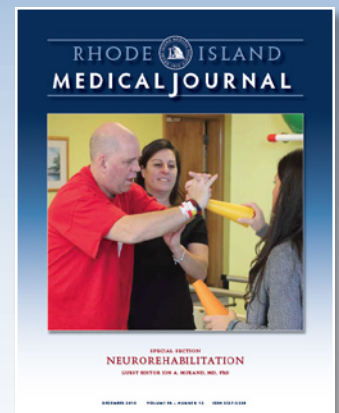
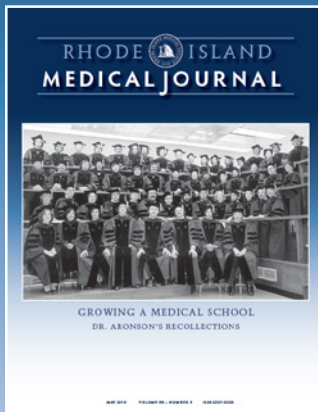


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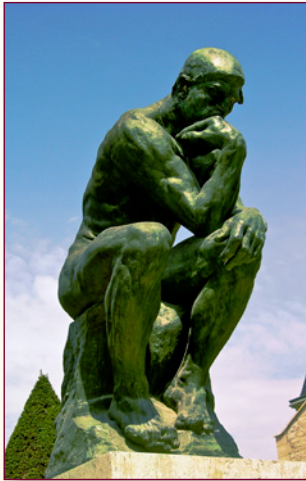
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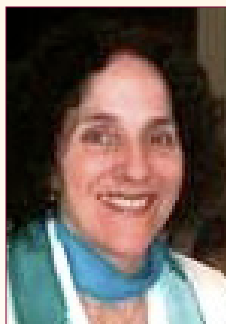
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Thanks to RIMJ's Guest Editors of 2015

We would like to extend our gratitude to the following Rhode Island Medical Journal's (RIMJ) guest editors for their willingness and perseverance in producing the 2015 themed issues:

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Updates in Oncology, Parts 1&2; (Oct.-Nov. 2015)

JON MUKAND, MD, PhD

Neurorehabilitation: (Dec. 2015)

As the above guest editors can attest, it is a time-consuming process to compile an issue containing four to six manuscripts – from a rapid four months to a more typical six to nine months. The guest editor begins with a theme, followed by deciding on specific topics within the focal area, and then soliciting senior authors, who often call upon students, residents and Fellows to participate.

It's a veritable editorial merry-go-round of corrections/clarifications and streamlining, with the completed manuscripts sent on to RIMJ for peer review, only to be followed by a further round of revisions.

And just when the guest editor and contributors think they are done, the managing editor pesters them for author photos, galleys to review – all on a deadline.

We hope it is worth their while, and we note it provides an opportunity for physicians and healthcare professionals just starting out on their medical journeys to hone their research, writing, and editing skills, and hope they take editorial suggestions in their stride: "shorter is better, cut 1,000 words;" "you forgot the citations;" "please reference the figures/charts in the text;" "impact is not a verb," etc. etc. etc.

RIMJ's mission is to report the advances in medicine and healthcare in Rhode Island and the work of the guest editors and their contributors is integral to this mission.

Thank you all, and our best wishes for a healthy and grammatically correct 2016.

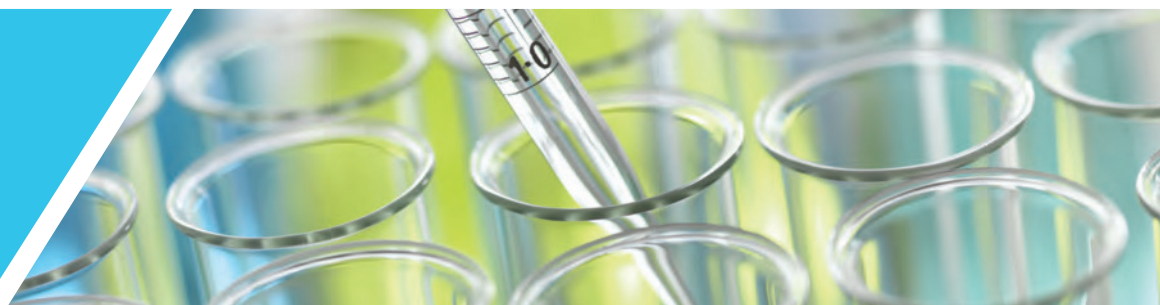
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Bloodletting in the 21st Century?

JOSEPH H. FRIEDMAN, MD
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I OFTEN THINK ABOUT WHAT doctors in the future will think of our current practice of medicine. We are rapidly entering the Star Trek diagnostic paradigm of sticking people in machines that tell us what is wrong, or at least sticking them in a machine to “document” or confirm that what was found on a physical exam is a bona fide abnormality which can be digitized.

I know that these introductory sentences have revealed that I’m old and that I believe clinical exams and clinical impressions are important. But, being older, I also can reflect back over the changes in medical practice that I’ve lived through. I recall that when I was a resident, the best treatment for Bell’s palsy, a problem in the facial nerve which causes unilateral facial weakness, was emergency surgery to widen the canal, allowing the nerve to expand, and thus recover more easily. It was “the standard of care” until a brave otolaryngologist noticed that he often saw patients who had healed on their own, without the benefit of surgery and decided to study it. Surgery was quickly abandoned and patients have done much better on their own without the surgery.

Subarachnoid hemorrhage patients used to be kept on sedatives, in dark, quiet rooms, lying in bed for two weeks before they could have surgery to repair



their aneurysms. The rationale was that earlier operations caused arterial spasm and stroke. The low stimulus environment was to prevent sudden rises in blood pressure that might cause re-bleeding. This was counterproductive since patients did not tolerate the stimulus deprivation,

especially knowing that they had a time bomb in their brain. They, not infrequently, flipped out, to use non-technical jargon.

Of course, there’s a long list of things that we do much better these days, but we are undoubtedly doing a lot of things that are equally unjustifiable, possibly even counterproductive. This thought was triggered by a review article in *Annals of Internal Medicine* (2015;Sept 1; 163:173), on the value of epidural steroids for spinal stenosis and radiculopathy.

The article echoed one published in this journal (2013;96(1):12) [<http://www.rimed.org/rimedicaljournal/2013/01/2013-01-12.pdf>] which concluded that the injections were not really supported by data. The *Annals* article found that the injections produced an early, mild improvement in pain that wore off quickly.

Epidurals are widely used for back and neck pain, and back and neck pain are very common problems. I doubt there

is a single day when I don’t see one or more patients who have received or are scheduled to receive epidural injections. Either corticosteroids, or corticosteroids plus lidocaine, are injected. Given the highly variable responses, including no relief, immediate relief, relief for a few days, and relief for months, it is not possible for me to have a sense of whether the injections have any efficacy. Certainly some patients have had dramatic improvement, but placebo does that as well. I suspect that the injections are popular because the problem of spine-related pain is so complex and so common, and that treatment for those who fail physical therapy and exercise is pain medication or surgery. Thus, anything that can be done short of surgery and can be done safely is worth doing, whether the benefit is placebo or not. Of course, there are other ways to interpret the conflicting and unconvincing results of the various studies. The reports may be confounded by poor patient selection, poor technique with the injections or some other failure of methodology. A more compelling analysis might invoke the notion that the treatment is quite effective for a sub-population who have particular syndromes, but not for the whole population. We have learned that cancers have a wide panoply of physiologies, genetics and biochemistries, that render one breast cancer treatable with one regimen but that does little to affect another breast cancer. It is likely that spinal stenosis or radiculopathies

may have different underlying pain mechanisms that, in an analogous fashion, make some of them responsive to epidural injections. Or, that some people respond better to placebo than others.

How long will unproven remedies continue to be used? Probably as long as they are paid for. All doctors, myself included, have our own beliefs based on our own experience. I think it is uncommon for “evidenced-based medicine” to trump our own “experience-based medicine” when we saw our last three patients improve miraculously with some unproven, or even some disproven remedy.

These observations make me think about bloodletting. I think this was in vogue for about 2000 years in the western world. I am unsure if it was used in other continents and cultures. It had a rationale, namely drawing off the “bad” humors in the blood, to be replaced, presumably, by “good” or wholesome blood. There is little reason to believe that doctors today are much smarter

than doctors of yesteryear, so it must have seemed pretty clear back then that bloodletting worked. In retrospect we might wonder how the competing influences of an enhanced placebo effect, which we ascribe to the more invasive procedures, against the variety of deleterious physiological effects of losing blood when you’re already ill, balanced each other.

Perhaps new funding mechanisms spawned by the PCI (patient-centered initiatives) in Obamacare will determine who, if anyone, benefits from interventions like epidural steroid injections, and help either end an expensive procedure, or determine the “correct” criteria for identifying who will respond.

My own opinion is that nothing will happen until insurers decide that common procedures need to have data to support their use, and will themselves band together to fund studies of treatments like epidural injections. Experience tells me that I should not hold my breath. ❖

Author

Joseph H. Friedman, MD, is Editor-in-chief of the *Rhode Island Medical Journal*, Professor and the Chief of the Division of Movement Disorders, Department of Neurology at the Alpert Medical School of Brown University, chief of Butler Hospital’s Movement Disorders Program and first recipient of the Stanley Aronson Chair in Neurodegenerative Disorders.

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From the Shiftless Lazy to the Contemplative Scholars

STANLEY M. ARONSON, MD

[Editor's Note: For the next few months, RIMJ will be presenting commentaries by the late Stanley M. Aronson, MD, the Journal's former editor emeritus. We appreciate Gale Aronson's offering them to us for publication.]



LAZINESS MAY BE DEFINED as the willful aversion to work, generally physical work. Laziness may assume many forms and settings, but at the least it portrays a human capable of certain labors but unwilling, voluntarily, to engage in such activity. Or, in 19th Century description, "laziness is an unwarranted repose of manner in a person of low degree." If, on the other hand, inactivity is observed in the members of the nobility, it may then be called an interlude of soulful reflection or merely creative meditation or even earned leisure.

The origin of the word, lazy? Quite uncertain but likely a descendant of the Italian *lazzarone*, a noun describing a low social class of itinerants in Naples and identified closely with street begging.

Although the words are closely related in meaning, laziness must still be distinguished from sloth, indolence, lethargy, lassitude and purposeless meditation, sometimes called daydreaming. Laziness, during the advent of the Industrial Revolution, had been elevated from an unwarranted spell of aimless indolence called *acedia* by the church elders. One British statesman then declared: "I look upon indolence as a sort of suicide;

for, in laziness, the man is effectively destroyed, though the appetites of the brute may survive." And yet another, "for Satan finds mischief still for idle hands."

Idle, a synonym for lazy, is derived from a West Germanic tongue and initially defined something that was useless or inept,

as in idle threats. By the 18th Century it took on the broader meaning of worthless, vain, and unproductive, as in an "idling motor."

Indolence, from the Latin *dolor* meaning pain or distress, in its first appearance



Yet how many great ideas, scientific epiphanies and immortal works of art have arisen during moments of quiet reverie?

signified something free of pain; then in time, a disposition to avoid work, and finally a phlegmatic, lazy demeanor.

Lethargy, meaning a morbid drowsiness, is from the Greek denoting forgetfulness and is descended from Lethe, the river of forgetfulness, in Hades.

Lassitude, describing a weariness, languor or moral exhaustion, is from the Latin, *lassus*.

And sloth? Taken from an old English word meaning sluggish. Sloth, over the centuries, has absorbed collateral meaning such as uncivil, uncouth and even cowardice.

Somewhere in Europe's 18th Century, the turning point was reached when machinery began to replace much of manual labor, particularly in the textile industries, and concurrently the pace of living accelerated as scheduled factory employment replaced home-based crafts. From an indolent era in the past, marked by record plagues, crusades, institutionalized ignorance and a reluctance to change, Europe quickened

The Thinker, sculpture by Rodin.

its pace, and introduced the integrating elements of industry into what had been a closed society; literacy was urged; schedules were now published; clocks became the guiding instruments in the society that had become more interrelated, more structured. And accompanying the civil changes of the Industrial Revolution came the earnest belief that idleness was a major sin and clearly an emerging threat to the integrity of a newly modern society. Sin and particularly laziness, from something intensely personal, had become a public menace, from a private deficit to a public indecency.

But all is not lost. Our society is increasingly strengthened by sturdy citizens – sentinels of society's moral fabric – who have given themselves

the thankless task of judging the work habits and even the moral principles of their fellow humans, seeking out those “that the devil finds idle.” This form of voluntary inspection, devoid of any hint of humor, is said to be an inevitable byproduct of the Industrial Revolution – indeed one of numberless new public burdens emerging in that historic era. Were it not for these self-appointed guardians of our collective morality, it is likely that a campaign against the inroads of laziness would cease, the bridges would falter, our traffic lights would fail and sermons would no longer explore the entrails of sinful sloth.

Idleness and spiritual apathy, assuredly, are the foes of productivity, but not necessarily the enemies of creativity. When society has satisfied its basic

needs for shelter and nourishment, surely it can allow, even encourage, some to devote themselves to a life of contemplation.

Yet how many great ideas, scientific epiphanies and immortal works of art have arisen during moments of quiet reverie? And for the rest of us not endowed with genius, there is always the gift of undemanding contemplation, the serenity of inner silence and that wondrous feeling of merger with the natural world. ❖

Author

Stanley M. Aronson, MD, was Editor emeritus of the *Rhode Island Medical Journal* and dean emeritus of the Warren Alpert Medical School of Brown University.



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CALABRIA, ITALY

Steve DeToy, RIMS Director of Government and Public Affairs, pauses to read the November issue while in vacationing in Calabria to celebrate a friend's 60th birthday. Calabria is located in southwestern Italy, the "tip of the boot," and is known for its traditional villages, rugged mountains, and dramatic coastline.

Wherever your travels take you, be sure to check the latest edition of RIMJ on your mobile device and send us a photo: mkorr@rimed.org.

Prevalence of Sedating Medication Use Among Older Drivers Presenting in the Emergency Department

ADAM W. HENDERSON, BS, MD¹*; FRANCESCA L. BEAUDOIN, MD, MS; MICHAEL J. MELLO, MD, MPH; JANETTE BAIRD, PhD

ABSTRACT

BACKGROUND: Adults over the age of 65 are involved in more motor vehicle collisions per mile driven than those under 65.

OBJECTIVE: This study aimed to determine the prevalence of sedating medication use among older drivers, and their recall of advice given by medical professionals about potential for these medications to cause driving impairment.

METHODS: This was a cross-sectional study of older adults (age ≥ 65) who had driven in the last 30 days, presenting at an urban emergency department.

RESULTS: Of the 76 participants, 34 (44.7% [95%CI: 38.7, 50.7]) reported currently using sedating medications. No participants using sedating medications reported being advised by their prescriber about potential driving impairment caused by these medications.

CONCLUSIONS: Given that none of the participants on sedating medications reported previous advice regarding the potential for these medications to cause driving impairment, this at-risk group might benefit from more thorough instruction to limit driving when using sedating medication.

KEYWORDS: Older drivers, sedating medications, driving impairment

INTRODUCTION

Adults over the age of 65 constitute about 13% of the United States population, but account for over 16% of all motor vehicle fatalities.¹ Although this age group drives fewer miles annually than drivers younger than 65, their crash rate per mile driven is higher.² Factors associated with aging, such as cognitive impairment, decreased reaction time, and reduced visual acuity, can affect the driving performance of the older driver.³ Prescription medication use may also impact driving performance, particularly when medications with sedating potential are used. A recent case-control analysis of motor vehicle collision (MVC) data among older Swedish drivers showed that, as the amount of prescribed medications increased, there was a corresponding increase in the number of injurious MVCs.⁴

Between 1999 and 2008, the number of people in the U.S. taking multiple prescription drugs increased, with 36.7% of those aged 60 and older reporting use of 5 or more prescription drugs within the past month.⁵ In particular, prescription drugs for pain (e.g. opioids), insomnia (e.g. hypnotics and sedatives), and mood regulation (e.g. anxiolytics) are commonly taken in combination and have the potential to negatively interact, putting older adults at higher risk for adverse effects, which could impair driving performance.⁶⁻⁸ Benzodiazepines are among the most commonly used drugs by older adults, and there is evidence to show that benzodiazepines reduce the driving ability and safety of older drivers.^{9,10}

The emergency department (ED) is an opportune location to study this problem, as it is a likely place for the negative sequelae of sedating medication use to be revealed, particularly with regard to MVCs. Injuries from motor vehicle accidents are the fourth leading cause of nonfatal injuries for U.S. adults 65 or older treated in the ED.¹¹ However, the prevalence of sedating medication use among older adults presenting to the ED is unknown, even though this group frequents the ED more often than adults under the age of 65.¹²

The information that older adults receive about the potential effects of sedating medications has not been well characterized. It is unknown if they receive advice about these medications' effects from their health care providers or any other sources. The ED encounter provides an opportunity to provide information about the adverse effects of sedating medications on driving performance, particularly when an older adult presents following a MVC.

