RHODE ISLAND MEDICAL JOURNAL

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SPECIAL SECTION

PROGRAM *in* LIBERAL MEDICAL EDUCATION, PART II

GUEST EDITOR JULIANNE Y. IP, MD

AUGUST 2015 VOLUME 98 • NUMBER 8 ISSN 2327-2228

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RHODE ISLAND
MEDICAL JOURNAL

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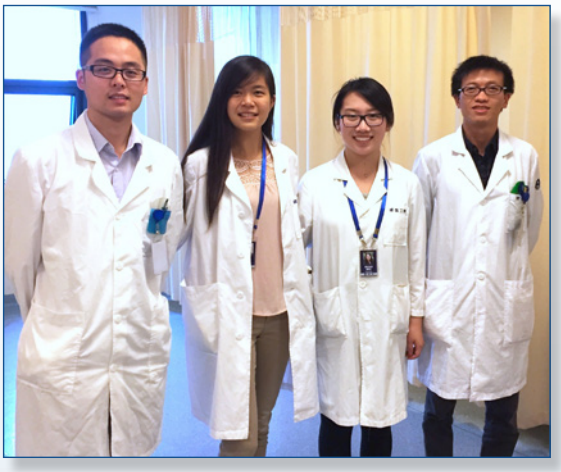
JULIANNE Y. IP, MD
GUEST EDITOR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RHODE ISLAND
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Cover photo courtesy of Peter J. Snyder

Retinal Vasculature Montage
by Peter J. Snyder
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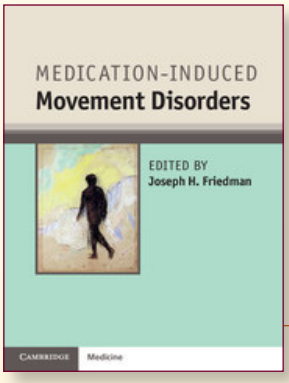

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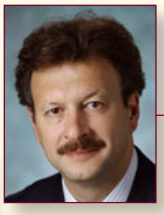

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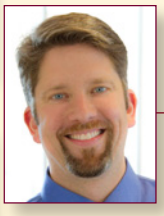

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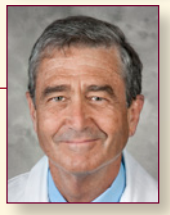

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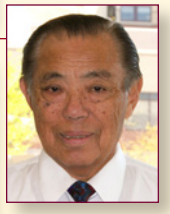

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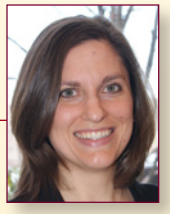

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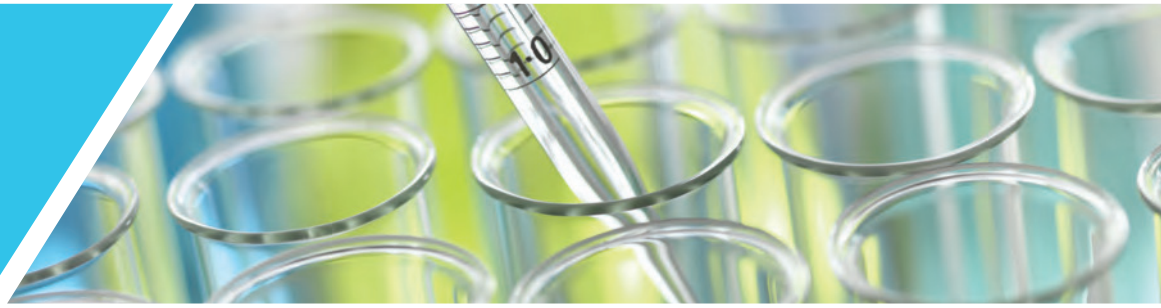

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Talking About Patients in Front of Them

JOSEPH H. FRIEDMAN, MD
joseph_friedman@brown.edu

I often have students with me when I see patients. These may be residents, fellows, medical students or the occasional health professional like a pharmacist, nurse or therapist. Obviously, they are watching in order to learn, both from simple observation, getting to see patients with a variety of movement disorders whom they would otherwise not see, but also from my making salient observations and explaining their importance. I think doctors and students often have mixed feelings about talking about patients in front of them. Patients don't like to be regarded as specimens, to be discussed as statistics or as pathological cases.

