful Life" in Occupational Medicine?](#)**

Dr. Phil Adamo discusses trends in occupational medicine board certification and practice satisfaction.

### **[Caring for Families of Fallen Workers](#)**

The Massachusetts legislature is considering a bill to provide increased burial cost benefits to the families of workers killed on the job. Marcy Goldstein-Gelb explains the rationale and encourages us to support this effort.

### **[ACOEM's 2013 Kehoe Award Winner: Dr. Stefanos Kales](#)**

We celebrate the achievements of our very own Dr. Kales!

### **[Heavy Metal](#)**

Dr. James Mazo shares a bit about the NECOEM dinner meeting held at St. Francis Hospital and Medical Center with a presentation on heavy metal exposures by Dr. Danyl Ibrahim.

### **[Call for Poster Abstracts](#)**

Abstract submissions are invited for poster presentations. Visit [necoem.org](http://necoem.org) for details.

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## Upcoming Events! Visit **NECOEM.org** for more information and registration

**September 21, 2013**

**“Commercial Driver Medical Examination Training”**

*Deliso Conference Center of Mercy Medical Center, Springfield, MA*

**October 6, 2013**

**“Commercial Driver Medical Examination Training”**

*Doubletree Hotel, Tarrytown, NY*

**December 5-6, 2013**

**2013 NECOEM/MaAOHN Conference**

*Marriott Newton, Newton, MA*

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## You're the Occ Doc!

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### You're the Flight Surgeon

*This article was prepared by Major Kenneth Egerstrom, USAF, MC, SFS*

You are sitting in your office contemplating how efficient you have been in clinic this morning when your technician brings you a record with the chief complaint of, “Wants to talk with Doc.” After your technician confirms this air traffic controller refused to give any more information at check in, you start pondering the differential diagnoses: GU, Psych, Other? Review of the record shows the patient to be a 51-yr-old white male air traffic controller with normal vital signs and no allergies. Past medical and surgical histories are unremarkable. Family history is equivocal for father with coronary artery disease in his 60s and the patient's only medication is 81 mg of aspirin daily. Social history is positive for a 30 pack/year tobacco history, and “occasional” alcohol.

You know from past experience that the most expedient way to get relevant information is to interview and examine the patient yourself. After closing the exam room door, the patient tells you that he was embarrassed to tell the technician, but his urine has been dark red off and on for a while. Your questioning reveals that he first noticed some “darkness” to his urine about 4 mo ago, but discounted it because it cleared up the next day. He has had multiple episodes since then, and has now become concerned because they are occurring more often and the color is more “bloodlike.” He denies any pain with the discoloration, and denies any history of trauma, urinary tract infections, or sexually transmitted diseases.

1. Based on the history above, which of the following is NOT a likely cause of his condition?
  - A. Cancer of the bladder, prostate or kidney.
  - B. Exercise-induced hematuria.
  - C. Intrinsic glomerular disease.
  - D. Nonhematological cause of urine discoloration.

### ANSWER/DISCUSSION

**1. B.** Exercise-induced hematuria is unlikely in this case as there is no history of exercise preceding the hematuria. Also, symptoms usually present earlier in life. On the other hand, painless hematuria is the most common presenting symptom for cancers of the genitourinary tract, although only about 15% of patients with gross hematuria have a malignancy (12). Glomerular causes can be caused by immune-mediated injury or non-inflammatory glomerulopathies and cause painless, gross hematuria (4). However, it is also possible that the discoloration of the urine is due to a source other than blood. Betalaine, a reddish pigment found in beets, is capable of causing reddish to brown urine (18). Similarly, phenazopyridine is well known to cause an orange to reddish discoloration of

the urine. In addition, vegetable dyes, urates, myoglobin, and *Serratia mercenscens* have all been implicated in discoloring urine (5).

You order a urinalysis, which is remarkable for clear, red color, and 3+ blood. It has a normal specific gravity and pH and is negative for protein, bacteria, nitrite, and leukocyte esterase. Urine microscopy confirms the presence of large numbers of RBCs per high power field.

2. What further work-up is warranted for this air traffic controller?

- A. Full lower urinary tract evaluation (cystoscopy, cytology).
- B. Repeat urinalysis, and follow up in 6 mo if negative.
- C. Full evaluation of both upper and lower urinary tracts.
- D. Full battery of urine markers (bladder tumor antigen STATw test, BTA TRAKw test, nuclear matrix protein 22w, UroVysionw).

## ANSWER/DISCUSSION

**2. C.** This patient presenting with gross hematuria should undergo a full urinary tract evaluation as the cause may be from an upper or lower source (3,9). The lower tract should be evaluated by urine cytology and cystoscopy, while the upper tract should undergo contrast enhanced imaging of the kidneys and ureters (computed tomography or intravenous pyelogram) (2,10). Repeat urinalysis, even if negative, is not sufficient to rule out malignancy as hematuria is often intermittent regardless of etiology (10). While multiple urine-based markers for malignancy have been licensed by the FDA, they are currently being used as an adjunct to cystoscopy looking for recurrence of malignancy. Studies have yet to demonstrate their optimal use in screening for bladder cancer (3).