The objective of this study was to determine the prevalence of sedating medication use among older adults presenting to the ED who reported that they drove a motor vehicle recently. A secondary aim of this study was to evaluate whether older adults who take sedating medications received advice from prescribers about the medications' risks, including their negative effects on driving performance.

METHODS

Study design

We conducted a cross-sectional observational study of older adult patients (age ≥ 65) who were treated in the ED at Rhode Island Hospital for any injury or illness and reported driving in the past 30 days. The Institutional Review Board at Rhode Island Hospital approved the study protocol prior to

beginning the research. We reviewed the ED's electronic medical record (EMR) to identify potentially eligible study participants (age \geq 65 years, non-critical injury or illness, English speaking), who were then approached in order to perform an in-person assessment of study eligibility. Participants were determined ineligible if they did not report driving a motor vehicle within the past 30 days. We administered a previously validated six-item screener to identify cognitive impairment among potential subjects.¹³ Participants with a score \geq 4 (of a maximum of 6) formed the final study population after providing verbal consent to participate.

Using a medication checklist, participants were asked about their current use of general classes of medications. If participants indicated current use of medications of any class, they were asked if the medication was a prescription or an over-the-counter drug, the name of the medication, and advice they had received from a doctor, nurse or pharmacist about the effect of the medications on the following: fall risk, driving performance, memory, weight, urinary frequency, and ability to smell odors. Non-injury and unlikely drug side effects were included to minimize social desirability response bias. Due to alcohol's synergistic sedating effects, participants were also asked about alcohol use.

Participants were asked about their perception of the effects each medication had on their driving ability. We used a timeline follow-back approach¹⁴ to find the frequency of driving days, usual amount of miles driven in the past week, and history of MVCs in the past 12 months.

Sedating Drug Classification

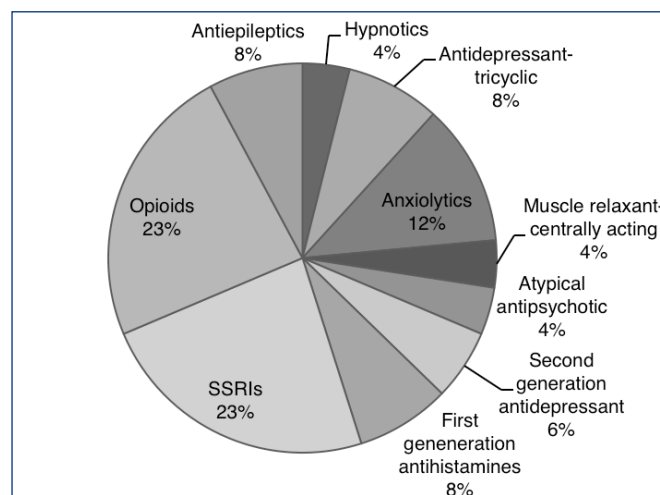
The sedating potential or load of participants' medications, was determined using criteria laid out by the sedative drug model.⁸ The sedative model was published in 2011 by Taipale et al.⁸ and is based on drugs approved for use in Finland. Primary sedating medications (e.g., conventional antipsychotics, anxiolytics, hypnotics and tricyclic antidepressants) are given a score of 2 and have sedation as a main effect. Secondary sedating medications (e.g., atypical antipsychotics, selective serotonin reuptake inhibitors [SSRIs], antiepileptics, other second-generation antidepressants, and prescription opioids) are given a score of 1 and have sedation as a prominent side effect. Sedative load for each patient is calculated by summing the sedative scores of the medications participants reported using. A sedative load \geq 2 means that a person was taking at least one medication that is a primary sedative (sedative load=2) or at minimum two medications with sedation as a primary side effect (2 medications with sedative load=1).

Table 1. Demographic characteristics and sedative drug use among the sample population

Characteristic		Total [n (%)]	User of drugs with sedative properties? [n (%)]	
			Yes (n=34)	No (n=42)
Gender	Women	32 (42.7)	16 (47.1)	16 (39.0)
Age (y)	Age Median	72	70	73
	Age IQR	68–78	69–78	67–78
Race	White	67 (88.2)	29 (85.3)	38 (90.5)
	Black	5 (6.6)	3 (8.8)	2 (4.8)
	Hispanic	2 (2.6)	2 (5.9)	0 (0)
	Other	2 (2.6)	0 (0)	2 (4.8)
Partner Status	Married	43 (56.6)	17 (50.0)	26 (63.4)
	Other	33 (43.4)	17 (50.0)	16 (38.1)
Employment	Retired	67 (88.2)	31 (91.2)	36 (85.7)
	Employed	9 (11.8)	3 (8.8)	6 (14.3)

IQR= Interquartile range and is represented by the 25th - 75th percentiles.

Figure 1. Medications contributing to sedative load in study participants by category. SSRIs = selective serotonin reuptake inhibitors



RESULTS

In total, 143 patients were screened for potential study eligibility. Of these patients, 52 were considered ineligible. The most common reasons for study ineligibility were either the patient had not driven in the past 30 days (38%) or patient was cognitively impaired with a six-item screener score $<$ 4 (39%). Of the eligible patients (n = 91), 3 patients refused study consent, and an initial 12 patients completed pilot interviews as part of survey development.

Of the 76 patients enrolled, 34 (44.7% [95%CI: 38.7, 50.7]) reported using medications with sedating qualities (Table 1). The most common classes of sedating medications were opioids and antidepressants, together accounting for over half of sedating medications used by study participants (Figure 1).

Eighteen participants (23.7% [95%CI: 19.7, 27.7]) registered a sedative load of 2 or greater while 16 participants (21.1% [95%CI: 12.1, 30.0]) had a sedative load of 1. **Table 2** shows the various classes of medications that participants were using and the corresponding sedative load scores for each medication.

Participants had similar driving habits regardless of their sedative load. Participants with a sedative load of 2 or greater averaged 38.3 miles (95%CI: 26, 51 miles) driven per week, while those not on any sedating medications averaged 38.6 miles (95%CI: 21, 56 miles) (Table 3). Participants with a sedative load of 1 had similar driving patterns, averaging 39.3 miles (95% CI: 15, 64) driven per week. While not statistically significant at the $\alpha=0.05$ level, participants with a sedative load ≥ 2 had a higher rate of MVC in the past 12 months with 17% (95%CI: 0, 34) reporting a MVC compared with 7% (95%CI: 0, 13) reporting a MVC of those with a sedative load ≤ 1 .

Alcohol use was highest in the group not on any sedating medications. In that group, 21 (50%) of participants drank at least once a week. Seven (44%) of the participants with sedative load of 1 drank at least once per week. Six (33%) of the participants with sedative load of 2 or greater drank at least once per week.

When asked whether they thought their medications affected their driving, few participants on sedating medications reported that their medications had an effect on driving (Table 4). When asked whether the health care provider that prescribed their medications provided any advice about the medication's effect on driving performance, few participants on non-sedating medications (3%; 95% CI 0, 7) and none on medications with a sedative load of 1 or 2, reported being cautioned about the potential for the medications to increase the risk of MVCs.

DISCUSSION

Almost half of the older adult drivers in our study sample were on sedating medications. Previous studies have shown that sedating medications can impair driving ability, and many sedating medications have specific warnings

Table 2. Sedative load and drug classification

Group (ATC code)	Drugs used by participants	Number of participants using each drug (n)	Sedative sum score
Primary sedatives (sedative load=2)			
Hypnotics (N05C)	zolpidem	2	4
Tricyclic antidepressants (N06AA)	amitriptyline, imipramine	4	8
Anxiolytics (N05B)	alprazolam, diazepam, lorazepam	6	12
Drugs with sedation as a prominent side effect or a sedating component (sedative load=1)			
Centrally acting muscle relaxant (M03BX01)	baclofen	1	1
Dopamine receptor agonists (N04BC)	ropinirole	1	1
Atypical antipsychotics	quetiapine	1	1
Other antidepressant (N06AG)	trazodone	2	2
First generation antihistamine	doxylamine, diphenhydramine	4	4
SSRIs (N046AB)	paroxetine, fluoxetine, escitalopram, sertraline	12	12
Opioids (N02A)	oxycodone, hydrocodone/ibuprofen, oxycodone/acetaminophen, hydrocodone/acetaminophen, codeine/acetaminophen	11	11
Antiepileptic (N03)	gabapentin, clonazepam	4	4
Total sedative sum score			60

ATC=Anatomic Therapeutic Chemical; SSRIs=selective serotonin reuptake inhibitors.

Table 3. Driving behavior and sedative drug load

	Sedative load=0	Sedative load=1	Sedative load ≥ 2
Driving Behaviors	Participants (n) out of total (n=76)		
	n=42	n=16	n=18
MVC in the past 12 months [n (%; 95% CI)]	4 (10; 1, 19)	0 (0)	3 (17; 0, 34)
Average miles driven per week miles [(95% CI)]	38.6 (26, 51)	39.3 (15, 64)	38.3 (21, 56)

about the risk of driving after taking these medications.^{4,9,15} Despite the risks, older adult ED patients in this study who used sedating medications still engaged in driving, and, in a few instances, drove even though they reported that their driving was affected by these medications.

Sedative load was calculated for these participants in order to quantify the sedating potential of the reported medications based on the sedative load model.⁸ Across our participants, there were no significant differences in reported driving behaviors. Those with sedative load of 1 or sedative

Table 4. Study participant recall of advice given by health care providers on potential medication side effects

Advice Type	Medications with Sedative Load of 0	Medications with Sedative Load of 1	Medications with Sedative Load of 2
	Percent reporting that advice was given [% (95% CI)]		
Falling risk	8 (1-14)	9 (0-20)	0
MVC risk	3 (0-7)	0	0
Forgetting things	11 (3-19)	13 (1-24)	0
Ability to smell odors	5 (0, 10)	3 (0-9)	8 (0-25)
Obesity risk	2 (0-5)	0	8 (0-25)
Urinary frequency	16 (7-25)	0	0
Percent of participants reporting medication had an effect on their driving	5 (0-10)	13 (1-24)	8 (0-25)

load greater than or equal to 2 drove nearly the same number of miles per week as those who were not on sedating medications. While those with a sedative load ≥ 2 had a higher rate of MVC, this result was non-significant in this observational study. A future study designed with an adequate power to test this hypothesis would be useful. None of the older adults on medications with potential sedating effects reported being given advice about avoiding or adjusting their driving while on the medications due to the potential for the medications to increase the risk of MVCs.

Our study found that older adults reported during an ED visit that they did not change their driving habits after taking sedating medications to accommodate the medications' negative effect on driving performance. Our findings, if replicated, suggest the importance of research to develop an easily administered assessment tool (perhaps within an EMR) for medical providers to identify older adults with a high sedative load and counsel the individuals about the risks of sedating medications and driving performance. Counseling older patients on MVC risks while using sedating medications has the potential to reduce MVCs in this at-risk population.

LIMITATIONS

This is a cross-sectional study of older adult patients who presented to an ED situated in a busy urban setting. The limited sample size and the fact that study participants may not be representative of all older adult ED patients, including those non-English speaking or critically ill, potentially reduces the generalizability of our findings.

Additionally, this study assessed patient recall of prescriber recommendations of medication side effects in this case. Studies have shown that patient recall of physician advice is highly variable with >90% to only 22% of advice

being recalled depending on the nature of the advice.¹⁶

Furthermore, while sedating medications were identified based on criteria laid out by a previous study⁸ medication side effects can manifest differently depending on dose of the medication, time of administration, and variable patient pharmacokinetics and metabolism. We included all medications with sedating potential based on the rubric by Taipale et al.⁸ Some medications included may not be sedating in all individuals, for example SSRIs. However, in the case of SSRIs in particular, somnolence is listed as a common adverse event for SSRIs based on clinical trials conducted by the manufacturers, especially in specific SSRIs such as fluvoxamine and paroxetine.¹⁷ We chose to be sensitive, rather than specific, when it came to including medications with sedating potential as this has greater applicability to future screening and interventions.

Future studies could aim to quantify the attributable risk of different sedating medication for older drivers involved in a MVC. Our study did not assess older adults' use of illicit drugs. Future studies could be designed to assess this to gather a more complete measure of sedative load of older adults involved in MVCs. Future studies could also aim to interview older drivers involved in MVCs and identify whether drivers were using sedating medications.

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Snakebite! Crotalinae Envenomation of a Man in Rhode Island

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ABSTRACT

The incidence of poisonous snakebites has regional variance. Health care providers' knowledge and comfort in treating these envenomated patients depends on the density of poisonous snakes in their environment, with practitioners in the southern U.S. typically treating more exposed patients than those in colder regions in the North. We present a rare case of a confirmed copperhead snakebite that occurred in Rhode Island. We will review Copperhead bites, clinical management and treatment options.

KEYWORDS: *Agkistrodon contortrix*, Crotalinae, antivenin, CroFab, FabAV, Rhode Island

INTRODUCTION

The Copperhead snake (*Agkistrodon contortrix*) is a member of the poisonous Crotalinae (pit viper) subfamily that is indigenous to North America's Southeast and Midwest regions, with most of the reported bites occurring in these areas. According to the American Association of Poison Control Centers (AAPCC), 3,823 crotaline snake exposures were reported in 2013; 47% from copperheads, 30% from rattlesnakes, 7% from cottonmouths, and 15% from unknown crotalines. One hundred and fifty-six of these patients had life-threatening envenomations; 3 deaths were reported.¹ Since this occurs so rarely in the Northeast United States, physicians and health care systems may be less familiar with management, expectations and treatment of poisonous snakebites.

This paper reviews the management of poisonous snakebites, illustrated by a confirmed case of a copperhead snakebite in Rhode Island.

CASE REPORT

Presentation

A 62-year-old man presented to the emergency department (ED) with pain and swelling of his left hand after being bitten by a snake on his left thumb just prior to arrival. 911 was called and an environmental police officer was dispatched from the RI Department of Environmental Management to the scene and identified the snake as a Copperhead (Figure 1). The patient reported acute onset of severe pain associated with swelling and numbness that had been progressively

worsening since the injury. The patient denied any associated shortness of breath or active bleeding.

Physical examination

His initial vitals revealed a blood pressure of 122/76 mmHg, pulse of 76 beats per minute, and temperature of 101.7°F. His respiratory rate was 16 breaths/min, and his oxygen saturation was 100% on room

air. He was awake and alert, complaining of pain. His physical examination was normal with the exception of marked swelling and erythema extending from the proximal left thumb to the distal forearm. Two puncture wounds were visible on the volar aspect of the left thumb.

ED management

Initial laboratory testing in the ED included PT, aPTT, INR, fibrinogen, D-dimer, lactic acid, platelets and creatinine kinase; all were within normal limits.

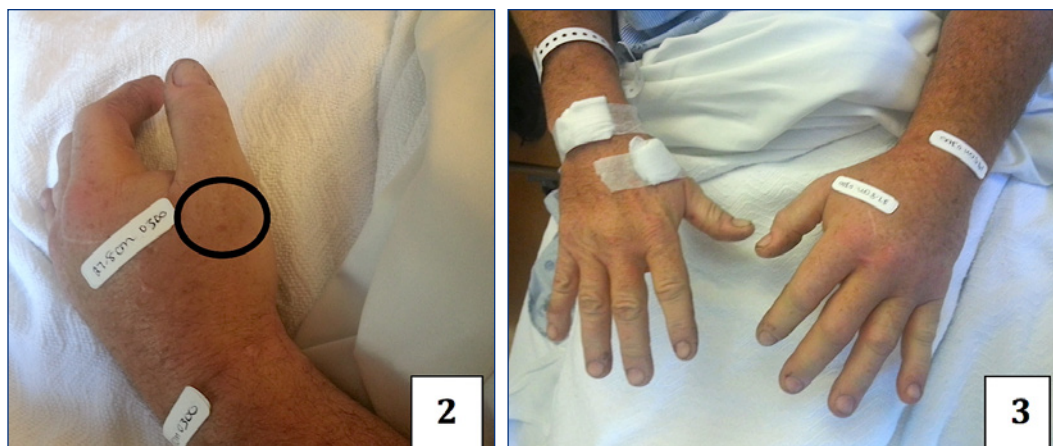
In the ED, the patient experienced progressive worsening of pain and swelling extending to his proximal forearm. The Regional Poison Control Center (1-800-222-1222) was contacted and agreed that, because of the severity of his symptoms and rapid progression of swelling proximally, he met criteria for moderate envenomation and recommended administration of FabAV. Four vials of CroFab® were administered in the emergency department and the patient was admitted to the internal medicine service for further observation.