However, I am of the opinion that patients do like to know about their condition, and, I believe, how and why I think what I think, and why I do what I do. Listening to a discussion about what a sign means, what the pathophysiology is, what the management issues are is like watching a movie about the making of a movie where the patient is the subject. It's a behind the scenes look that is, for those of us not used to being behind the scenes, enlightening, and equally important, reassuring. In addition, it makes me look smart, to have some clearly bright, young adults listening, hopefully with rapt attention, to the graybeard sage opining. The important point is how one does this in a manner that avoids the patient feeling like a slab of meat.

The first thing I do is to tell the patient and family that I'm going to teach the students and that I'll try to make what I say understandable to the patient, since he is part of the audience, as well as to the medical personnel. Since many of my patients and their families are hard of hearing, I will talk loudly enough for them to understand. In these sessions I never say anything ominous, and never describe things in pessimistic terms. I will only note worsening when the patient or family is quite clear that worsening has occurred. I will try to interpret that worsening in terms of functional impact to the patient, possible pathophysiological explanations and potential treatment options. I then ask the patient and family if they understood what I discussed and attempt to answer their questions.

I have not questioned my patients about this teaching but I have always felt that they like it. They are treated as part of the scene, important parts of the scene, and we can share their pain as we try to understand their problem and thereby, its treatment, in as humanistic and scientific a manner as possible. I also think patients and families like to know that their doctor is teaching other doctors about their condition. Someone more knowledgeable than others is presumably, treating them, the person to whom others turn when there are questions. And many will ask, "How else will they learn?"

Not all discussions are held in front of the patient. I usually don't quiz my students in front of patients, although I sometimes do. If done with sensitivity this can be very rewarding, especially if a wrong answer or a silence can be turned into a small jest, and the atmosphere is not intimidating. Patients will always take the side of the student, so arrogance and pedantry are even worse in this setting than it is in private.

My evaluation of a patient for the first time, if done in front of students, is generally discussed outside the room where the patient cannot hear or see us. This allows for discussions best not heard, where someone might question a previous treatment or diagnosis, where an illness may be discussed in frank, sometimes brutal terms. I have learned over many years that students almost always underrate the functional impact of Parkinson disease, so that it is part of my obligation to point out that the minor tremor or reduced dexterity might mean the loss of a career within the next few months, or that the seemingly minor hallucination may portend something far more severe on the near horizon. Or we may discuss the role of a family's wildly dysfunctional state on the patient's ability to cope with a

disability. These are important topics, but best aired in private.

There are, clearly, reasons for private discussions, but I think the utility of a discussion in front of the patient is often undervalued. The residents who are new to my clinic often ask if I would prefer having the case presented in camera or in front of the patient. I always require a presentation in front of the patient. This is, I strongly believe, highly reassuring to the patient, because he then knows what I heard and doesn't have to worry that I came to an incorrect conclusion because of an inaccurate history by a trainee. It is also useful for the trainee to present findings that might be quite worrisome in terms that convey the gravity of the problem without the severe prognostic implications.

Medicine, especially in the specialties, as it has become increasingly test dependent, can divorce the patient from the disease. This is much less stressful for the doctor and also easier for the teaching of medicine, but bodies are not like cars and doctors are not like mechanics. As a prominent advertiser of men's clothes was wont to exclaim, "An educated consumer is our best customer." That applies to medicine as well: having educated students and educated patients is the goal. ❖

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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Rhode Island Medical Journal Submissions

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CONTRIBUTIONS

Contributions report on an issue of interest to clinicians in Rhode Island. Topics include original research, treatment options, literature reviews, collaborative studies and case reports. Maximum length: 2000 words and 20 references.

JPEGs (300 ppi) of photographs, charts and figures may accompany the case, and must be submitted in a separate document from the text. Color images preferred.