3. What risk factors does this patient have for bladder cancer?

- A. Male gender.
- B. Smoker.
- C. Painless, gross hematuria.
- D. Age > 50 yr.
- E. All of the above.

## ANSWER/DISCUSSION

**3. E.** This patient is at high risk for urinary tract carcinoma based on all of the above (2,8–10,13). Bladder cancer accounts for 5–10% of all cancers in American and European men (10). It is the fourth leading cause of cancer in men and affects men three times more often than women (1,9). Cigarette smoking is one of the most well known risk factors, increasing the risk for bladder cancer two to fourfold (10) and is attributed to 50–66% of bladder cancers in men (13). Also, unlike with lung cancer, the risk of bladder cancer from smoking persists long after they quit. Multiple studies have shown that anywhere from 13 to 28% of patients presenting with gross, painless hematuria actually have bladder cancer (10–12,17). Age is also an important risk factor for bladder cancer with 90% of cases occurring in individuals over 55 yr of age (9). Historically, the textile dye and rubber tire industries used b-naphthylamine, 4-aminobiphenyl, and benzidine, which were unequivocally associated with bladder cancer. These chemicals have been banned, but the long delay between exposure and the development of malignancy makes it difficult to ascertain a definitive relationship for a whole host of other compounds which are used predominately in the chemical, dye, and rubber industries (10).

You refer your patient to urology where a tumor is visualized during office cystoscopy. He is taken to the operating room and the entire lesion is resected transurethrally (TURBT). The pathology shows a Grade-3, noninvasive transitional cell carcinoma. Contrast enhanced chest, abdominal, and pelvic CTs show no evidence of metastatic disease. Given the high grade of his pathology and the significant differences in therapy between grade three noninvasive (intravesical therapy) and grade three invasive disease (cystoprostatectomy and urinary diversion), he undergoes a second TURBT; up to 40% of grade 3 tumors are upgraded to invasive disease when a re-resection is performed (6). In your patient's case, pathology on the re-resection shows no evidence of residual tumor even on deep muscle sectioning. Since his stage remains the same after his re-resection (Grade 3, T1N0M0), his urologist recommends a 6-wk course of intravesical immunotherapy with bacillus Calmette-Guérin (BCG) to stimulate the patient's immune system to detect and kill cancerous cells.

He follows up in your office 2 wk after starting his immunotherapy and asks about being returned to controlling status. He reports that he has had absolutely no side effects from his treatment, and has returned to a normal voiding pattern. The remainder of his work-up was negative. He doesn't think there is anything that should preclude him from safely performing his duties.

4. Should you return him to controlling status at this time?

- A. Yes.
- B. No.

#### ANSWER/DISCUSSION

**4. B.** No. Military flight surgeons and civilian aeromedical examiners lack the authority to grant a waiver for malignancy in the United States. Regardless of the authority, it is not prudent to return him to controlling status at this time because 90% of patients undergoing BCG immunotherapy will develop cystitis, commonly starting during or after the third week of treatment (9,13). Fever, malaise, and hematuria also occur in 25–30% of patients. All of these could reasonably interfere with the safe performance of his controlling duties.

5. Is this air traffic controller a good candidate for a waiver to resume his air traffic control duties?

- A. Yes.
- B. No.

#### ANSWER/DISCUSSION

**5. A.** Yes. The Federal Aviation Administration and the different military services all have slightly different regulations, but the underlying goal is to ensure that anyone performing aviation or controlling duties is safe to do so. Many medical conditions can pose a risk either by the nature of the injury or illness or by virtue of the treatment. Some special concerns are any conditions that can cause sudden incapacitation or subtle cognitive impairment. In this case, there is no evidence of metastatic disease and the patient will likely return to baseline even if he does develop side effects from his BCG therapy. However, this patient is at high risk of recurrence (2,9) and will require close follow-up with a urologist in the future. Despite this, there is a low likelihood that he will be at risk for sudden incapacitation or subtle cognitive impairment. Based on this he will likely be a candidate for a waiver.

All agencies want a complete evaluation of the condition and treatment as well as the current condition of the patient. Below is list summarizing key data related to waiver issuance for each agency.

#### Aeromedical Dispositions

USAF (14): “Review of waiver files and ACS data reveals most requests for waivers have been favorably acted upon but essentially all were superficial disease. History of cystectomy or urinary diversion as well as presence of active recurrent or persistent disease is disqualifying.”

USN (16): “A waiver request can be considered after initial therapy, provided the tumor is confined to the epithelium. Cystectomy or the requirement for repeated catheterization results in disqualification, with no waiver recommended.”