Hospital course

The patient's symptoms improved throughout his 4-day inpatient hospitalization. During that time, he was followed by the Regional Poison Control Center and Plastic and Reconstructive Surgery (PRS) service. He was monitored closely for evidence of coagulopathy, hemolysis, rhabdomyolysis, and shock. His blood work remained normal throughout his hospitalization. Swelling was closely monitored with serial measurements of the left arm (Figures 2, 3). The patient received 2 vials of FabAV every 6 hours for 2 additional doses; a 3rd dose was held after discussion with

Figure 1. Copperhead snake





Figures 2 and 3.

(2) Copperhead bite on left hand, 6 hours after initial Crofab®. Two small puncture wounds can be seen on the dorsal aspect of the left thumb, circled. (3) Comparison of swelling between the two hands.

the Poison Control Center due to improving physical exam and normal blood testing. The patient demonstrated daily improvement in hand swelling and pain control and was discharged on hospital day 4 with minimal swelling on the dorsal and volar aspects of the thumb base, improved erythematous changes, and intact neurovascular functioning of the affected hand. The patient was discharged with a 5-day course of amoxicillin/clavulanic acid for the puncture wound, and follow-up was scheduled with the PRS team.

DISCUSSION

Copperhead Envenomation

Copperhead envenomation is considered less injurious than the other viperidae snakes, with toxic effects including severe pain, local tissue damage and, infrequently, coagulopathy, rhabdomyolysis, neurotoxicity and shock.² In a retrospective chart review of 106 confirmed and probable copperhead snakebites among pediatric patients in a tertiary care hospital in St. Louis, Missouri, only five patients had two coagulation laboratory values outside normal ranges. None of the patients developed bleeding complications.³ Treatment is often supportive care and pain control; however, Crotalinae ovine immune Fab (FabAV), such as CroFab®, may be indicated for moderate to severe envenomation or airway compromise from local tissue swelling (Table 1).

Snakebite complications

Classically, compartment syndrome causes severe pain due to tense edema from swollen muscle compartments, often requiring fasciotomy to release the at-risk musculature and neurovascular bundle. In contrast, tissue swelling from snake envenomation is typically caused by subcutaneous edema, as venom migrates primarily in the

subcutaneous tissues via the lymphatic system – external to the muscular compartments. In a randomized study of snake envenomation in rabbits, superior survival and muscle function were noted among those treated with antivenin as opposed to debridement or fasciotomy.⁴ In 2013, a consensus-based treatment guideline recommended antivenin as the first line treatment, as it reduces compartment pressures and obviates the need for fasciotomy, and recommended against prophylactic excision of the affected tissue since it has not been shown to improve outcomes. Fasciotomy in snakebites is reserved for patients who fail to improve with antivenin or have confirmed increased compartment pressures.⁵

Medical management of snakebites

The affected extremity should be placed on a pillow at a neutral height; significant elevation is not recommended and worsens toxicity by hastening proximal distribution of venom.

Table 1. Symptoms of crotalinae envenomation. Crotalinae ovine immune Fab (FabAV) is indicated for moderate to severe symptoms. FabAV may be considered for mild symptoms, depending on the clinical scenario.

	Mild	Moderate	Severe
Local tissues	Localized swelling and pain at the bite site	Local swelling at the bite site and proximal surrounding tissues Swelling and pain less than 50% entire extremity Swelling less than 50cm on head, neck or trunk	Swelling and pain including entire limb Swelling greater than 50cm on head, neck or trunk Signs of compartment syndrome
Systemic effects	N/A	Nausea, vomiting, diarrhea, tachycardia, tachypnea	Hypotension/shock Severe tachycardia, respiratory failure, altered mental status
Laboratory abnormality	N/A	Abnormal coagulation parameters (i.e. PT, PTT, fibrinogen)	Abnormal coagulation parameters (i.e. PT, PTT, fibrinogen) with serious bleeding

Any potential restrictive accessories, such as rings and watches should be removed. The wound should be carefully washed to remove venom on the skin and tetanus immunization should be given if patient is out of date. Providers should monitor progression of proximal swelling closely by drawing lines at the most proximal edges; the circumference of the affected extremity should be measured and documented every 15-30 minutes. An IV should be placed on a non-affected extremity for medications and fluid. Opioid medication can be used for pain control; non-steroidal anti-inflammatories (NSAIDs) should be avoided as platelet function may already be impaired. Constrictive bandages, tourniquets, or prophylactic antibiotics are not recommended. Furthermore, there is no role for incising the puncture wound and attempting to suck out the venom.

History of antivenin

The original snake antivenin, Antivenin Crotalidae Polyvalent (ACP), was introduced in 1953 and significantly decreased the mortality from snakebites in the United States from 5-36% to less than 1% by the 1960s.⁶⁻⁸ Its safety profile was unfavorable, however, with a significant incidence of anaphylaxis and serum sickness.

What is FabAV?

Crotalidae Polyvalent Immune Fab (fragment of antibody) antivenins were approved by the FDA in 2000 and are commercially available in the United States as antidotes for indigenous North American viper envenomation. The most widely available FabAV in the U.S. is Crofab®.

The antivenin is derived from sheep immunoglobulin (IgG) and targets the venom of four snakes: Western and Eastern diamondback rattlesnakes, Mojave rattlesnake, and Cottonmouth (Water Moccasin). FabAV binds and neutralizes venom toxins, which allows for their elimination. The antivenin has also demonstrated cross-protection in murine models against: *C. atrox*, *C. adamanteus*, *C. scutulatus*, *A. piscivorus*, *C. h. atricaudatus*, *A. c. contortrix*, *S. m. barbouri*, *C. h. horridus*.⁹ FabAV may also be beneficial against some Middle Eastern and North African snakes, although clinical data is lacking.¹⁰

How does FabAV work?

FabAV is efficacious in controlling the toxicity of Crotalidae bites in patients with minimal to moderate envenomation,^{1, 11-17} and improves patient outcomes in severe envenomations by halting coagulopathy and limiting systemic toxicity.¹⁸

Who requires FabAV?

Indications for initiation of FabAV include most bites with more than minimal swelling, systemic symptoms or with any laboratory abnormality: swelling that is progressively worsening, elevated prothrombin time (PT), decreased fibrinogen or platelets, or any systemic involvement, including altered mental status, hypotension, tachycardia or tachypnea. Please

refer to Table for additional moderate to severe symptoms requiring FabAV. Dry bites, as evidenced by the presence of fang or tooth marks without evidence of envenomation (i.e. no swelling, minimal pain, no systemic symptoms), occur in up to 25% of Crotaline bites. Dry bites do not require treatment with FabAV and patients may be discharged home after at least 8 hours of observation without changes in their clinical status or abnormal labs prior to discharge.

What is the FabAV loading dose?

Patients with mild to moderate symptoms (Table) initially require 4 to 6 vials (approximately 4 to 6 g) of reconstituted FabAV. A second dose of 4 to 6 vials may be warranted if initial control is not obtained within one hour of treatment.¹⁹ Initial control is defined as arrest of progression of swelling, reversal of coagulation abnormalities, and overall improvement in clinical condition.

In patients with severe envenomation, higher doses of FabAV may be required to achieve initial control. In one study, patients with severe envenomation required a median dose of 9 vials to stop proximal progression of swelling and systemic symptoms and 25% of patients required more than 15 vials.¹⁸ Of the confirmed snakebites in the study, rattlesnake bites resulted in 13% of severe envenomations, while copperhead bites did not result in any severe systemic effects.¹⁸

Pediatric patients require the same dose of FabAV as adults, as the severity of envenomation depends primarily upon dose of venom injected, not on the size of the victim.

How is FabAV administered?

FabAV must be reconstituted carefully with a swirling or twisting of the vials and not shaking. The induction of bubbles with shaking renders the antidote unusable. FabAV is most effective when infused within 6 hours of envenomation, although repeat administrations may be required due to the shorter half-life of FabAV in comparison to Crotalinae venom.¹ In order to prevent rebound toxicity in patients with moderate to severe envenomation, it is recommended that these patients receive a scheduled dose of 2 vials of FabAV every 6 hours for 3 doses.

FabAV complications

FabAV has a much lower incidence of severe hypersensitivity reactions and serum sicknesses than its predecessor ACP. Nevertheless the initial infusion should be administered in an emergency or intensive care unit setting. The estimated immediate and delayed hypersensitivity following FabAV administration is 6% and 8%, respectively.²⁰ Patients with known ovine or papaya allergies should be pretreated with intravenous diphenhydramine and methylprednisolone, and epinephrine should be immediately available in case of anaphylaxis.

The most common side effect is a rate-related anaphylactoid reaction. In this circumstance, the infusion should be temporarily stopped and the patient's symptoms addressed.

It can then be restarted at a slower rate.

Serum sickness presents days after administration with joint pain and swelling and is often non-fatal; it is generally treated with a course of systemic steroids.

Severe acute hypersensitivity symptoms include anaphylaxis. Patients with anaphylaxis should receive appropriate medical treatment. Antivenin administration should be stopped and should not be restarted.

In a multicenter observational case series of 209 patients immediate hypersensitivity reactions and serum sickness were reported in 6.1% and 5% of patients, respectively.¹⁸ Four patients experienced serious immediate hypersensitivity reactions, and one patient required cricothyroidotomy.²¹ Overall, there is risk associated with FabAV administration, but it is rare and should not prevent administration of this critical antidote to patients in need.

Disposition of snakebite patients

Patients receiving FabAV should be admitted to the hospital for observation. Patients discharged home should be instructed to monitor for worsening swelling or abnormal bleeding. Patients who did not receive FabAV do not need follow-up appointments.²²

FUTURE DIRECTIONS

In addition to the ovine-derived FabAV, an equine-based, F(ab')₂ antivenin, Anavip®, has been approved by the FDA but will not be commercially available in the United States until 2018 or 2019. Anavip is derived from *Bothrops asper* and *Crotalus simus* immunizing venoms and has been shown in phase 3 clinical trials to have a longer half-life than CroFab. Furthermore, data suggests a lower frequency of late coagulopathy after Anavip administration when compared to CroFab (5–10% versus 30%), and a similarly low rate of acute serum reaction and serum sickness in both groups.^{1, 19}

CONCLUSION

The initial management of Crotaline envenomation should be coordinated with the national Poison Control center and, if available, local toxicology consultants; the decision to administer FabAV should be based on symptom severity.

Wound care and diagnostic testing are essential in determining severity of the envenomation. Tracking and marking the progression of edema assists in grading symptoms and assessing response to therapy. Appropriate limb placement and prompt removal of potentially constricting items are critical steps in reducing complications. Serology should be directed for development of coagulopathy, hemolysis and myonecrosis to identify an envenomation that requires antivenin administration.

Antivenin administration should be given quickly for those patients with moderate to severe symptoms, and may be considered in the setting of mild symptoms. The currently

recommended FabAV infusion is rarely associated with severe acute hypersensitivity reactions. Halting the progression of local symptoms and reversing any systemic effects will guide the dosing and administration of reconstituted FabAV over the course of clinical observation.

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Refractory sciatica could be a sign of malignancy: A unique case presentation

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ABSTRACT

Renal cell carcinoma is one of the highly aggressive tumors and notorious for late presentations. It is associated with high morbidity and mortality. Renal cell carcinoma is known for rare metastatic sites. In clinical practice, it is often important not to anchor to a particular diagnosis but rather revisit and reevaluate entire history and clinical examination. We describe a case of metastatic renal cell carcinoma that was initially treated as sciatica and later found to have advanced debilitating malignancy. Internal medicine physicians should be able to recognize one of the rare metastatic sites of renal cell carcinoma and understand the importance of imaging studies if patient has persisting sciatica symptoms without improvement.

KEYWORDS: Oncology, renal cell carcinoma, soft tissue metastasis, skeletal muscle metastasis, refractory sciatica

INTRODUCTION

Renal cell carcinoma (RCC) represents about 90% of all kidney neoplasm. Twenty to twenty-five percent (20–25%) of the patients initially present with advanced disease and around 5% present with a single metastatic site.¹ RCC is the sixth most common malignancy in men and the eighth most common malignancy in women in the United States. The incidence of RCC rose by 1.6% per year between 2002 and 2011 with 63,920 new cases and 13,860 deaths anticipated in 2014.¹⁴ Making a diagnosis of metastatic RCC to the skeletal muscle is challenging, because the site is unpredictable, in addition to it being rare. Furthermore, cases of metastasis arising long after nephrectomy have been reported. In this clinical vignette, we will discuss about a unique presentation of RCC.

CASE PRESENTATION

A 48-year-old male with no significant past medical history presented to the primary care clinic with two months of radiating pain down the right leg and which was treated as sciatica and piriformis syndrome in another facility. He came to our primary care clinic for a second opinion. He reported that pain was much worse in severity and that he had developed fever, night sweats and chills in the last 2

weeks. He recalled significant weight loss of 10 pounds in the last 4 months, malaise and severe painful ambulation. He felt very stressful and was not able to concentrate in his job. The pain was severe enough to restrain him from working and he was on medical leave. Recently he was able to feel that his right gluteal region was abnormal compared to his left. He stopped smoking in 2005 after 20 years of smoking. He had no history of trauma or intramuscular injections. His mother had a history of transitional cell carcinoma of the right kidney.

On exam, his temperature was 98.4 degree Fahrenheit, blood pressure was 120/78mm hg and oxygen saturation was 99% in room air. Physical exam was significant for systolic murmur in left second intercostal space. He was found to have ill defined, firm, warm, immobile and mildly tender mass in the right iliac bone and gluteal region. Other systemic exam was unremarkable.

Complete blood count showed hematocrit of 38.5%, basic chemistry profile was normal. C - reactive protein was elevated to 150mg/dl, Erythrocyte sedimentation rate was elevated to 88 mm/hr. CT scan of abdomen and pelvis (revealed right renal mass of 5 cm in the lower pole and a large osteolytic lesion of right sacral and iliac bones. In addition, there was a 10 x12 cm infiltrating mass in the piriformis and gluteal muscles consistent with metastatic disease. CT scan of the chest showed a sclerotic lesion in the upper sternal body. CT scan guided biopsy of the right gluteal mass showed metastatic renal cell carcinoma of clear cell type. (Figures 1-3)

Patient underwent radical nephrectomy and subsequently received immunotherapy with Interleukin-2 and later received palliative radiotherapy. During this period he was hospitalized multiple times for lethargy and failure to thrive. He was also started on pazopanib for progressive disease.

DISCUSSION

RCC is a tumor known for its unusual presentations and high rate of metastasis.¹ The most common sites of RCC metastases are the lung (50%), lymph nodes (35%), liver (30%), bone (30%) and adrenal glands (5%).^{1,2} Possibly the first case of skeletal muscle metastasis originating from an RCC was reported in 1979.² Presentation of RCC as a solitary metastasis in the skeletal muscle is very unusual and poorly documented site of metastasis.² Atypical presentations and distant metastasis are characteristic of RCC.^{1,2}

Figure 1. Axial view of CT of the abdomen showing a mass in lower pole of the right kidney.

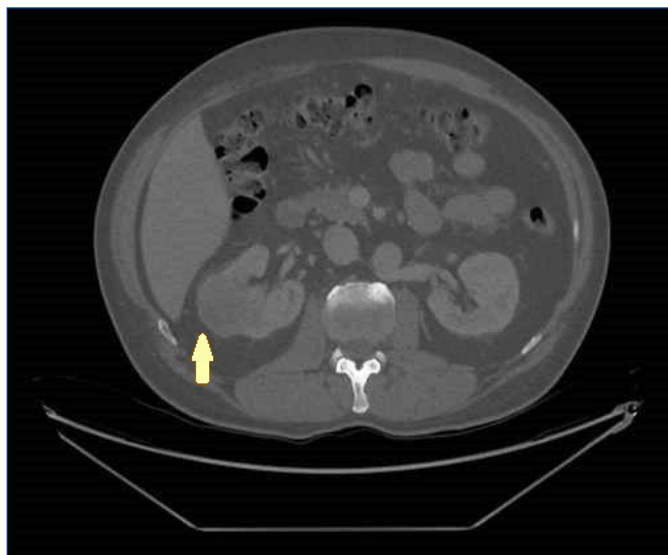


Figure 2. Coronal view of CT of the abdomen showing infiltrating mass in the right gluteal region destructing the iliac bone.