USA (15): “A recommendation for waiver will be considered after initial, localized therapy, provided the tumor is confined to the epithelium. Localized transitional cell carcinoma generally responds well to treatment. Muscle invasive disease may require more extensive resection, which results in residual defects and may be incompatible with aviation duties. Cystectomy or the requirement for repeated catheterization results in disqualification with only rare waiver recommendations.”

FAA (7): “Initial special issuance requires FAA Decision.”

**EGERSTROM K.** *You're the flight surgeon: bladder cancer.* *Aviat Space Environ Med* 2010; **81:154–5.**

#### ACKNOWLEDGMENT

The author wishes to thank Dr. Kristin Chrouser, a urologist in Baltimore, MD, for her professional review of this article. The opinions expressed in this paper are those of the author and do not necessarily reflect the opinions or official policy of the U.S. Air Force School of Aerospace Medicine or the U. S. Air Force. The author is a resident in Aerospace Medicine at the U.S. Air Force School of Aerospace Medicine.

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## Unconventional Gas Extraction: Social Impacts

Part 3 in a series of 3

Photos by Robert Donnan

By Leslie A. Walleigh, MD, MPH

Prior articles in the NECOEM reporter have explained the process of unconventional gas extraction (UGE), described the potential adverse environmental impacts, and discussed exposures to workers. The current article discusses several of the social impacts and quality of life changes experienced by residents of communities where UGE is occurring.

Although some individuals residing in gas extraction communities do experience economic benefits as a result of leasing their land or the increasing demand for their services, the adverse effects, resulting from the introduction of numerous widely dispersed industrial facilities into a rural landscape, are spread across the entire community, in some cases disproportionately affecting those who are least likely to experience an economic benefit.

Increased traffic, intrusive noise, contaminated wells, degraded air quality, higher crime rates, and decreased available housing have all been experienced in UGE communities. Researchers documenting these changes have also noted an accompanying pervasive increase in psycho-social stress levels [6,7,9].

### Traffic

Each episode of hydraulic fracturing of an unconventional gas well requires over 1,000 truckloads of water, sand, and chemicals to be transported to the well pad [4]. Following the fracturing event, millions of gallons of flow back and produced waters must be disposed of, often requiring numerous additional trucks to service the well pad. Each well may be hydraulically fractured on more than one occasion. Each well pad may have multiple wells. The resulting huge increase in truck traffic is a primary complaint of community residents [3,5,6]. Narrow rural roads are not designed for heavy truck traffic. The presence of large, heavy, trucks on these roads creates an increased risk for accidents. The risk is compounded by the rapid deterioration of the roads. A resulting increase in accidents and accident fatalities has been documented in a number of gas drilling communities [3,5,6].



Traffic congestion



The presence of thousands of large diesel trucks on the roads in small rural communities not only creates inconvenience and safety hazards but also contributes to the degradation of local air quality. An additional annoying consequence is the day and night increase in noise from the engines and brakes.

Noise

The activities of well pad construction, well drilling and hydraulic fracturing are conducted twenty-four hours a day, seven days a week. In addition to the noise from the diesel trucks servicing the well pad, the onsite operations create constant loud noise for months at a time. The levels of noise experienced by residents living at various distances during different UGE activities are indicated in Table 1. Noise levels above 40 decibels can easily result in sleep disturbance. Higher levels of environmental noise contribute to annoyance, decreased performance, and elevation of blood pressure [10].

**Table 1. Composite Noise Levels of UGE Activities at Various Distances (SPL/dBA) [4]**

UGE Activity	Distance in Feet from Noise Source						Duration Activity (days)
	50	250	500	1000	1500	2000	
Access Road Construction	89	75	69	63	59	57	3-7
Well Pad Construction	84	70	64	58	55	52	7-14
Vertical Drilling	79	64	58	52	48	45	(Total drilling, single well) 28-35
Horizontal Drilling	76	62	56	50	47	44	
Hydraulic Fracturing	104	90	84	78	74	72	(Single well) 2-5

Well contamination

Most individuals living in rural communities rely on private wells as their source of water. Although it remains controversial whether hydraulic fracturing as narrowly defined (the injection of chemicals under high pressure into perforations in horizontal well bores thousands of feet below the earth’s surface) results in contamination of aquifers, the requisite accompanying activities *have* resulted in well contaminations. Faults in well bore casings, chemical spills, and leaking or overflowing wastewater impoundments, have all led to contaminated wells. If families can prove that their unsafe drinking water is a result of UGE activity, then the industry, in most cases, is required to provide them with an alternative water source. If families experience contamination of their water, but it is deemed still safe to drink, they are unlikely to be provided with an alternative supply.



Water Buffalo Spring House

Air quality

In contrast to contamination of wells, which is sporadic and usually results from failures in UGE processes, air contamination is predictable and inherent to the process of natural gas extraction. During the well development phase, the major pollutant affecting nearby residents is diesel exhaust, originating both from the hundreds of trucks servicing the well pad and from the engines powering the drilling and hydraulic fracturing equipment. Transitioning to the production phase, additional contamination occurs with flaring off of the initial emerging gas. When the millions of gallons of flow back or produced waters are contained onsite in impoundments, air contamination from vaporizing volatile organic chemicals occurs, continuing until permanent disposal or recycling of the fluids offsite. During the subsequent years of the



Night Drilling Bobcat

production phase, contamination continues to occur both from well pad condensers and from more remote facilities. Condensers, which remove heavier organics from the methane, emit volatile organic chemicals into the air. Local compressor stations, which receive and pressurize gas from a number of wells, emit pollution primarily from the engines powering the compressor station, but also as a result of further removal of contaminants. Regional processing facilities, which remove hydrogen sulfide and other remaining higher chain and aromatic hydrocarbon impurities, are the largest point source of air contaminants in UGE [2].

Many of the compounds emitted into air during UGE activities are respiratory, eye and mucous membrane irritants. Residents living in proximity to UGE processes have reported respiratory symptoms and both eye and throat irritation temporally related to the onset of drilling or production activities [1,3,6,7]. In addition to their potential acute effects, several of the commonly detected emissions (eg. benzene and formaldehyde) are recognized carcinogens, contributing to residents' concerns regarding the long term health risks of continuing to live in their affected communities [1].

### Crime

An increase in police arrests, observed in some UGE communities [3,5,9], has been attributed to an influx of often transient workers with life styles at odds with the community norms [5]. Workers are sometimes housed in company-owned communal "man camps" which facilitates the lengthy work shifts and work weeks, but which may also contribute to the propensity to commit illegal acts. An increase in arrests for substance abuse and prostitution related crimes, as well as other both violent and non-violent crimes, in conjunction with UGE has been documented [9].

### Housing

The development of natural gas resources in a community leads to an influx of outsiders needing housing. Although many workers from outside the community live in "man camps" owned by the gas companies or other contractors, UGE also results in an increased demand for rental housing. Typically, a shortage of rental units results, and rental prices soar dramatically. Lower income renters, such as seniors, the non-working poor, and the disabled, are displaced, forced into substandard housing or homelessness [3,8].

### Conclusion

Although the development of a community's natural gas resources brings economic benefits to some of its members, the worry over threats to health and safety and the uncertainty concerning the future affect all members of the community. "With regards to stress, it doesn't matter whether individuals are profiting from having leased their land, have chosen not to lease their land, or have no land to lease, the stress impacts everyone" [1].

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## Erratum:

In our Winter 2013 issue we inadvertently failed to include the references for Dr. Leslie Walleigh's excellent article, "Unconventional Gas Extraction: Worker Exposures. Part 2 in a Series of 3." These references are provided below. For her original, fully-cited text, please view/download the corrected, electronic, version of the Winter 2013 NECOEM Reporter at [http://www.necoem.org/documents/V2\\_36e.pdf](http://www.necoem.org/documents/V2_36e.pdf).

- Editor

<http://www.cdc.gov/niosh/programs/oilgas/risks.html>

<http://www.cdc.gov/niosh/docs/2010-130/pdfs/2010-130.pdf><http://www.iom.edu/~media/Files/Activity%20Files/Environment/EnvironmentalHealthRT/2012-04-30/Esswein.pdf>

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## Welcome Message from Our NECOEM President: Dr. Phil Lerner

I am honored to serve as the President of NECOEM, as of December, 2012. It is humbling to follow in the footsteps of many great NECOEM leaders who have preceded me, most recently Phil Adamo. NECOEM is a strong organization and is fortunate to have a very talented, committed and dedicated Board of Directors, including:

Philip Adamo, MD, MPH, FACOEM

David V. Diamond, MD, FACOEM

Philip Parks, MD, MPH, FACOEM

Ron Blum, MD, FACOEM, FAAFP

Neil Haas, MD, MPH, MA, FACOEM

Karen Huyck, MD, MPH

Matthew Lundquist, MD, MPH

George Moore, MD, MSc, FACPM

Glenn Pransky, MD, MoccH, FACOEM

Stuart Glassman, MD

David Berube, MD, MPH, FACOEM

Craig Curtis, MD





Claudia Hix, DO, MPH  
Fred H. Kohanna, MD, MBA, FACOEM  
James Mazo, MD  
Marcelo Targino, MD

In addition, the following  
NECOEM leaders serve critical roles in our organization:

President-Elect: Philip Parks, MD, MPH, FACOEM  
Secretary/Treasurer: David Diamond, MD, FACOEM  
NECOEM Reporter Editor: Tom Luna, MD, MPH, FACOEM  
Annual Conference Chair: Matt Lundquist, MD, MPH  
Dinner Meeting Chair: George Moore, MD, MPH  
CME Coordinator: Lyn Jacobs, MD  
Membership/ Outreach Chair: Karen Huyck, MD, MPH  
ACOEM House of Delegates: Phil Adamo, MD, MPH, Neil Haas, MD, MPH, Claudia Hix, DO, David Diamond, MD, CSS  
(alternate)  
OHSP Representative: Dean Hashimoto, MD, JD

I would be remiss if I didn't recognize a very important person who makes everything work so smoothly – our valued Executive Director, Dianne Plantamura. I rely heavily on her advice and expert management to take care of a wide variety of issues, both big and small.