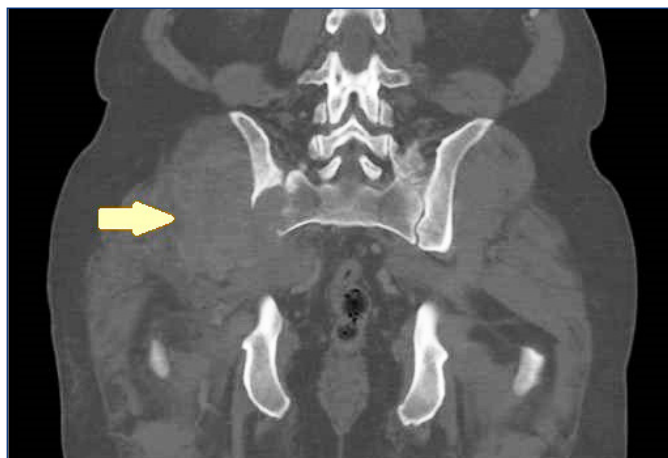
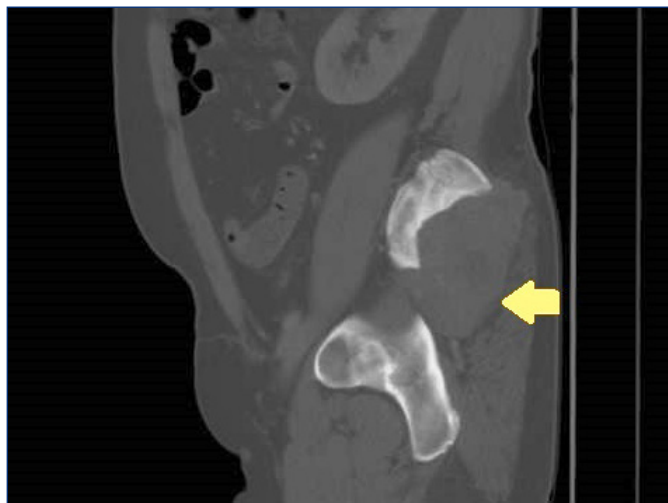


Figure 3. Sagittal view of the CT abdomen showing ill-defined mass in the upper gluteal region involving iliac bone.



RCC rarely spreads to the skeletal muscle, with a reported percentage of only 0.4%.¹

Even after surgical removal of tumor late recurrence is a possibility. McNichols et al demonstrated that 11% of metastatic RCC cases occurred more than 10 years after the initial diagnosis, even after complete resection.⁹

Renal cell carcinoma accounts for approximately 3% of all adult tumors and about one-third of cases present as metastasis either as initial presentation or late complication. Because of complex lymphatic drainage and early hematogenous spread atypical presentations and distant metastasis remain characteristic of RCC.⁶

Despite its rich blood supply and large surface area, the skeletal muscle is a rare site of metastasis.² The mechanism involved in metastasis to the skeletal muscular tissue is not well understood. However, the presence of protease inhibitors in the basement membrane inhibiting cell invasion, increased lactic acid levels and acidic environment interfering with tumor cell growth were described as possible causes.³ However, detection of metastases to the skeletal muscle is difficult because of the painless nature of the tumours and their small size.¹ Other differentials for soft tissue mass are rhabdomyosarcoma, angiosarcoma and hemangioma.²

Better knowledge of prognostic and predictive factors could improve the management of metastatic renal cell cancer (RCC) by identifying those patients at a higher risk of death or disease progression. The most commonly used prognostic scores are the Memorial Sloan-Kettering Cancer Center score and the recent Heng risk score for patients receiving targeted therapies.⁸

More than a decade ago, immunotherapy with cytokines was the standard treatment for metastatic RCC (mRCC). Subsequently, targeted agents such as vascular endothelial growth factor tyrosine kinase inhibitors (VEGF-TKIs) and inhibitors of mammalian target of rapamycin (mTOR) showed significantly improved responses and progression-free survival (PFS). These agents were also relatively well tolerated, thereby changing the treatment paradigm for metastatic RCC.¹⁴

Extrapulmonary metastases may benefit from surgery; the presence of multiple visceral metastases is not a contra-indication. Surgery for RCC-related metastases may provide favourable long-term results and should not be contraindicated for recurrent disease when complete resection may be achieved.¹² Forthcoming studies should analyze the role of the lymphatic system and the biology of metastatic cells in order to clarify the pattern of spread of RCC metastases.

This case illustrates one of the unique presentations of RCC and demonstrates the rare skeletal muscle metastasis of RCC. According to several European orthopedic association guidelines, conservative management is recommended for six to eight weeks and imaging is indicated if no improvement occurs.¹⁵ So imaging is indicated in case of red flag signs and persistent symptoms of more than six to eight weeks.

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Painless syphilitic uveitis in the Emergency Department

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KEYWORDS: Syphilitic uveitis, painless red eye

INTRODUCTION

Syphilis is a sexually transmitted, systemic, chronic infection that can affect all structures of the eye from cornea to optic nerve.^{1,2} The British Ocular Syphilis Study (BOSS) reported an annual incidence of intraocular syphilis of 0.3 per million UK adult population based on 2014 data. Bilateral ocular involvement was present in 56%, and the mean presenting Snellen visual acuity was 20/63. Pan-uveitis was diagnosed in 41.3% of cases, followed by isolated anterior uveitis (9.5%) as the next most common diagnosis.³ Epidemiological data suggests that ocular findings of syphilis occur in 2.5-5% of patients with tertiary syphilis and may be a presenting manifestation of syphilis.^{1,4} While 90% of syphilis cases occur in developing countries, an increasing trend of syphilis cases is present in young men in industrialized nations.⁵ While commonly regarded as a painful entity, an exact incidence of painless syphilitic uveitis remains unclear.

CASE REPORT

A 41-year-old man with a history of chronic obstructive pulmonary disease, stroke, hypertension, and congestive heart failure presented to the ED for evaluation of progressive painless blurry vision and redness of the right eye for the previous two weeks. He denied tearing, discharge, photophobia, or headache. The patient did not receive relief from naphazoline-pheniramine ophthalmic drops for presumed allergic conjunctivitis. Medications include: amlodipine, atorvastatin, budesonide-formoterol, carvedilol, hydrochlorothiazide, lisinopril, and tiotropium. His blood pressure was 149/97, heart rate 75, temperature was 37.2 C, respiratory rate 15, and pulse oximetry of 97% on room air. Gross examination revealed minimal paralimbal injection of the right eye, with no injection of the left eye. Eyes were not tender to palpation, and no photophobia was appreciated. His corrected visual acuity was 20/200 in the right eye and 20/30 in the left eye. The right pupil was 3 mm at baseline and minimally reactive to 2.5 mm in response to light. The left pupil was 4 mm at baseline and 3 mm in response to light. Extraocular muscle testing was normal. Corneal staining and slit lamp

examination were not performed in the Emergency Department. The remainder of the physical examination was unremarkable. There was no adenopathy or rash. The patient had a scheduled appointment in two months, but an urgent ophthalmologist's slit lamp assessment that day revealed 3+ cell in the anterior chamber and extensive posterior synechiae on the right. No abnormalities were noted on slit lamp assessment of the left eye. Tonometry revealed an intraocular pressure of 11 mm Hg in the right eye and 16 mm Hg in the left eye. Fundoscopic examination revealed normal discs bilaterally. Synechiae observed in the right eye created a hazy view of the macula and vessels. Synechiae were broken with 10% neosynephrine, and the patient was started on prednisolone acetate and tropicamide ophthalmic drops. Two days later, lab evaluation revealed unequivocal rapid plasma reagent (RPR), HLA-B27 positivity, and fluorescent treponemal antibody absorption (FTA-ABS) positivity. Further history revealed a latent history of syphilis requiring doxycycline because of a penicillin allergy. Two days after presentation, the patient was hospitalized for penicillin desensitization for syphilitic uveitis. He tested negative for HIV. Inpatient lumbar puncture venereal disease research laboratory (VDRL) testing of the cerebral spinal fluid (CSF) was non-reactive.

Two months after presentation and appropriate treatment with IV penicillin for 14 days with 24 Million U daily, the patient had normal visual acuity and no cells or flare on slit lamp examination. While the patient had negative VDRL testing of the cerebral spinal fluid (CSF), the inpatient team and Infectious Diseases consultants treated him empirically for early neurosyphilis due to his ophthalmic complaints. Uncertainty still remains as to the stage of this case.

DISCUSSION

Inclusion of syphilitic uveitis into the differential diagnosis for the presentation of red eye has significant education impact for the emergency medicine practitioner. The diagnosis of red eye can be divided into two components: painless and painful etiologies. Painful causes include corneal ulcer, abrasion, herpes simplex keratitis, conjunctivitis, acute glaucoma, scleritis, or uveitis. Painless causes include blepharitis, ectropion, or subconjunctival hemorrhage.⁶ Syphilitic uveitis and scleritis usually presents as a painful, red eye with decreasing visual acuity, and it is unclear why this patient had a painless presentation.^{1,7}

In the absence of systemic signs or symptoms, nonspecific ocular findings make the diagnosis of syphilis difficult, and support its image as the “great masquerader.” The disease can also easily be mistaken for idiopathic uveitis, and requires clinical assessment for associated signs of adenopathy, rash, or genital lesions. Consideration of syphilis as a diagnosis requires a serologic treponemal test (FTA-ABS), as the nontreponemal tests (RPR and VDRL) may be nonreactive in 30-75% of syphilitic uveitis cases.⁸ Current literature is divided as to which patients should have a lumbar puncture. Recent studies have shown that those with syphilis and serum RPR $\geq 1:32$ are at higher risk for early neurosyphilis. Other authorities suggest that since neurosyphilis cannot be diagnosed by serologic tests, cerebral spinal fluid examination is required in all presenting patients due to the risk of recurrence if improperly treated.⁹ While clinical signs of neurosyphilis (cranial nerve dysfunction, ophthalmic abnormalities) may suggest the disease, diagnosis can only be made with serologic and cerebrospinal testing. The CDC suggests that positive VDRL on CSF be classified as clinically confirmed neurosyphilis and an abnormal elevation in white blood cells or protein to be clinically probable neurosyphilis.¹⁰ With negative CSF findings in this patient’s case, the consultants and primary team deemed the ocular findings concerning for neurosyphilis and treated accordingly. Additionally, all patients with ocular signs and symptoms of syphilis should be tested for HIV, as co-infection is present in 33% of patients and HIV-positivity suggests accelerated disease progression and increased risk for relapse.^{4,9}

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Disclaimer

The views expressed herein are those of the author and do not necessarily reflect the views of the Emergency Medicine Residency program at Brown University.

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Patient Perspectives on the Need for and Barriers to Professional Medical Interpretation

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ABSTRACT

BACKGROUND: Individuals with limited English proficiency (LEP) constitute an increasing share of the patient population in American healthcare settings. Few studies have described the patient's perspective on barriers to medical interpretation and experiences in the clinical setting.

METHODS: We conducted focus groups with 22 LEP Spanish-speaking adults. Focus groups were transcribed and analyzed in their original Spanish.

RESULTS: LEP patients face significant challenges when accessing health care services due to inadequate or insufficient access to professional interpreters. Predominant themes include: lack of interpreter availability, fear of disclosing limited English skills, and language discordant providers overestimating LEP patients' understanding of English. Many participants felt they had received poorer quality care.

CONCLUSIONS: LEP patients face multiple barriers to accessing adequate interpretation leading to a perceived worsening in the quality of care. In order to improve health outcomes for LEP patients, routine provision of adequate interpretation is essential.

KEYWORDS: Medical interpretation, Immigrants, Hispanic Community, Language Barriers

INTRODUCTION

Healthcare providers nationwide are increasingly challenged with caring for patients with limited English proficiency (LEP).¹⁻³ Examining the quality of communication with LEP individuals is imperative, as patient-doctor communication is an important component of care.⁴

Previous research has shown that language barriers decrease quality of care and are a risk factor for adverse health outcomes.^{5,6} LEP patients who do not receive professional interpretation have longer inpatient stays and higher readmission rates.⁷⁻⁹ While commonly used, ad hoc interpreters such as family members are more likely to make errors of clinical consequence than professionally trained interpreters.^{10,11}

Several states, including Rhode Island, mandate provision of interpreter services for certain medical encounters.¹² Despite this legal framework, utilization of interpreters remains low.^{13,14} Prior studies have cited cost, time,

interpreter availability, limited knowledge of interpreter sources and inadequate legislation as barriers to appropriate interpreter use.^{15,16} Few studies have examined language barriers from the perspective of LEP patients themselves.^{14,17} The goal of this study was to elicit patient narratives to better understand how patients experience inadequately interpreted clinical encounters.

MATERIALS AND METHODS

Study Participants

The study took place in Providence County, Rhode Island, where 29.7% of the population speaks a language other than English at home, and in which 16.9% of households are Spanish-speaking.¹⁸ Participants were recruited from local businesses, churches, community organizations, and health clinics via study recruitment flyers in Spanish. Interested participants called a study recruitment phone-line and were screened for eligibility. Individuals aged 18 or older were considered eligible provided they spoke little to no English (per patient report) and had at least 2 medical encounters in the last 6 months.

Focus Groups

In September of 2013 we conducted four focus groups in Spanish using a semi-structured moderator guide based on themes addressed in the medical literature and personal experiences in clinical settings. Topics included demographics, recent encounters with health providers, barriers to care and interpretation, experiences using ad hoc versus professional interpreters, comparisons between healthcare in Rhode Island and their place of origin, as well as potential solutions for current challenges.

Moderators were bilingual and trained in focus group moderation. Each focus group consisted of 4–7 participants and was conducted at a local community organization or a community-based hospital. The study was approved by the hospital Institutional Review Board.

Data Analysis

Data was analyzed in multiple phases following the immersion/crystallization method.¹⁹ Immediately following each focus group, the moderators reviewed the themes discussed. Audio transcripts of the focus groups were transcribed verbatim in Spanish and the accuracy of the transcriptions was

verified by one investigator (KB).

One investigator (KB) read and analyzed the transcripts to identify themes and develop a thematic codebook. This investigator then used TAM Analyzer™ (Matthew Weinstein, GPL) software to code the transcripts. Two additional investigators (HRB and MAN) separately read and analyzed the transcripts using these thematic codes and verified their validity. Through meetings, investigators (KB, HRB and MAN) further discussed and interpreted common themes. Coded reports were used to identify representative participant quotations.

RESULTS

Participants Characteristics

Twenty-two focus group participants represented four countries/territories of origin: the Dominican Republic, Colombia, Guatemala and Puerto Rico. Participants had lived in the US between three months and 36 years (median 10 years, IQR 2-23). All participants had limited English proficiency.

Predominant Themes

Three predominant themes emerged from the focus groups: importance of professional interpreters, barriers to interpretation, and the perception that poor care resulted when interpreters were not used.

All participants emphasized the importance of language barriers in their daily life and in their interactions with the healthcare system. One said:

"Health is vital, it's how you express what you feel, whatever is hurting you or whatever the problem is... it's the most important thing. Transportation – you can ask for a ride. Money - you can ask to borrow or make a payment plan. But language is different. You have to be able to communicate."

The frustration of navigating medical encounters in English became clear, since vocabulary is difficult and understanding certain life events is crucial. One woman said of the birth of her daughter, *"It was so complicated. I saw they gave me an oxygen mask and the nurse was talking to me...but I understood nothing."* Some participants mentioned that their ability to express themselves in English worsens during medical encounters due to stress and that providers sometimes don't make an effort to understand their attempts to speak English.

Participants described limited interpreter availability, causing delays that lengthen outpatient and emergency room visits. Access to interpretation was noted to be particularly absent in operative and procedural areas, ambulances, specialty visits and while participating in provider phone calls and navigating insurance enrollment. Patients also expressed a perception that interpreter availability is dependent on insurance status. Participants described situations in which they felt that interpreters inaccurately translated due

to time constraints. Miscommunications were also noted to occur among patients and interpreters who learned Spanish in different countries, as accents and vocabulary vary across Latin America. A few participants even mentioned encounters that were translated by Portuguese interpreters, either due to limited availability or because providers thought they were an appropriate substitute.

These barriers often led participants to rely on family members as substitutes for professional interpreters. Some participants said they preferred to use a family member to wait less time and benefit from the advocacy of someone who knows them. Others expressed that family members are not able to accurately translate medical jargon and only summarize what the physician says:

"Maybe this [ad hoc interpreter] does not have the necessary level to explain to the physician what I really need – as opposed to an interpreter that comes prepared...more familiar with what medicine is. It's as if someone was going to translate for a car mechanic. The person already comes with knowledge about car parts."

Moreover, participants described issues of confidentiality that arose when a personal acquaintance gets involved in their medical care. One patient described bringing a neighbor to her gynecologic appointment, *"Imagine you are getting a pap smear, and you are in that gynecologic position... It was really embarrassing because she was my interpreter but it was such a personal exam."*

Many participants reported that barriers to professional interpretation lead them to delay care or brave medical encounters without assistance:

"I asked for an interpreter and the interpreter never showed up. So [the doctor] asked me if it was ok like that and you know, you think you can defend yourself. But that's the mistake, to agree knowing that you're not going to understand 100%, that you're going to be limited in the questions you can ask... You end up lost."