When I assumed this role, I decided to consult our mission statement as a roadmap. We re-approved our mission in March, 2012, which is “to support the optimal health and safety of workers and workplace environments through educating our members and other health care professionals, encouraging research, workplace safety, and high quality practice, guiding public policy, and promoting the specialty of Occupational and Environmental Medicine.” Our goal is “to address occupational and environmental medicine training needs within the New England region, to develop clear objectives for meeting those needs, to design sound educational programs based on those objectives, to deliver those programs in a variety of formats, to evaluate those programs, and to use such evaluations in planning future events.”

I believe that we admirably achieve this mission. My basic approach as President is therefore “if it ain't broke, don't fix it”. NECOEM is a very powerful, respected, effective and collegial organization. My goal is to keep it that way. I don't believe that significant change is warranted.

Nevertheless, I have a few objectives during my presidency, which are, in no specific order:

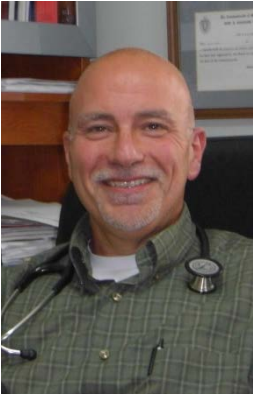
1. Increase the inclusion and development of our colleagues who are new to the field and/or new to NECOEM. We are fortunate to have many seasoned and knowledgeable professionals in our organization; our challenge is to share our wisdom, connections and insights with our newer colleagues. NECOEM is a warm and welcoming organization to everyone who attends our events, including new members, established members and non-members. My goal is to maintain and enhance this attribute. We need to “prime the pump” for the next generation of occupational health professionals.
2. Incorporate additional networking opportunities in our educational events. Collaboration is particularly important in our field.
3. Explore ways to leverage technology. This might include additional podcasts, website updates, incorporating response systems in our educational events, etc.
4. Enhance NECOEM's association with ACOEM. For example, NECOEM currently does not use ACOEM to accredit our CME activities. Given that NECOEM is a component society of ACOEM, it seems that we should obtain accreditation from ACOEM. We are currently pursuing this.
5. Clarify NECOEM's role in the rapidly changing health care environment.
6. Ensure that we fully meet the needs and interests of our members. NECOEM exists for its members. To that end, I welcome your suggestions on how we can continue to deliver value to you, our members.

Thank you for allowing me the honor of serving as your president.

*Phil Lerner, MD, MPH, FACOEM*

## “It’s a Wonderful Life” in Occupational Medicine?

**Philip Adamo, MD, MPH, FACOEM**

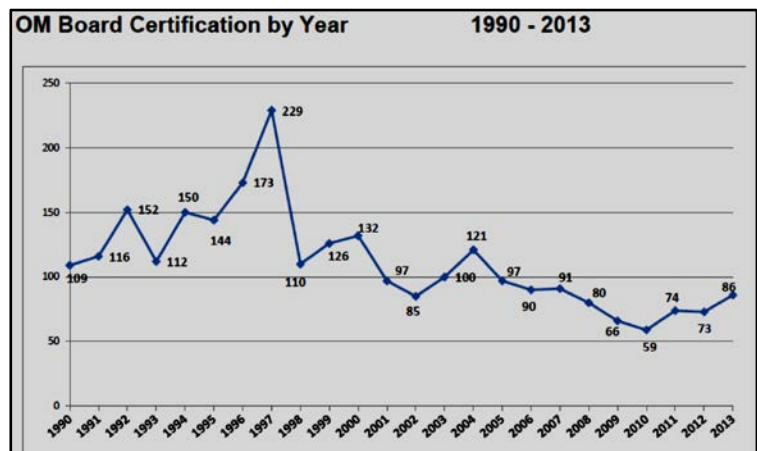


In the movie, “*It’s a Wonderful life*”, George Bailey did not have an appreciation for his life or his accomplishments until his guardian angel, Clarence, came to his rescue when he was trying to end his very own valuable life. He realizes that he had a wonderful life and had impacted the lives of many others. This is one of my favorite movies and the only movie my family endures watching with me at least once a year. I know this is not Christmas time; however, I have related to George Bailey all of my life. I won’t go into many personal issues as to why I relate to George but the one area I can speak about is my career in occupational medicine. Occupational medicine is a great specialty and the scientific literature supports that those working in occupational medicine have less stress than in any other specialty field. A recent publication of the American Medical Association authored by Tait D. Shanafelt, M.D. and others, lends credibility to this fact. Figure 1 shows that only 30% of those physicians in preventive medicine, and occupational or environmental medicine report burnout as opposed to close to 70% of emergency physicians

and those in internal medicine at close to 60%. More importantly, burnout is more common among physicians than in other US workers.

Now the question arises: if there is great satisfaction, less stress and it is a “wonderful life”, then why are there few physicians board certified in occupational medicine? The startling statistics and graph displayed in Figure 2 reveal a marked decrease in the number of board certified occupational physicians; this should be a wake up call for all of us. Please note that this is not the number of physicians that complete residencies or alternative/ complimentary pathways or working in occupational medicine; it is the number of physicians that have received board certification in years between 1990 and 2012. Physicians practicing occupational and environmental medicine are a much more diverse group of physicians than those practicing in most other areas of medicine. Occupational medicine physicians with board certification are of paramount importance to keep the specialty at the forefront of advocating for a safe work environment. Board certified occupational medicine specialists have become the leading experts in providing support to employers and employees for this safe and healthy work environment. You all know the value that we add to the workplace. We have ten core competencies that are necessary to provide our expertise in the workplace:

1. Clinical Occupational and Environmental Medicine
2. OEM Related Law and Regulations
3. Environmental Health
4. Work Fitness and Disability Integration
5. Toxicology
6. Hazard Recognition, Evaluation, and Control
7. Disaster Preparedness and Emergency Management
8. Health and Productivity
9. Public Health, Surveillance, and Disease Prevention
10. OEM Related Management and Administration.



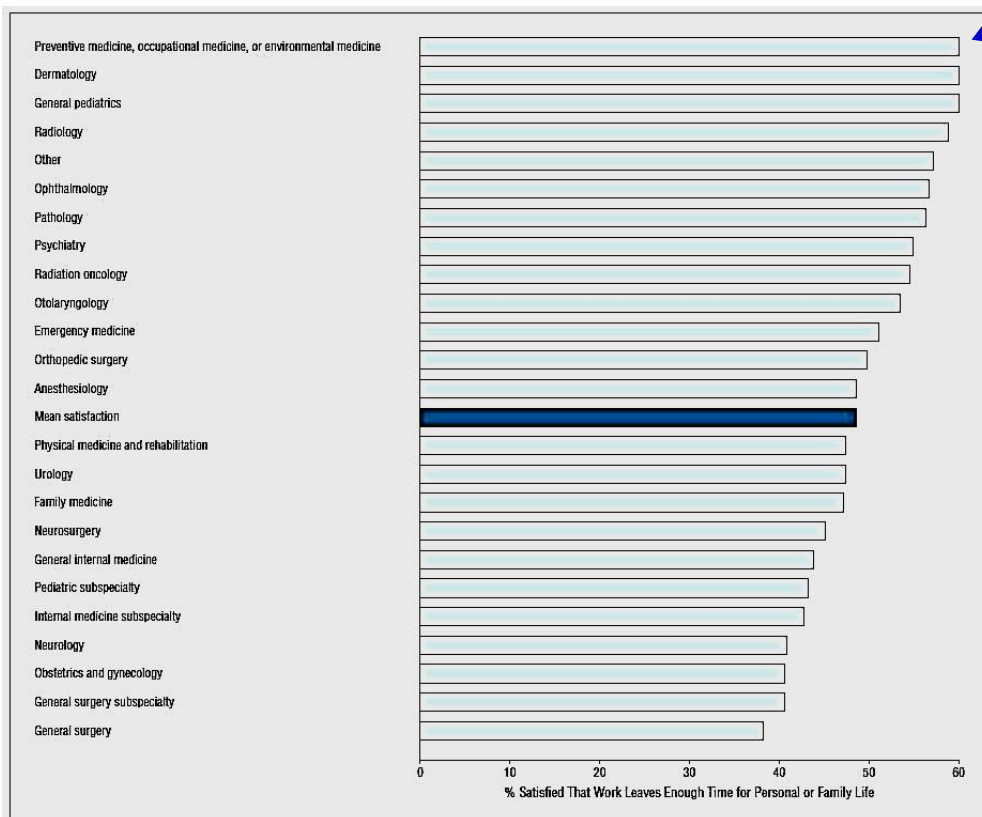


Figure 2. Satisfaction with work-life balance by specialty.

From: *Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population* Tait D. Shanafelt, MD; Sonja Boone, MD; Litjen Tan, PhD; Lotte N. Dyrbye, MD, MHPE; Wayne Sotile, MD; Danie ©2012 American Medical Association. All rights reserved.