In these scenarios, they are limited in their ability to ask questions, adequately describe their symptoms or understand providers' instructions:

"One does not get to express everything that one feels. No, not everything, only the basics...I feel like the same happens to all of us. We want to say more [during the appointment]. But to avoid being excessive or because we are afraid of making mistakes and making things worse, we thus only talk about: 'how are you' – 'good'; 'are you walking?' – 'yes.' "

Some participants added that physicians think their patients understand more than they actually do. One patient shared that in one encounter her daughters could not follow her into the operating room to continue interpreting

for her. She said that she did not think the doctor realized her limited understanding. When asked how she knew this, she replied, *“I think the doctor thought I understood everything. [I saw it in her] attitude, [her] face, because I didn’t make a face that said I didn’t understand.”*

Poor outcomes due to inadequate or absent interpretation included medical errors and misunderstandings ranging in severity. One participant mistakenly answered that she had depression because she did not understand the question, then spent hours explaining herself to consulting psychiatrists. Another man had no interpreter present during a cardiac stress test. Unable to express that he felt unwell after the test, he fainted in the waiting room. A few participants expressed waiting in pain in the emergency room for hours, as medications could not be administered until an interpreted history was taken. Others described miscommunications about medication changes, appointment times or procedure details. Many patients shared that they felt their care was inferior when there was not adequate interpretation.

When participants were asked what improvements could be made to the system, almost all agreed that more interpreters were needed. Some additionally expressed that physicians should learn Spanish because being able to communicate directly with patients improves the doctor-patient relationship.

“What happens is that when someone speaks your same language, you feel more comfortable...With an interpreter, I know interpreters translate everything exactly as you tell them, but there are things you say in Spanish that if the interpreter says in English it’s a bit different, it’s not exactly what you wanted to express, so yes, it’s easier in Spanish.”

Some suggested that bilingual nurses and medical assistants should be given scholarships for training and hired more widely. However, regardless of language barriers, patients overwhelmingly shared that providers who spend time with their patients and made an effort to understand them are greatly appreciated. One participant spoke of his experience undergoing an endoscopy and his fear of finding out he had cancer. He spoke of how the doctor addressed his concerns, *“the doctor – even though it wasn’t in my language – he treated me with a lot of respect. I mean, I felt very comfortable with him.”*

DISCUSSION

In comparison to English speaking patients, patients with LEP are less likely to have medical services²⁰ and more likely to have chronic diseases with worse outcomes.^{21,22} Access to medical interpretation helps to reduce these disparities.⁷ Our study is, to our knowledge, the first to qualitatively explore patient experiences related to the barriers to medical interpretation. The results of these focus groups highlight the difficulties of navigating the healthcare system as

a person with LEP, describe patients perception that they receive worse care during encounters without interpretation and identify particular areas of the healthcare system in Rhode Island where interpreters are still lacking.

Even when interpreter services are available, patients often turn them down due to time constraints or mistrust. Many expressed frustration and embarrassment at their limited language skills, and described attempting to express themselves in imperfect English to avoid reliance on others. Perhaps the most crucial revelation was that patients sometimes express understanding to the provider, even when they do not actually understand. Participants perceived that providers did not check for understanding or recognize when miscommunications had occurred. Such gaps in understanding contribute to recurrent medical visits, poor treatment adherence, and additional costs to the patient and health system.^{5,7,8}

One limitation of our study is that we did not speak with providers about their reasons for choosing not to utilize professional interpreters.¹⁶ Most hospitals and clinics in RI require the use of professional translators when patients are not fluent in English - either in person or by phone. However enforcement of these policies has not been assessed. Further research is also needed to disentangle the intersections between limited health literacy and English proficiency. Lastly, while the optimal number of participants in this qualitative study is unknown, our sample size of 22 participants allowed us to reach saturation with regards to themes introduced by participants.

Provision of adequate interpretation for LEP patients is necessary to reduce health disparities associated with language barriers. As insurance reimbursement structures under the Affordable Care Act move more towards a-pay-for-performance model,²³ prioritization and enforcement of these services for LEP patients will be essential to ensure quality of care.

The major strength of our study was that we sought the perspectives of LEP patients interacting with the healthcare system. We suggest that if more interpreters were available and providers were trained to work with them, quality of care would improve.^{7,24} As patients may not voice their lack of understanding during visits, we encourage providers to routinely check for understanding, prioritize a request for professional interpretation and utilize interpreters effectively. Moreover, we encourage providers to use innovative methods such as video-based interpreting, to ensure that their patients understand their medical care when in-person professional interpretation is unavailable.²⁵

Acknowledgments

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Rhode Island's Physician Rules and Regulations: New, Improved, and Simplified

JAMES McDONALD, MD, MPH

On November 23, 2015, several changes to Rhode Island's *Rules and Regulations for the Licensure and Discipline of Physicians [R5-37-MD/DO]* became effective. **All licensed providers should read the entire document.** [<http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOH/8148.pdf>]

The recent changes to the rules and regulations ("RRs") resulted from the collaboration of many stakeholders from a variety of healthcare disciplines who worked diligently to simplify and to streamline these rules and regulations. Several changes will impact many providers.

HIGHLIGHTS

1. The RRs no longer have a "moonlighting" or "Medical Officer" license category. Physicians are eligible for a full license after two years of graduate medical education, regardless of where they have received training. RRs for the "training license" category remain unchanged.
2. **Section 2.7-11:** RRs for limited medical licenses are included in this version, replacing *Rhode Island's Rules and Regulations for Limited Medical Registration [R-5-37REG]*.
3. **Section 1.19:** The "Practice of Medicine" now incorporates "use of laser/intense pulsed light."
4. **Section 1.22:** "Surgery" is now defined.
5. **Section 2.1.1:** All physicians must have malpractice insurance, and must be prepared to produce policy cover sheets, upon request, to prove that they are properly insured.
6. **Section 2.3:** The concept of "visiting physician" is clarified. Circumstances in which physicians properly licensed in another jurisdiction may practice medicine in Rhode Island without a Rhode Island medical license are clearly described.

7. **Sections 3.1.5 and 3.2.2:** The Board of Medical Licensure and Discipline is now enabled to waive some of the requirements for graduate medical education training, if an applicant for licensure in Rhode Island has been licensed in other jurisdictions for at least five years.
8. **Sections 6.1.1 and 6.1.2:** Participation in the *Maintenance of Certification Program* or the *Continuous Certification Program* of either the American Board of Medical Specialties or the American Osteopathic Association is now equivalent to meeting continuing medical education requirements otherwise specified in the RRs.
9. **Section 9.1.1:** Requirements to reactivate an "inactive" medical license are clarified.
10. **Section 10.4:** That "a physician is not authorized to prescribe a controlled substance to one self or an immediate family member under any circumstances" is now unequivocal.
11. **Section 10.5:** The revised RRs explain how to document the discharge of a patient from a practice and define other professional obligations included in the process.
12. **Section 10.6:** Requirements for closing a medical practice are clearly specified.
13. **Section 11.2:** Allowable fees for copying a patient's medical records have been updated. As well, the new RRs explain when charging such a fee is not allowable.

These are highlights, only. All physicians should review the *entire* 25-page document, including the introduction. We recommend having a printed copy available in the office for the occasional quick reference. Reading and understanding the rules and regulations is an essential step in avoiding costly compliance issues.

Author

James McDonald, MD, MPH, is Chief Administrative Officer of the Board of Medical Licensure and Discipline of the State of Rhode Island.

**VITAL STATISTICS**

NICOLE E. ALEXANDER-SCOTT, MD, MPH
DIRECTOR, RHODE ISLAND DEPARTMENT OF HEALTH
COMPILED BY ROSEANN GIORGIANNI, DEPUTY STATE REGISTRAR

PUBLIC HEALTH

Rhode Island Monthly Vital Statistics Report

Provisional Occurrence Data from the Division of Vital Records

VITAL EVENTS	REPORTING PERIOD		
	JULY 2015	12 MONTHS ENDING WITH JULY 2015	
	Number	Number	Rates
Live Births	1,088	11,488	10.9*
Deaths	863	10,356	9.8*
Infant Deaths	2	66	5.7#
Neonatal Deaths	2	56	4.9#
Marriages	719	6,697	6.3*
Divorces	249	2,953	2.8*
Induced Terminations	176	2,684	233.6#
Spontaneous Fetal Deaths	47	628	54.7#
Under 20 weeks gestation	45	575	55.5#
20+ weeks gestation	2	53	4.6#

* Rates per 1,000 estimated population

Rates per 1,000 live births

Underlying Cause of Death Category	REPORTING PERIOD			
	JANUARY 2015	12 MONTHS ENDING WITH JANUARY 2015		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	234	2,358	223.9	3,439.5
Malignant Neoplasms	203	2,285	217.0	5,772.0
Cerebrovascular Disease	45	419	39.8	490.0
Injuries (Accident/Suicide/Homicide)	55	768	72.9	11,396.0
COPD	62	540	51.3	590.0

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 1,055,173 (www.census.gov)

(c) Years of Potential Life Lost (YPLL).

NOTE: Totals represent vital events, which occurred in Rhode Island for the reporting periods listed above.

Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.

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Working for You: RIMS advocacy activities

December 1, Tuesday

RIMS Physician Health Committee;
Herbert Rakatansky, MD, Chair

December 7, Monday

Conference call regarding RIMS branding
evaluation for membership recruitment
RIMS Council Meeting; special guest
Secretary Elizabeth Roberts, Executive
Office of Health and Human Services

December 8, Tuesday

DOH Health Services Council
regarding free standing emergency
rooms application

Planning meeting for 2016 webinar
series, "Life and Professional Planning
for Every Stage of a Physician's Life"

December 9, Wednesday

Board of Medical Licensure and Discipline
Meeting with Favorite Healthcare Staffing
Governor's Opioid Taskforce,
Otis Warren, MD

Governor's Gun Safety Taskforce;
Megan Ranney, MD; and RIMS Staff

Meeting with Secretary Elizabeth Roberts,
Executive Office of Health and Human
Services

December 10, Thursday

Conference call on pharmaceutical pricing
SIM Grant Steering Committee
RIMS Open House and Holiday Gathering

December 11, Friday

Conference call regarding RIMS branding
evaluation for membership recruitment

December 14, Monday

Meeting with Blue Cross Blue Shield
of RI; Russell A. Settupane, MD; Sarah J.
Fessler, MD; RIMS Staff attending

Congressman Jim Langevin fundraiser,
AMPAC contribution

Congressman David Cicilline fundraiser,
AMPAC contribution

CPT Seminar, Peter A. Hollmann, MD,
presenting



On December 14,
RIMS sponsored the
annual CPT Seminar, in
cooperation with the
MA/RI Medical Group
Managers Association.
The presenter was
**Peter A. Hollmann,
MD**, past Chair of the
CPT Editorial Panel
(AMA); Member of the
AMA/Specialty RBRVS
Update Committee, and
Chief Medical Officer
of University Medicine.
Attendees included
Sarah J. Fessler, MD,
President-elect of RIMS.
(far right)

December 15, Tuesday

RI ACEP Board meeting with RIMS Staff
and Senator Joshua Miller, Chair, Senate
Committee on Health and
Human Services

Meeting with Chairman Craven, House
sponsor of Good Samaritan legislation;
Families First Coalition; RI ACLU;
PONI; Josiah Rich, MD; and RIMS Staff

Conference call, AMA Advocacy
Resource Center regarding new
American Psychiatric Association
safe prescribing guidelines
OHIC Health Insurance Advisory
Committee

December 16, Wednesday

Primary Care Physician Advisory
Committee-Department of Health
Meeting with pharmacists' association

Legislative Commission on Board of
Medical Licensure and Discipline
Meeting with Senate policy staff
regarding Good Samaritan legislation
RIMPAC Board Meeting,
Mickey Silver, MD, Chair
Public Laws Meeting,
Michael Migliori, MD, Chair

December 17, Thursday

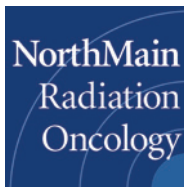
Mental Health and Substance Use
Coalition; Steve DeToy, Chair
OHIC Administrative Simplification
Task Force

December 18, Friday

SIM Measurement Committee,
Peter A. Hollmann, MD



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Publications include *Rhode Island Medical Journal*, *Rhode Island Medical News*, annual *Directory of Members*; RIMS members have library privileges at Brown University

Member Portal on www.rimed.org

Password access to pay dues, access contact information for colleagues and RIMS leadership, RSVP to RIMS events, and share your thoughts with colleagues and RIMS



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Open House event welcomes guests to RIMS' new offices



David White, John Luo, MD; Erica and Karen Anderson; Nancy Mancini, David McDonald

On the evening of December 10, the Rhode Island Medical Society hosted a holiday open house for its staff, members, leadership, sponsors, and guests in RIMS' new offices. In October 2015, the Medical Society relocated from the Foundry Complex to a suite of offices in the Rhode Island Blood Center Building at 405 Promenade Street in Providence.



Derek Reid, RIMS' Megan Turcotte



More than 65 guests attended the event.



RIMS' Newell Warde, PhD



RIMS President Russell Settipane, MD and his wife Karen



Yul Ejnes, MD; Mike Migliori, MD; President-Elect Sarah J. Fessler, MD; Antonio Cruz, MD



David Carter, MD; IBC's Bob Anderson, Jr.



Marianne Migliori; Sarah J. Fessler, MD



Carmen Beroth; Megan Turcotte

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**RHODE ISLAND
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Brown, RIH Win \$1.7M in Grants to Teach Addiction Screening



Michael Mello, MD, MPH



Paul George, MD, MHPE

PROVIDENCE – Two closely related three-year grants – one to Brown University and one to Rhode Island Hospital – will integrate extensive training in substance abuse screening and intervention into the curriculum not only for medical students and residents but also for students in social work, nursing, and pharmacy.

The grants of \$916,851 to Brown and \$788,403 to Rhode Island Hospital come from the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA). At Brown, **DR. PAUL GEORGE** is developing training for medical students in all four years of instruction at the Alpert Medical School, and is collaborating with Rhode Island College to create curriculum for nursing and social work students and the University of Rhode Island for pharmacy students. At Rhode Island Hospital **DR. MICHAEL MELLO** will produce a training program and curriculum for fourth-year medical students and residents in emergency medicine.

“Opiate overdoses have surpassed motor vehicle crashes as being the leading cause of unintentional injury death in Rhode Islanders, and alcohol misuse continues to contribute to our burden of injury and illness,” said Dr. Mello, professor of emergency medicine and director of the injury prevention center at Rhode Island Hospital.

Brown curriculum will expand

Addiction medicine has long been a part of the Alpert Medical School’s

curriculum, but the rapid growth of the opioid epidemic requires the new training, said Dr. George, associate professor of family medicine. “Deaths related to opioid overdose have risen dramatically in the last five to 10 years,” he said. “It’s something most physicians will see at some point in their career, regardless of what specialty they go into.”

The training, Dr. Mello said, is based on decades of research that have validated a model called SBIRT, or screening, brief intervention, and referral to treatment.

In SBIRT a doctor, nurse, pharmacist, social worker or other care giver asks the patient standardized questions to assess substance use. If a patient is engaging in risky behavior, the provider provides some feedback and advice. When patients need even more help, the provider gives them a referral to get it.

Dr. George said the curriculum for medical students will stretch from year one to residency. First-year students will get introductory lectures on pain management – many opioid addictions begin with prescribed pain drugs.

In April, first-year students will also team up with social work, nursing, and pharmacy students in workshops where they all work together to screen and intervene “standardized patients” who are actors. They’ll also hear from people who have had real experiences with opioid addiction, and they’ll learn how to administer naloxone, the drug that prevents overdose deaths.

In later years medical students will work on case studies in class and will employ SBIRT with at least five patients during each of their yearly doctoring courses and in some of their clerkships. Nursing, pharmacy, and social work students will also apply SBIRT in their educational work with community members.

“When we wrote our grant we projected that we would screen approximately 30,000 Rhode Islanders for substance abuse disorders and probably provide a brief intervention and referral for treatment for about a third of those,” Dr. George said.

For medical students, demonstrating competency with SBIRT will become a graduation requirement. It will be part of the Objective Structured Clinical Examination that students must take in their fourth year.

ED Focus at RIH

The Emergency Department setting is particularly crucial for the training, Dr. Mello said.

“Epidemiological data has shown that the population that comes to emergency departments has higher rate of substance abuse than the general community so it is a very important skill for providers working in emergency departments to have,” Dr. Mello said.

The Rhode Island Hospital grant will therefore focus on teaching residents and students who rotate through the Emergency Department to integrate SBIRT into routine clinical care. They’ll use the hospital’s simulation center and will work with real patients under the supervision of attending there. Students and residents will get feedback on the spot and in weekly conferences.

Part of the grant, Dr. Mello added, will fund training for attending physicians in supervising and evaluating the SBIRT practices of residents and students.

Since the grants first began in October, many curricular materials, such as case studies, have been developed for SBIRT training. Implementation in the classroom, doctor’s offices, workshops and emergency department will begin in spring semester 2016. ❖

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Outpatient detoxification program available at Butler Hospital

PROVIDENCE – Butler Hospital recently opened an outpatient detoxification unit as an addition to its alcohol and drug treatment services. The ambulatory program provides medically managed safe withdrawal from alcohol and/or heroin, opioid or other prescription medications to adults 18 years or older. “This service allows Butler to expand our ability to support people suffering with the disease of addiction when they are ready to start their recovery process and continue to be there to guide their next step in the recovery journey,” said Alcohol and Drug Program Unit Chief **ALAN GORDON, MD**.

The addition of outpatient detoxification services to Butler’s recovery program provides another entry point to addiction treatment for Rhode Islanders. The ambulatory program was designed to ensure qualified people are identified, admission and participation in the program is as easy as possible to manage, and transfer to a next level of care is seamless. The program has been designed to meet coverage requirements by most insurance plans popular in Rhode Island.

The treatment team, consisting of a psychiatrist, registered nurse, a licensed clinical social worker and a recovery coach, all specialize in addictions treatment. The program is currently open five days a week, Monday through Friday from 7:00 a.m. to 3:30 p.m. on the second floor of Center House, located on the Butler Hospital campus. A person is eligible for outpatient detoxification services if he or she has no history of delirium tremens (DTs) or seizures during withdrawal, is stable with any other medical or psychiatric co-occurring conditions, has transportation to and from the hospital campus, and has at-home assistance to cope with the physical and emotional stressors of detoxification.

Dr. Gordon emphasized that important components of the screening process are ensuring available home support and confidence that there is no abuse of alcohol or substances while participating in the detoxification process. “Generally speaking, the patient needs to be in reasonable general health, without unstable psychiatric symptoms, and to have the needed support at home to assist in coping with the physical and emotional stressors of the process,” he said.

A treatment course is typically three to five consecutive visits to administer medications under nurse supervision. The physician monitors the process to determine the number of visits necessary to enable the patient to safely withdraw. An on-site pharmacy allows patients to pick up prescribed medications before leaving the campus for self-managed care overnight. Patients also have access to emergency support, with the option of transitioning to inpatient treatment if the detoxification is not progressing appropriately. When the patient is sufficiently stable, the team assists with advising and transitioning the patient to the most appropriate next outpatient level of care. ❖

Lifespan, Brown, Care New England, University of Rhode Island, Providence VA Medical Center forge neuroscience research agreement

PROVIDENCE – Lifespan, Brown University, the University of Rhode Island, Care New England and the Providence VA Medical Center have entered into a formal agreement to work jointly on identifying the causes as well as treatments for a wide-range of diseases and disorders, such as Alzheimer’s disease, epilepsy, stroke, traumatic brain injury and autism.

Rhode Island is the only state in the country to have such a statewide effort of all the major institutions involved in this field.

Leaders from the institutions are confident that collaboration will result in larger, more comprehensive research projects, with institutions leveraging each other’s neuroscience work, which includes:

- Lifespan’s Norman Prince Neurosciences Institute
- The Brown Institute for Brain Science (BIBS)
- URI’s George and Anne Ryan Institute for Neuroscience
- The Providence VA Medical Center’s Center of Excellence for Neurorestoration and Neurotechnology
- Care New England’s psychiatry research at Butler Hospital and autism work at Women & Infants Hospital

The institutions’ researchers are excited about potential benefits that include co-funding pilot grant programs, cross-institutional appointments, educational opportunities for researchers and staff, and the sharing of information, equipment and facilities.

Part of the MOU is the creation of the Committee on Coordination on Neuroscience Research within Rhode Island, which will spearhead the inter-institutional initiatives envisioned. Members of this committee are: **DIANE LIPSCOMBE, PhD**, and **R. JOHN DAVENPORT, PhD**, from Brown University; **JOHN ROBSON, PhD**, and **ZIYA GOKASLAN, MD**, from Lifespan; **LAWRENCE PRICE, MD**, and **STEVEN RASMUSSEN, MD**, from Care New England; **PAULA GRAMMAS, PhD**, and **WILLIAM RENEGHAN, PhD**, from the University of Rhode Island; and **LEIGH HOCHBERG, MD, PhD**, and **BENJAMIN D. GREENBERG, MD, PhD**, from the VA Medical Center. ❖



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Bradley Hospital Enrolling Teens with Tic Disorder for Research Study

Study will examine how the brain and environment interact to influence tics

PROVIDENCE – The Pediatric Anxiety Research Center at Bradley Hospital has begun enrolling teens for a study focused on the relationship between brain activity and tics – sudden sounds or movements of the body that a person cannot control – in hopes of developing a more effective treatment.

Tics are the most common movement disorder in children. Up to 20 percent of youth will have tics at some point, and one percent will have chronic tics lasting at least one year. Tics can be associated with many challenges, including physical pain, bullying or teasing, poor self-esteem, academic problems and family conflict. Nearly 80 percent of youth with tics also have other emotional and behavioral difficulties, such as obsessive compulsive disorder (OCD) and attention deficit hyperactivity disorder (ADHD). Currently there is no cure for tic disorders. Existing treatments for tics are designed to improve tic suppression, but are not

highly effective for many children.

“Previous research has shown that a part of the brain called the supplementary motor area (SMA) is overactive in people with tics. The SMA is very important in selecting a motor action that is appropriate for a given situation,” said **CHRISTINE CONELEA, PhD**, principal investigator for the study. “We also know from previous studies that environment can affect tic expression. For example, some kids have worse tics when they are in a place that is overstimulating or when people make comments about tics. However, we don’t yet understand how the SMA and the environment interact in tics. Our goal is to learn if we can improve tics by reducing activity in the SMA, while also creating an environment that supports teens’ efforts to suppress.”

The study will include teens between the ages of 13 and 18 who have a tic disorder or Tourette syndrome. The study involves an assessment of symptoms,

an MRI brain scan and transcranial magnetic stimulation (TMS).

“TMS research involves holding a hand-sized magnet over someone’s scalp, which can either temporarily inhibit or activate the brain cells underneath. We are using TMS to learn if temporarily reducing the overactivity in the SMA makes tics easier to suppress,” said Conelea. “Afterward, we look at how often the teens had tics right before and after the TMS.”

Previous research on tic treatment has always examined the separate effects of either a biological treatment, such as medication or TMS, or a behavioral treatment, such as behavior therapy. By better understanding how the brain and environment interact to influence tic suppression, the study team hopes to pave the way for the development of new treatments that involve a combined behavioral and biological approach. ❖

Bradley Hospital continues to expand inpatient capacity for children and teens locally, regionally

Renews contract with Boston Children’s Hospital to provide world-class psychiatric care

EAST PROVIDENCE – Bradley Hospital has renewed a contract with Boston Children’s Hospital (BCH) to continue to provide inpatient psychiatric care to children served by BCH. Now entering its second year, the agreement was essential to allowing Bradley to increase bed capacity from 60 to 70, a move that was intended to also benefit Bradley patients and families from across Southeastern New England.

“This partnership with Boston Children’s Hospital is not only great because it allows us to help more children and teens in the greater Boston area who need mental health care, but it has also allowed us to increase our capacity to help children right here in our backyard,” said Dan Wall, Bradley Hospital president.

Last year, nearly 40 Rhode Island families benefitted from the additional beds, and to date more than 80 patients have been successfully referred from Boston Children’s.

“If you are a parent in the midst of a mental health crisis with your child, you understand how critical it is to have a resource like this available immediately and close to home,” said **HENRY SACHS, MD**, chief medical officer at Bradley Hospital. “Families, pediatricians and other providers elsewhere don’t necessarily have this safety net.”

The Children’s and Adolescent Inpatient Programs at Bradley provide care for children from 3 to 18 years old, and offer a total of 45 private and semi-private rooms in small, quiet pods, enabling staff to closely monitor and respond to each patient. Inpatient treatment at Bradley Hospital includes a multidisciplinary care team of psychiatrists, family therapists, psychologists, nurses, pediatricians, nurse practitioners and milieu therapists. Additionally, Bradley’s inpatient programming also features a Medical/Psychiatric Program and the Center For Autism and Developmental Disabilities (CADD). ❖

Promising new technology to block sciatica and back pain in use at RIH

PROVIDENCE – There's a new pain-relief option for people who suffer from debilitating lower back pain or sciatica. It's a new generation of a spinal cord stimulator that blocks pain signals from reaching the brain.

"Unlike older versions of spinal cord stimulators, where people feel tingling or vibration that can be unpleasant, this latest technology is tingling-free and vibration-free," said **ALEXIOS CARAYANNOPOULOS, DO, MPH**, the medical director of the Comprehensive Spine Center (CSC), who performs the implant after a successful trial. "People who find the vibrations of the traditional stimulator options annoying will get much better relief from this therapy. For anyone who wants a minimally invasive, reversible, non-pharmaceutical and non-destructive therapy to reduce or eliminate pain, this device holds much promise, especially for complaint of low back pain despite spinal surgery."

Results from clinical trials in the U.S. and in Europe for this spinal cord stimulator system have been superior to

traditional spinal cord stimulators for the treatment of chronic back and leg pain, said Dr. Carayannopoulos.

"The device treats pain with high-frequency stimulation at low amplitudes and without causing a tingling sensation known as paresthesia, which is common to other spinal cord stimulation implants," he explained.

Because it is paresthesia-free, this is the only spinal cord stimulator therapy approved by the United States Food and Drug Administration (FDA) to be used without restrictions on motor vehicle operation.

"Another benefit about this device is that the patient can test it before it is permanently implanted," said Dr. Carayannopoulos.

Clinical trials of the stimulation device were conducted at 11 U.S. clinical trial sites, comparing the safety and effectiveness of this therapy to traditional spinal cord stimulator therapy. ♦

Research offers recommendations for use of aspirin to prevent preeclampsia

PROVIDENCE – To prevent preeclampsia, new research suggests that low-dose aspirin should be given prophylactically to all women at high risk (those with diabetes or chronic hypertension) and any woman with two or more moderate risk factors (including obesity, multiple gestation and advanced maternal age).

ERIKA WERNER, MD, of the Division of Maternal-Fetal Medicine at Women & Infants Hospital and an assistant professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University; **DWIGHT ROUSE, MD**, of Women & Infants' Division of Maternal-Fetal Medicine, principal investigator for

the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network (MFMU), and a professor of obstetrics and gynecology at the Alpert Medical School; and **ALISSE HAUSPERG, MD**, a chief resident at Women & Infants, have published research in the December 2015 edition of Obstetrics & Gynecology, now available online. The research is entitled "A Cost-Benefit Analysis of Low-Dose Aspirin Prophylaxis for the Prevention of Preeclampsia in the United States."

The researchers developed a decision model to evaluate the risks, benefits and costs of four different approaches to aspirin prophylaxis – no prophylaxis,

prophylaxis per recommendations of the American College of Obstetricians and Gynecologists (only for a narrow segment of pregnant women – namely, those with a history of preeclampsia necessitating delivery before 34 weeks gestation and those with preeclampsia in more than one prior pregnancy), prophylaxis per the U.S. Preventive Task Force recommendations, and universal prophylaxis for all women.

The researchers concluded, "Both the U.S. Preventive Task Force approach and universal prophylaxis would reduce morbidity, save lives, and lower health care costs in the United States to a much greater degree than the approach currently recommended by ACOG." ♦

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Appointments

Dr. Susan L. Koelliker Named Chief of Diagnostic Imaging at Women & Infants Hospital

PROVIDENCE – **SUSAN L. KOELLIKER, MD**, of Barrington, a radiologist with Women & Infants Hospital and assistant professor (clinical) of Diagnostic Imaging at The Warren Alpert Medical School of Brown University, has been appointed the new Chief of Diagnostic Imaging beginning January 1, 2016.

Dr. Koelliker has been a radiologist with Women & Infants since 1996. She received her bachelor's degree in chemistry from Williams College and went on to receive her medical degree from the University of Cincinnati. She completed her residency in radiology at Beth Israel Hospital in Boston. She then returned home to Rhode Island where she completed her fellowship in cross-sectional imaging at Rhode Island Hospital.

"I worked very closely with former chief, Dr. Patricia Spencer, over the span of her career here at Women & Infants," said Dr. Koelliker. "I look forward to continuing the progress she has made with the profession of radiology as a whole, as well as improving quality and the patient experience within our department."

Dr. Koelliker currently serves on multiple hospital committees including the Medical Executive Committee, Women & Infants Quality Council, and the Care New England Breast Leadership Committee. Her research interests specifically include breast health and lymph nodes. ❖

E. Paul Larrat, PhD, named dean of URI College of Pharmacy

Epidemiologist, NASA Fellow, Prof. of Pharmacy, Congressional Health Policy Fellow

KINGSTON – The University of Rhode Island has named **E. PAUL LARRAT, PhD**, dean of its College of Pharmacy.

He has served as interim dean of the College since February 2013, and is also a professor of pharmacy practice and an alumnus of the University. Larrat earned a doctorate in epidemiology from Brown University. He also earned a master's degree in pharmacy administration, a master of business administration degree, and a bachelor's degree in pharmacy, all from URI.

Larrat's research interests include drug use in special populations, drug benefit design, pharmacoeconomic evaluation, decision analysis, outcomes assessment and health policy.

Under his leadership, students earning the six-year doctor of pharmacy degree achieved a 99 percent pass rate on the North American Pharmacist Licensure Examination, according to a 2014 report by the National Association of Boards of Pharmacy and a pharmacy employment rate at graduation of 97 percent. The College is also among the top 20 colleges of pharmacy in terms of federal research funding and the top 10 in placement of graduates in postdoctoral residencies.

"The appointment of Dr. Larrat as permanent dean follows his very successful service as interim dean, which was marked by effective leadership, innovation, and substantial advancements in the College as well as growing faculty, staff and administrative support," said Provost and Vice President for Academic Affairs Donald H. DeHayes. "Faculty, staff, advisory council members and many partners have recognized his efforts to propel the College forward."

"The University is in the midst of major initiatives to enhance internal and external collaboration in the health disciplines," Larrat said. "I am excited to be involved in the leadership of those efforts and look forward to playing a major role in those developments. Of course, I am very proud as a URI alumnus to be leading the College of Pharmacy on a permanent basis. Since its creation, the College has been an international leader in pharmacy education and research. As a graduate of the College, I have been fortunate to be part of its growth and success through several decades."

Among Larrat's major accomplishments is an initiative involving URI's College of Pharmacy and the Rhode Island Department of Corrections that has saved the correctional system about \$19 million in prescription costs since 2001.

The Pharmacy Benefit Management Institute presented a 2009 Rx Benefit Award to URI and the Department of Corrections for its new Collaborative Management Model, which was the first time the Institute honored a collaboration involving a university or college and a state agency.

In 2004, he was named a NASA Fellow and spent several months at the Kennedy Space Center assisting in life sciences research projects focusing on volatile organic compound production during extended space travel. From 2010 through 2011, he served as a Congressional Health Policy Fellow in the U.S. Senate, where he engaged in developing health care and aging legislation and policy in the office of Finance Committee Chair Senator Ron Wyden (D-Oregon).

A former associate dean for pharmacy research, he played a key role in the College's move in 2012 from its former home in Fogarty Hall to its new, \$75 million, 144,000-square-foot building in the North Sciences District of the Kingston Campus.

Larrat is a past president of several not-for-profit organizations, including the Rhode Island Pharmacists Association, the Rhode Island Pharmacy Foundation and Cornerstone Adult Services. He has been a leader in organizing several more non-profits, including the Rhode Island chapter of the Alzheimer's Association and the Mwea Fund, which assists in advancing health and education in a primary school district in Thika, Kenya. ❖



URI PHOTO BY NORA LEWIS

Appointments

Noubar Kessimian, MD, appointed Laboratory Accreditation Program (LAP) Commissioner for RI



PAWTUCKET – **NOUBAR KESSIMIAN, MD**, director of the Department of Pathology and Laboratory Medicine at Memorial Hospital, has been appointed LAP Commissioner for the State of Rhode Island – Region 1 – Northeast USA Commissioner Committee by the College of American Pathologists (CAP) Board of Governors.

Dr. Kessimian will serve in 2016. He will oversee the Laboratory Accreditation Program for all the CAP laboratories in the state.

Memorial's lab is one of more than 7,000 CAP-accredited facilities worldwide. The CAP Laboratory Accreditation Program is an internationally-recognized program and the only one of its kind that utilizes teams of practicing laboratory professionals as inspectors.

During the CAP accreditation process, designed to ensure the highest standard of care for all laboratory patients, inspectors examine the laboratory's records and quality control of procedures for the preceding two years. CAP inspectors also examine laboratory staff qualifications, equipment, facilities, safety program and record, and overall management. ❖



Dr. Vijay Sudheendra Named Chief of Anesthesia at Kent

WARWICK – Kent Hospital appointed **VIJAY SUDHEENDRA, MD**, as its new chief of anesthesia. Dr. Sudheendra also serves as chairman of anesthesia at Our Lady of Fatima Hospital and Roger Williams Medical Center and is president of Narragansett Bay Anesthesia.