In the movie, George is able to see what life would have been like if he had never been born. In my opinion, a vision of no occupational medicine specializing physicians would be detrimental to the work place.

It is well known that residency monetary support for occupational medicine programs is the leading cause for the lack of physicians becoming eligible for board certification. If you speak to some of the residency program directors, they will tell you that there are spaces available for residents, but no funding. The program director and sometimes the accepted resident applicants have to seek funding through grants and other NIOSH venues. The University of Massachusetts Medical School, where I am now working, had a residency program in occupational medicine. I do not know the specifics for the closure; however, any attempt to revive the program was met with hesitation because funding would be almost impossible. I have had the opportunity to teach occupational medicine in the preventive medicine program at UMass and it has been with great enthusiasm. We also know that as the number of board certified occupational medicine physicians dwindles, our professional organizations, both ACOEM and NECOEM, are at risk for a decline in membership. Many of our colleagues in occupational medicine are from other specialties and the cost of membership to multiple organizations can be prohibitive. ACOEM reports a fairly stable membership with perhaps an increase of two members this past year. In the years between 2006-2008, when Connecticut merged with the rest of New England, we had about 300 NECOEM members. In 2009 the census decreased to 273 and now we are at about 253 members.

### Solutions:

We need to get creative on how we can increase our board certified members. My suggestion is to get private industry engaged. Many companies in the business world offer paid internships to under graduate college students who are going into relevant professions. It would be great if industries and business can support our graduate physicians with paid residencies. The industries would need to partner with our occupational centers of excellence to ensure the competencies are being taught to the residents. This solution, in my opinion, would be aligned with the same sentiment George Bailey received at the end of the movie: an occupational medicine specialty with national recognition and an impact on the workplace.

## Caring for Families of Fallen Workers

*By Marcy Goldstein-Gelb*

Just over one year ago, Daniel Collazo, a 28 year-old father from Fall River, headed to work just as millions of us do every day. He never made it back home. Collazo was tragically killed on the job when he became caught in a grinder at the food processing plant where he was employed as a temporary worker.

Besides suffering from the extreme pain that comes with losing a loved one to a workplace fatality, Collazo's family had to immediately begin planning his funeral and finding the funds to cover the impressive cost of burying a loved one.

The Collazo family is not alone with their burden. Every week, a Massachusetts family loses a loved one to an acutely fatal workplace injury or illness. The emotional devastation that comes with such a tragedy is made infinitely worse when the individual is also the family's critical bread-earner, leaving husbands, wives, and children behind, no longer able to count on a steady income.

"After my dad passed away, the last thing we wanted to be thinking about was financial matters but we had no choice. While we received burial benefits from workers' comp, they did not even come close to covering the costs" said Melissa King, daughter of Paul King, who suffered a fatal electrical shock in 2005. "My mom was too devastated to continue working and had to leave her job. I had to quit my job in Rhode Island and come home and take care of my family. Being able to at least cover the costs of my father's funeral would have been one less thing to worry about during such an awful time in our lives."

According to the 2010 funeral price survey by the National Funeral Directors Association, the average funeral cost for an adult funeral is \$7,775.00. This sum does not include additional costs, such as flowers and a burial plot. When a family is done planning what many would consider to be a standard funeral, these costs can end up totaling \$9,000 – a majority of which are upfront costs.

With retail financial institutions' statistics showing that the average American family has a savings account balance of just \$3,800, funeral costs can force an already suffering family into a nearly inescapable spiral of debt. Despite the current reality of funeral costs, the burial benefits allotment under Massachusetts Workers' Compensation when a worker is killed on the job is just \$4,000.

In January, the Massachusetts Coalition for Occupational Safety and Health (MassCOSH) worked with Senator Brian Joyce and Representative Garrett Bradley to file the "Families of Fallen Workers Burial Bill" (HB1698, SB866), which would raise the workers compensation burial allowance amount from \$4,000 to \$8,000.

"This bill ensures that families can bury their loved ones without being burdened by even more financial debt," said Marcy Goldstein-Gelb, executive director of MassCOSH. "It's devastating enough to lose a loved one, families shouldn't also have to shoulder the financial burden of a burial."



The Joint Committee on Labor and Workforce Development will hold a hearing on the bill on October 8, at 10 AM at the Massachusetts State House in State House Room A-1. People are welcome to attend the hearing and encouraged to send a letter to their legislators. To lend your support or learn more about the "Families of Fallen Workers Burial Bill" (HB1698, SB866), email [marcy.gelb@masscosh.org](mailto:marcy.gelb@masscosh.org) or call 617-825-7233 x15.