Dr. Sudheendra previously served as chief of anesthesia at Saint Anne's Hospital in Fall River, MA, and its affiliated Hawthorn Surgery Center in Dartmouth, MA. He also served as medical director of Southern New England Surgery Center in Attleboro, MA, also affiliated with St. Anne's Hospital.

In addition, Dr. Sudheendra served as director of cardiac anesthesia at Miriam Hospital from 2006–2011, and was clinical assistant professor of surgery and anesthesia at the Alpert Medical School from 2003–2012.

He received his medical degree from Karnataka Medical College in Hubli, India, and completed an anesthesia residency at The Cleveland Clinic Foundation in 2002.

"We are very excited to welcome Dr. Sudheendra to our medical staff and Kent's Anesthesia Department," said Joseph Spinale, DO, senior vice president, chief medical officer at Kent Hospital. "Dr. Sudheendra has extensive clinical experience and is highly respected in the field of anesthesiology. He will be a tremendous asset to Kent's Department of Surgical Services and the patients of our community." ❖

Anthony Siravo named VP, chief information security officer at Lifespan

PROVIDENCE – **ANTHONY SIRAVO, MBA, MSIS**, of Smithfield, has been appointed vice president and chief information security officer of Lifespan, effective November 1, 2015.

Siravo is responsible for ensuring that Lifespan's information technology security infrastructure is in compliance with industry best practices and government regulations. He will serve as a principal member and facilitator of Lifespan's information security oversight committee.

Before joining Lifespan, he served as chief information security officer for Zebra Technologies, a publicly traded company with more than 140 locations across the globe. Siravo chaired Zebra's information security governance council and was a member of its product security council. After Zebra acquired Motorola, he oversaw the successful and secure integration of Motorola Solutions' Enterprise business with Zebra's.



"We are truly fortunate to have someone with Anthony's intellect, experience and passion joining the Lifespan team," said **CEDRIC J. PRIEBE, MD**, who was recently appointed senior vice president and chief information officer of Lifespan.

Siravo earned his bachelor's degree in computer science from Roger Williams University in Bristol, and holds a master's degree in business administration as well a master's in information systems from Bryant University in Smithfield. He maintains several security credentials including Information Systems Security Professional (CIS-SP), Healthcare Privacy and Security (CHPS), and Information Security Officer (CI-CISO).

Siravo is also a member of the Town of Smithfield's Asset Management Commission, the Information Systems Audit and Control Association, the International Information System Security Certification Consortium, and the Cloud Security Alliance. ❖

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Appointments

Hospital Association of Rhode Island Appoints New Leadership

PROVIDENCE – The Hospital Association of Rhode Island Board of Trustees elected new officers during the association's recent annual meeting. **CHRISTOPHER LEHRACH, MD**, was appointed chair and **MICHAEL DACEY, MD**, will serve as vice chair.

Dr. Lehrach, chief transformation officer at Lawrence + Memorial Healthcare and president of the L+M Medical Group, will serve a two-year term. Dr. Dacey, president and chief operating officer of Kent Hospital, will also serve for two years.

"Only by working together will we transform Rhode Island health care in a direction that achieves our goals of higher quality and lower cost. At the center of this discussion must be the benefit of the patient. When the inevitable differences of opinion occur, this must be our standard," said Dr. Lehrach. "At this extraordinary time, I look forward to participating in, guiding and leading these and other essential conversations as the new chair of HARI."

"I am proud to serve as vice chair for the Hospital Association of Rhode Island," said Dr. Dacey. "I look forward to working with my peers in addressing challenges confronting our hospitals. Our organizations serve a vital role in maintaining a healthy, strong and vibrant state – their mission must be protected."

Dr. Lehrach played a key role in the acquisition of Westerly Hospital by L+M Healthcare. He continues to practice medicine as an emergency department physician at Westerly Hospital. He received his Master's of Business Administration from Yale University. He is also a graduate of the University of Connecticut School of Medicine and received his Bachelor of Arts degree from the University of Pennsylvania. Dr. Lehrach also serves on the board of the Rhode Island Blood Center.

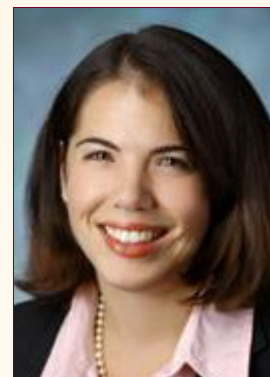
Dr. Dacey joined Kent Hospital in 2000. He is board-certified by the American Board of Internal Medicine in critical care medicine. He received his undergraduate degree from Providence College and his medical degree from George Washington University School of Medicine and Health Sciences. He completed an internal medicine residency at Walter Reed Army Medical Center in Washington, DC, as well as a critical care medicine fellowship at the University of Pittsburgh Medical Center. He also holds a Master of Science in health care management from the Harvard School of Public Health.

VIRGINIA BURKE, JD, chief executive officer of the Rhode Island Health Care Association and **AMANDA OBERLIES, RN, MSN, MBA, CENP, PHD(C)**, chief executive officer of the Organization of Nurse Leaders MA/RI/NH/CT, were appointed to the board for one-year terms. ❖

Research

Dr. Erika Werner awarded funding for trial on diabetes and pregnancy

PROVIDENCE – **ERIKA F. WERNER, MD, MS**, a maternal-fetal medicine specialist with Women & Infants Hospital, has received funding for her research, "Assessing and avoiding barriers to postpartum glucose testing among women with gestational diabetes mellitus," by the American Diabetes Association's Research Program. Reviewed by the Association's Research Grant Review Committee, funding for the proposal will start January 1, 2016.



"Testing women with GDM for pre-diabetes during the postpartum period is the first step toward preventing DM. Unfortunately, most women with GDM never get tested for pre-diabetes and instead go on to develop DM in the years after delivery," said Dr. Werner. "Our proposal will determine how we can change postpartum care to better identify women with pre-diabetes and then intervene to reduce their DM-risk."

Six hundred women will receive care in the trial. Three hundred will receive pre-screening and postpartum screening within two days of delivery as opposed to the other 300 who will receive routine care with screening at six to 12 weeks postpartum. The outcomes collected from this project will re-purpose postpartum care for women with GDM to better prevent DM.

A graduate of the University of Virginia with a bachelor's degree and also a master's degree in environmental engineering, Dr. Werner earned her medical degree at the Medical College of Virginia at Virginia Commonwealth University. She returned to the University of Virginia for her residency in obstetrics and gynecology and completed a fellowship in maternal-fetal medicine at the Yale University School of Medicine. ❖

Research

Care New England experts weigh in on recent research about prenatal antidepressant use and autism

PROVIDENCE – Based on the article “Antidepressant Use During Pregnancy and the Risk of Autism Spectrum Disorder in Children,” published in the *Journal of the American Medical Association (JAMA) Pediatrics* on December 14, 2015, some recent news reports have suggested that antidepressant use during pregnancy increases the risk of autism in children. Specialists at Women & Infants Hospital and Butler Hospital, members of Care New England and affiliated with The Warren Alpert Medical School of Brown University, do not agree with the interpretation of the study.

The outcome of the trial has generated concerns and controversy in social media in the wake of its publication in drawing a potential link to development of autism in children whose mothers regularly took antidepressants and other selective serotonin reuptake inhibitors (SSRIs) while pregnant. “During...follow-up, 1,054 children (0.7%) were diagnosed with Autism Spectrum Disorder or ASD; boys with ASD outnumbered girls by a ratio of about 4-1,” said **TAKOUA BOUKHRIS, MSc**, principal author on the study. Boukhris and his team from the University of Montreal concluded that the use of antidepressants, specifically selective SSRIs, during the second and/or third trimester, increases the risk of ASD in children.

At Women & Infants Hospital, clinicians and researchers who study maternal behavioral health and child development weighed in to put the relative risks of depression during pregnancy into context.

“Antidepressants are an extensively studied class of medication in pregnancy, and the overwhelming evidence is that untreated maternal depression can cause far greater risk to both the mother and the developing fetus,” said **MARGARET HOWARD, PhD**, director of the Division of Women’s Behavioral Health and

a clinical professor in the departments of Psychiatry and Human Behavior and Medicine at Brown University. “Depression untreated during pregnancy can lead to postpartum depression after delivery.”

“While this study points to an important risk indicator that requires a lot more research, the findings in this new study may be misleading. They do not fully take into account the severity of mothers’ depression, other factors such as alcohol or other substance use, unknown environmental toxins, or many other conditions that may impact fetal and child development, which have been shown to be higher in those taking antidepressants during pregnancy,” added **NEHA HUDEPOHL, MD**, fellowship director of the Brown University/Women & Infants Hospital Women’s Mental Health Fellowship, psychiatrist with the Center for Women’s Behavioral Health, and assistant professor of psychiatry and human behavior (clinical) at the Alpert Medical School of Brown University.

As Butler Hospital President and research psychiatrist **LARRY PRICE, MD**, points out, “This is one of many epidemiological risk surveillance studies that have been published in the past few years examining the effects of antidepressants on the developing fetus. These studies, which are not always consistent in their findings, have demonstrated both risks and benefits, depending upon the perspective in which they are viewed. Unfortunately, it is in the nature of such studies, owing to their retrospective designs, that they will never be able to provide us with definitive answers to our concerns about fetal risk. What is clear at this point, the very modest increase in the risk for autism identified in this study, if true, always needs to be balanced against the very real risks of inadequately treated

depression, risks that affect both the fetus and the mother.”

Speaking about child development, **STEPHEN SHEINKOPF, PhD**, assistant professor of psychiatry and pediatrics at the Alpert Medical School, co-director of the Rhode Island Consortium for Autism Research & Treatment, and clinician at Women & Infants’ Brown Center for the Study of Children at Risk, agreed with Dr. Howard that the study leaves many questions unanswered.

“It is not clear that the findings are specifically related to antidepressants,” says Dr. Sheinkopf, who noted that chronic stress during pregnancy may have an impact, underscoring the importance of adequately treating depression during pregnancy. In addition, the number of cases with autism in the group of mothers treated with antidepressants remains small. “There is a concern that the reports about this study overstate the risks.”

Women & Infants recently published results of a trial in which researchers examined the effects of SSRIs, as well as no drug treatment for mothers, with a focus on newborns. Principal Investigator **AMY SALISBURY, PhD**, a research scientist at the Brown Center for the Study of Children at Risk and an associate professor of pediatrics and psychiatry at the Alpert Medical School, said, “Women who need treatment should continue to receive it; the risks to both mother and baby from highly symptomatic depression and/or anxiety have to balance against the risks of the treatment, which at this point, remain relatively small despite the new findings. The current recommendations are for women to not stop taking the medications just to prevent neurobehavioral problems for the baby at birth, as we did not find evidence that it prevents these signs.” ♦



AFFINITY PROGRAM

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Recognition

Kent Rehabilitation Center receives three-year accreditation for excellence in inpatient rehabilitation programs

WARWICK – The Rehabilitation Center at Kent Hospital has been accredited by the Commission on Accreditation of Rehabilitation Facilities (CARF) International for a period of three years, for its Inpatient Rehabilitation Program for Adults and Stroke Specialty Program.

CARF International is an independent, nonprofit accreditor of health and human services.

“This accreditation from CARF International proves that the Rehabilitation Center at Kent is dedicated to making our rehabilitation services are among the best in the region,” said **MICHAEL J. DACEY, MD, MS, FACP**, president and chief operating officer, Kent Hospital.

An on-site survey at Kent Hospital was conducted recently by a team of expert practitioners selected by CARF. Kent demonstrated that it conformed to a series of internationally recognized CARF standards. The survey report found that The Rehabilitation Center at Kent Hospital has strengths in many areas including: rehabilitation leadership, dedicated and experienced staff, and education provided through the hospital’s monthly Stroke Support Group.

The Rehabilitation Center at Kent Hospital consists of a 20-bed inpatient program. Commonly treated diagnoses include: stroke, spinal cord injury, brain injury, amputations, arthritis, trauma, fractures and joint replacements, as well as general surgery recovery. ♦

Roger Williams Bariatric Surgery Program recredited as Center of Excellence

PROVIDENCE – The Bariatric Surgery Program at Roger Williams Medical Center has been recredited as a Center of Excellence by the American College of Surgeons following a November survey. This designation is reserved for bariatric surgery programs that have demonstrated a history of successful patient outcomes. More than 3,000 weight loss surgeries have been performed at Roger Williams, which has been a Bariatric Surgery Center of Excellence since 2005.

“This accreditation confirms that our weight loss surgery program is committed to providing the highest quality care for its bariatric patients,” said **DR. DIETER POHL**, founder and director of the Bariatric Surgery program at Roger Williams. “Our weight loss team focuses on each patient individually – before, during and after surgery.”

Accreditation is accorded to programs that undergo an independent, voluntary, and rigorous peer evaluation in accordance with nationally recognized bariatric surgical standards. Bariatric surgery accreditation not only promotes uniform standard benchmarks, but also supports continuous quality improvement. A bariatric surgical center achieves accreditation following a rigorous review process during which it proves that it can maintain certain physical resources, human resources, and standards of practice.

A 2014 study in September issue of the Journal of the American College of Surgeons suggests that accreditation of bariatric surgery centers contributes to improved safety for patients who undergo weight loss operations and saves lives. ♦

Wendy Baltzer-Fox, PT, earns APTA distinguished service award

PROVIDENCE – **WENDY BALTZER-FOX, PT, DPT, GCS, WCS**, of Cranston, supervisor of Women’s Health Physical Therapy Services at Women & Infants Hospital, has been honored as the first board-certified women’s health clinical specialist with the Mary DuVally Distinguished Service Award from the Rhode Island Chapter of the American Physical Therapists Association (APTA).



The award is presented to a member, past or present, of the Rhode Island Chapter of the APTA who has selflessly provided distinguished service to the Rhode Island Chapter and to the community and has significantly helped advance the profession of physical therapy. “I know most of the previous awardees,” said Baltzer-Fox. “I feel very humbled to be a part of this group.”

Currently, Baltzer-Fox serves as chief delegate from Rhode Island to the House of Delegates of the APTA as well as the Governor’s appointee to the Board of Physical Therapy for the Rhode Island Department of Health. As adjunct faculty at the University of Rhode Island, she teaches in the physical therapy program and mentors students as a clinical instructor. Baltzer-Fox’s past roles in the physical therapy community include serving on the board of directors of the state chapter of the APTA in various roles including treasurer, and most recently two terms as president from 2009 to 2013, and as an appointee to the Office of Women’s Health Advisory Committee with the Rhode Island Department of Health.

A graduate of Boston University, Baltzer-Fox earned a doctorate in physical therapy from Simmons College in Boston. She is board certified in geriatric physical therapy and is the only physical therapist in Rhode Island to also be certified in women’s health. ♦

Recognition

Dr. Marcia VanVleet Earns 2015 RIAAP Special Achievement Award



PROVIDENCE – **MARCIA W. VANVLEET, MD**, director of the newborn nursery at Women & Infants Hospital of Rhode Island and associate professor in pediatrics (clinical) at The Warren Alpert Medical School of Brown University, was given the 2015 Rhode Island Chapter of the American Acad-

emy of Pediatrics (RIAAP) Special Achievement Award. The award is given to a physician who has made an outstanding contribution to children's health in Rhode Island through research, service, or educational endeavors.

"When I think of state leaders in newborn and pediatric health in Rhode Island, Dr. VanVleet first comes to mind. The contributions she has made to the field in the last 15 years are immeasurable. This special achievement award from the RI Chapter of the AAP is well deserved," said James F. Padbury, MD, pediatrician-in-chief and chief of Neonatal/Perinatal Medicine at Women & Infants.

Dr. VanVleet graduated from Cornell University with a bachelor's degree in Biology and Society and her medical degree from the University of Vermont. She completed her pediatric residency, general ambulatory pediatric fellowship, and master's degree in Public Health from Brown University. An assistant professor of pediatrics at The Alpert Medical School, Dr. VanVleet develops curriculum to advance resident and medical student learning in the newborn nursery, specifically.

Dr. VanVleet is a member of many national and hospital organizations and committees including Women & Infants Hospital Quality Forum; Women & Infants Hospital Infant Council for Improving Pediatric Outcomes; Rhode Island Newborn Screening Task Force; Rhode Island Chapter of the American Academy of Pediatrics Committee on Fetus and Newborn; and the Ambulatory Pediatric Association. ❖

Charles Rardin, MD, Awarded Best Surgical Paper Honors at AUGS Annual Meeting

PROVIDENCE – **CHARLES RARDIN, MD**, a urogynecologist in the Division of Urogynecology and Reconstructive Pelvic Surgery and director of the Robotic Surgery Program for Women at Women & Infants Hospital of Rhode Island, director of Minimally Invasive Surgery at Care New England, and associate professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University, and team, were awarded Best Surgical Paper at the 36th Annual Scientific Meeting of the American Urogynecologic Society (AUGS) in mid-October in Seattle, WA.