*Marcy Goldstein-Gelb is Executive Director, Massachusetts Coalition for Occupational Safety and Health.*

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# ACOEM's 2013 Kehoe Award Winner: Dr. Stefanos Kales

At the American Occupational Health Conference in Orlando, Florida, Dr. Stefanos N. Kales was presented with ACOEM's 2013 Kehoe Award for Excellence in Education and Research in Occupational and Environmental Medicine. Stefanos N. Kales, MD, MPH, FACP, FACOEM is an Associate Professor at Harvard Medical School & Harvard School of Public Health; Director, Occupational Medicine Residency, HSPH and the Division Chief of OEM at Cambridge Health Alliance, a HMS teaching affiliate. Dr. Kales was recognized for his significant contributions to OEM, including his dedication as a teacher and researcher to improving worker health as a pre-eminent authority in cardiopulmonary fitness and firefighting. His research statistically confirmed an excess of cardiovascular events among firefighters during strenuous duties; has provided quantification of risk factors; and has clarified the interaction between occupational stressors and medical risks. Dr. Kales was also cited for his major contributions in OEM toxicology, occupational sleep medicine and his prolific record of peer-reviewed publishing. Additionally, as Director of Harvard's OEM residency, he has developed new approaches to train residents in health, productivity and disability prevention. Moreover, Dr. Kales was recognized as motivating Harvard's OEM residents to pursue a wide range of research projects. This lifetime achievement award is named in honor of Robert A. Kehoe, MD, a past ACOEM president and pioneer in the field of OEM.



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## Heavy Metal

*By James E. Mazo, MD*



Saint Francis Hospital and Medical Center in Hartford, CT hosted the most recent NECOEM dinner series on heavy metal exposures in occupational and non-occupational settings. The talk was held in the newly renovated Connecticut Institute for Primary Care Innovation, a joint venture between St. Francis Hospital and the University of Connecticut. I presided over the dinner as master of ceremonies, and NECOEM provided a fully catered dinner. The evening started with a tour of the St. Francis Hospital & Medical Center Emergency Department with special interest in the mass decontamination and casualty area. The weather was warm enough, and the hospital rooftop helipad afforded great views of the city. (see photo)

Dr. Danyl Ibrahim, Director and Chief of Medical Toxicology at Saint Francis Hospital, went through a detailed discussion of the major heavy metal exposures seen in occupational medicine, their specific clinical manifestations, evaluation and management with a focus on the three major offenders, lead, mercury and arsenic. For lead exposures, he discussed OSHA screening levels, exposure mitigation, and treatment protocols. The three basic forms of mercury were reviewed, with a focus on acrodynia, and a thoughtful review and discussion of the Minamata Bay disaster from a clinical and political

### Lead: **Chronic Toxicity in Adults**

- Most commonly from occupational respiratory exposure
- Toxicity Manifestations
  - ▣ Hypertension
  - ▣ Anemia
  - ▣ Abdominal colic
  - ▣ Muscle and joint pain
  - ▣ Decreased fertility
  - ▣ Renal failure
  - ▣ Peripheral motor neuropathy (wrist drop)
  - ▣ Subtle neurological symptoms: lethargy and emotional lability
  - ▣ Encephalopathy (blood lead level > 100 mcg/dl)
- Important Considerations
  - ▣ Stored mainly in bone (95%) with half-life ~ 30 years
  - ▣ Blood lead level may increase with increased bone metabolism
  - ▣ Lead objects retained within the body releases lead
    - Acidic environment like synovial and stomach
    - Mechanical stress



standpoint. Tube well water contamination with arsenic in Bangladesh rounded our discussions of heavy metal exposures.

The talk from Dr. Ibrahim, “How to Recognize and Treat Heavy Metal Poisoning from Occupational and Non-occupational Exposures” inclusive of the slides presented are available on the NECOEM website [www.NECOEM.org](http://www.NECOEM.org) under the resource library and presentations tabs. It serves as an excellent review of the topic; board review quality and detail.

*Dr. James Mazo is Medical Director and Section Chief of Occupational and Employee Health at St. Francis Hospital and Medical Center in Hartford, Connecticut.*



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**Congratulations to NECOEM's  
New Fellows inducted  
at AOHC 2013:**

*From left to right*

**Fred Emmel, MD, FACEP, MPH, FACOEM**  
**Peter Lee, MD, MPH, FACOEM**  
**Karen Huyck, MD, PhD, MPH, FACOEM**  
**Geraldine Ruffa, MD, MS, MPH, FACOEM**  
**George Moore, MD, MSc, FACPM, FACOEM**



## NECOEM/MaAOHN 2013 Annual Conference

### **CALL FOR POSTER ABSTRACTS:**

Abstract submissions are invited for poster presentations. Poster session is scheduled for the evening of Thursday, December 5, 2013 in conjunction with the Annual Conference President's Reception. Abstract submission deadline is August 31, 2013. Visit [www.necoem.org](http://www.necoem.org) for complete details.

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