Their study, entitled "Vaginal Uphold Hysteropexy and Laparoscopic Sacral Hysteropexy for Treatment of Uterovaginal Prolapse: A Parallel Cohort Study," examined surgery methods that accommodate a woman's wish to not have her uterus removed when the decision is made to surgically repair uterine prolapse. Traditionally, a hysterectomy is performed at the time of the repair. This study looked at two surgeries – known as hysteropexy procedures – done vaginally or laparoscopically; both of which use mesh to bolster the durability of the repair.

"The primary outcome of the paper, surgical success, did not show a difference between these procedures; both were very good at fixing the problem," explained Dr. Rardin. "Complication rates were low in each group. The vaginal procedure was quicker, while the laparoscopic group had a greater improvement in sexual function."

The study is one of the largest to investigate such procedures. Women & Infants specifically had the highest number of subjects recruited who had follow-up visits out of eight total facilities participating in the cohort study.

Additional presentations on behalf of Women & Infants at the Annual Meeting included:

- Annetta Madsen, MD; Christina Raker, MD; and Vivian Sung, MD, "Trends in uterine preservation and other surgical management of uterovaginal prolapse in the US between 2002-2012." Oral poster.
- Christina Raker, MD; Nicole Korbly, MD; and Star Hampton, MD, "Evaluation of an interactive teaching session for third and fourth-degree perineal laceration repair with a group of Rwandan health care providers." Poster presentation.
- Charles Rardin, MD, "How does a compliant air-filled intravesical balloon increase the abdominal pressure required to induce stress urinary incontinence (SUI) related leakage."
- Sunil Shaw, PhD; Kyle Wohlrab, MD; and Charles Rardin, MD, "Reoperation for Recurrent Stress Urinary Incontinence Following Midurethral Sling Revision; A Retrospective Cohort Study."
- Charles Rardin, MD, "Credentialing for Advanced Surgical Procedures." Educational roundtable session.
- Vivian Sung, MD, "Responsiveness of a computerized-adaptive test for urinary incontinence symptoms." Oral poster.
- Vivian Sung, MD, presented "Mentorship" as an invited panel speaker, AUGS Fellow's Research Day; "Critical components to developing a research career in Urogynecology" AUGS roundtable speaker; and served as moderator for the AUGS Opening General Scientific Session. ❖





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Obituary



DR. LAURENCE E. BOUCHARD, of Narragansett, RI, passed away on Friday, December 11 at South County Hospital in Wakefield, RI. He was born on September 17, 1931 in Haverhill, Massachusetts, and was married to the late Yvonne Ninette (Ayer) Bouchard for 51 years.

Dr. Bouchard graduated from Kirksville College of Osteopathic Medicine in 1962 and practiced family medicine in South County for 51 years. He was extremely devoted to his patients and profession. His patients often expressed their appreciation of his attentive and capable care. He was the first doctor of osteopathic medicine to be appointed to South County Hospital where he paved the way for many osteopathic physicians after him. He became a national leader in his profession, testifying before Congress about the American health care system as President of the American Osteopathic

Association (elected in 1993). Also, he served many positions at the University of New England including as a member of the board of trustees, and took great pride in the establishment of the medical school there in 1977.

Dr. Bouchard enjoyed traveling, skiing, sailing and was an avid fan of the New York Yankees and the Montreal Canadians. He was a loving father and husband and an insightful and amusing conversationalist. His life was filled with many happy memories with family and friends and will be sorely missed by all.

He is survived by his brother, Roy, and his wife Marie, daughters Colette Bouchard and her partner Steve Hirshon, Renee Katz and her husband Cliff, and Laurene Schwenke and her husband Patrick; as well as four grandchildren, Erin Sherman, Ryan Sherman, Jarret Katz and Michelle Katz. His daughter Elaine Sherman predeceased him.

Donations may be made in his memory to University of New England, c/o Institutional Advancement, 716 Stevens Avenue, Portland, ME 04103 for College of Osteopathic Medicine (COM) Scholarships. ❖

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MEDICAL PROFESSIONAL/CYBER LIABILITY PROPERTY/CASUALTY LIFE/HEALTH/DISABILITY

The early physicians of Washington and Kent Counties

They fought in Civil War, served on Supreme Court, rounded on horseback

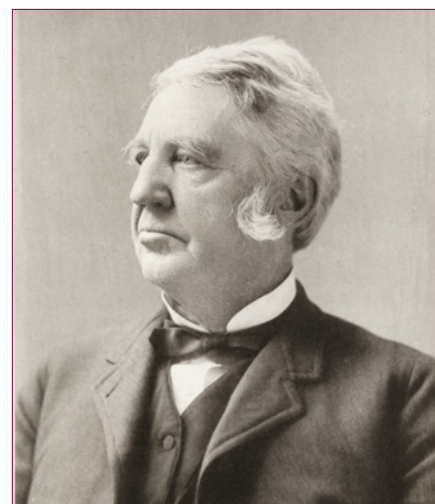
MARY KORR

RIMJ MANAGING EDITOR

In 1889, two physicians, **DR. JAMES H. ELDRIDGE** and **DR. FREDERICK TITSWORTH ROGERS**, who both served as presidents of the Rhode Island Medical Society during their careers, contributed to a history of Washington and Kent Counties¹ with a chapter on the medical profession.

Dr. Eldredge, who wrote the history of the physicians of Kent County, was born in East Greenwich in 1816, the son of Dr. Charles and Hannah Eldredge. He earned his medical degree at Jefferson College in Philadelphia in 1837 and returned home, where he practiced for more than 50 years.

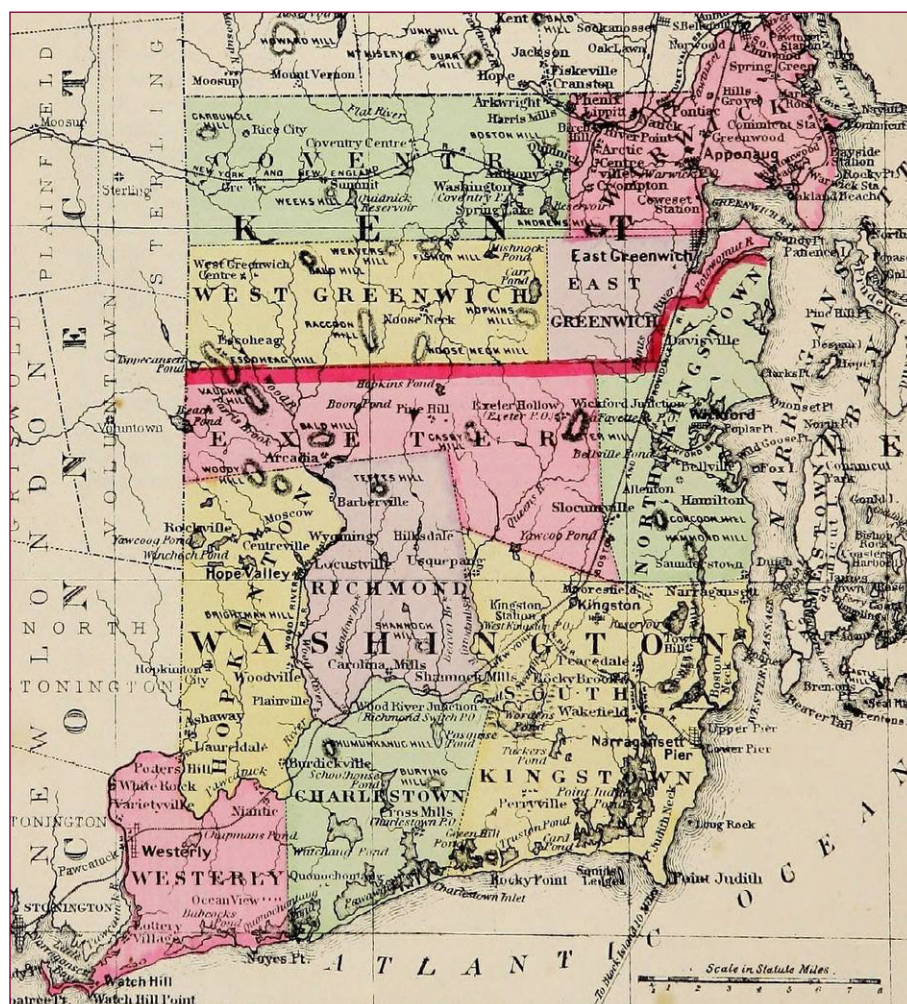
Dr. Rogers of Westerly wrote the medical history of Washington County. He was born in New York in 1859, and moved to Westerly as a youth. An 1882 graduate of the Medical College of the University of New York, he was awarded the first honor in a class of 268. Dr. Rogers then returned to Westerly and opened a practice with a special focus on ophthalmology.



James H. Eldredge, MD



Frederick Titsworth Rogers, MD



Map from the *History Of Washington And Kent Counties, Rhode Island, Including Their Early Settlement And Progress To The Present Time.* (1889.)

1. JR Cole, *History Of Washington And Kent Counties, Rhode Island, Including Their Early Settlement And Progress To The Present Time.* 1889.

The following profiles are only a partial sampling of the early physicians of South County from their accounts.

First Westerly physician, Chief Justice, friend to Washington, Franklin

DR. JOSHUA BABCOCK (1701–1783) was the first Westerly native to practice medicine there. He was a 1724 graduate of Yale College, (the first from Rhode Island), and then studied medicine in Boston and England. He returned home in 1734 and opened a surgical practice.

He also became a well-known merchant, having established the largest general retail store between New York and Boston. Dr. Babcock later served as Associate and then Chief Justice on the Rhode Island Supreme Court [1749 to 1751 and 1763 to 1764].

For over forty years he represented the town in the general assembly, and was a member of the state council of war at the time of the American Revolution. George Washington, Benjamin Franklin and many other noted men of that period were frequently his guests. One history recounts that Franklin attached lightening rods to Dr. Babcock's Georgian-style residence. A description of the home reveals it had secret closets, a deep wine cellar and carved and costly staircases, cupboards and ceiling.

Doctor Babcock was one of the first incorporators of Brown University and one of its Fellows. As a legislator he signed Rhode Island's state Declaration of Independence on May 4, 1776 before the national Declaration of Independence was signed on July 4, 1776.



Dr. Joshua Babcock's portrait when he served as Chief Justice of the RI Supreme Court. His home was a gathering place for state and local political leaders, and where George Washington and Benjamin Franklin were guests.

From mill doctor to Marine Hospital

JOB KENYON, MD, (1821–1889) was born in Exeter in 1821 and in 1846 graduated from the medical department of Yale College. He began the practice of his profession at Carolina Mills, Washington County, until 1853, when he relocated to Anthony Village, Kent County.

In 1869 the doctor erected a residence at River Point in Warwick, then "unsettled and almost in a condition of primeval forest," according to the history. "Here he has since resided and continued in the practice of his profession. In 1864 he opened an office in Providence, which he still visits daily, and may be found during the morning

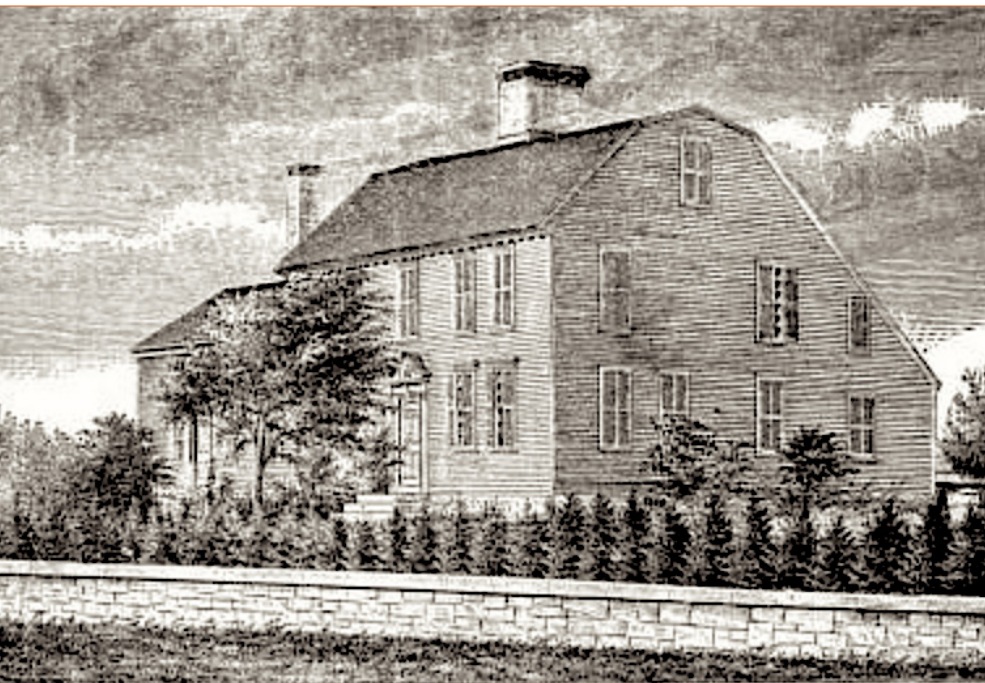


Job Kenyon, MD

hours. In August, 1862, he was made assistant surgeon to the Third Regiment Rhode Island Artillery, stationed at Hilton Head, South Carolina, and continued in the service until January of the following year, ill health then compelling his resignation. From 1865 until 1869 he filled by appointment the duties of physician to the **Marine Hospital** of that city." (The Marine Hospitals in this country were precursors to the US Public Health Service facilities.)

Dr. Kenyon was president of the Rhode Island Medical Society from 1882–1884.

According to the account, he was, "in politics a Republican, with independent views on the tariff question" and represented Coventry as state senator from 1865 to 1869, and was elected to the same office from Warwick in 1874.



Dr. Peleg Johnson's diary

'In my hand no price I bring'

— Tombstone of Dr. Johnston,
buried in Old Fernwood Cemetery, South Kingston

DOCTOR PELEG JOHNSON (1791–1859) was a Charleston, RI, farmer's son who walked to Connecticut to start his medical training. According to the account of Drs. Eldredge and Rogers:

When twenty the bonds became too galling, and he left the farm with five dollars in his pocket and a well-worn suit of clothes in lieu of his father's blessing, and tramping to Mansfield, Conn., began his studies under Doctor Soule of that place. He was able, after hard years of study and economy, to graduate from Yale College in 1816.

The following excerpts from Dr. Johnson's diary included in the history offer a glimpse of the daily routine of a doctor of that era.

January 1st, 1849. — Weather cold, wind N. W. Snow and ice covers the ground and makes it good sleighing. Weeden Allen's wife was this morning delivered of three daughters.

January 2d, 1849. — Wind N.W. and extremely cold. Last evening the good people of Westerly held a fair at the new Congregational meeting house. There was about four hundred present when without warning the floor gave way and precipitated the people in the cellar below. Many received fractured limbs.

January 11th, 1849. — Last evening two prisoners escaped from jail. Wind N. W. Probably warmer tomorrow. Great excitement all over the country over the reported discovery of gold in California.

Nov. 4, 1851. Stephen Grinnell, Dr., to visit @ medicine, .42 cents.

Wilkins Updike, Dr., to visit @ medicine, .42 cents; to extra pills for servant, .12 cents.

Nov. 10, 1851. John Cassel, Cr. [credit], buy 1 cord wood, \$3.00.

Jan. 12, 1852. Town of Kingston, Dr., to physick for two prisoners, .17 cents."

Dr. Johnson often traveled by horseback and, during the final months of his life, fell from his steed and suffered a thigh and compound fracture of the leg. Several months later, according to the history, his death "occurred from apoplexy, which seized him while on his way to visit a patient."

Dr. Johnson was known as a physician who kept his "professional tariffs," as they were referred to in those days, affordable. His tombstone in the Old Fernwood Cemetery in South Kingston reads: *'In my hand no price I bring'.*

Women physicians

According to the history, "**DOCTOR ETTA PAYNE** was the first woman who, as a regular graduate of a recognized medical college, practiced medicine in the county, and she lived in Westerly for a short time about 1870."

Thereafter, **DOCTOR LUCY ALMY BABCOCK**, a native of the county, according to the account, "tried and settled the mooted question, in so far as she was concerned, of a woman's availability for the medical profession."

Born at Potter Hill in 1834, she studied medicine under Doctor Amos R. Collins and her sister, **DOCTOR P. J. B. WAITE**, who practiced in New York City, and graduated from the New York Homeopathic College and Hospital for Women in 1873.

Dr. Babcock returned to Westerly to practice, and was the first woman physician to be admitted to the Rhode Island Homeopathic Society. Ill health forced her to retire about 15 years into her profession.

Dr. J. Howard Morgan

was a pioneer in the use of the bicycle and used it exclusively in his professional work. Born in 1844, he studied under Dr. W. H. Wilbur of Westerly. He then interned at the New York City Lunatic Asylum and opened a practice in Westerly, specializing in the treatment of psychological disorders.



THE "ROVER" OF 1880.