CASE REPORTS

Clinicians are invited to describe cases that defy textbook analysis. Maximum length: 1200 words. Maximum number of references: 6.

JPEGs (300 ppi) of photographs, charts and figures may accompany the case, and must be submitted in a separate document from the text.

POINT OF VIEW

The writer shares a perspective on any issue facing clinicians (eg, ethics, health care policy, patient issues, or personal perspectives). Maximum length: 600 words.

ADVANCES IN PHARMACOLOGY

Authors discuss new treatments. Maximum length: 1000 words.

IMAGES IN MEDICINE

Authors submit an interesting image or series of images (up to 4), with an explanation of no more than 500 words, not including legends for the images.

VIDEOS IN CLINICAL MEDICINE

Original, high-resolution videos, which have not been published elsewhere, will be considered. In a separate Word document please include a brief title, and legend (150 words or less) providing relevant clinical information, findings, clinical course, and response to treatment if initiated.

For any submission

Any information that might identify the patient or hospital, including the date, should be removed from images and videos. If an image of an identifiable patient is used, the patient should complete and sign our Patient Release Form.

Refer to our Guide for Authors for complete information.

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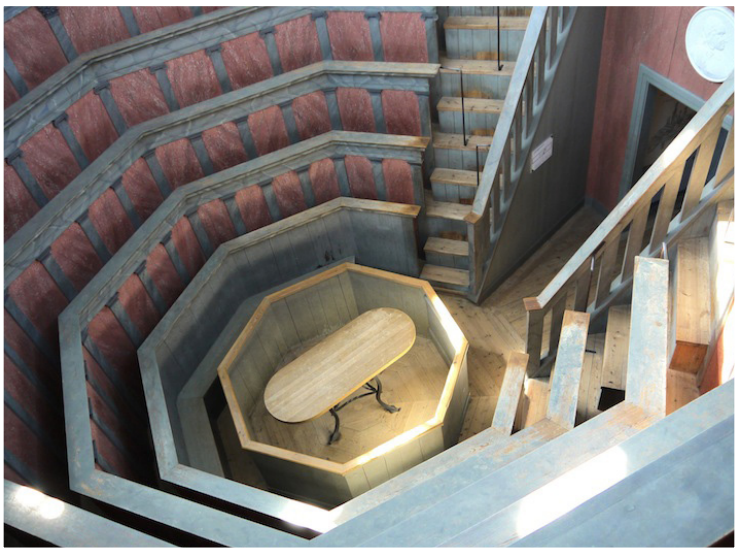
COPENHAGEN, DENMARK

Mr. Bernd Schröter, a municipal administrator for the City of Essen, Germany, accessed the July 2015 edition of the *Rhode Island Medical Journal* from Copenhagen's Nyhavn district.

UPPSALA, SWEDEN

RIMS Executive Director **Newell Warde, PhD**, accessed the July 2015 issue of RIMJ from the 1663 anatomical theater in the cupola of the Gustavianum at Uppsala University, Sweden.



BANFF NATIONAL PARK, CANADA

Michael Migliori, MD, stands beside the turquoise waters of Lake Louise in Banff National Park, nearly a mile above sea level in the Canadian Rockies. The lake's distinctive color comes from a fine glacial silt called "rock flour" suspended in the water. The Victoria Glacier is visible at the far end of the lake, beneath receding storm clouds.

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.**

We are read everywhere

PORTLAND, OREGON

Megan Turcotte, RIMS Director of Member Services, and **Steve DeToy**, RIMS Director of Government and Public Affairs, shared RIMJ with their colleagues at the American Association of Medical Society Executives (AAMSE) Annual Conference in Portland, July 22–25.

PAWTUCKET, RHODE ISLAND

Sarah Stevens, RIMS Office Manager, catches up on RIMJ during a recent Pawtucket Red Sox game, the ideal pastime for devoted spouses who may not be devoted fans.

VANCOUVER, BRITISH COLUMBIA

After arriving at the docks of the Vancouver Harbour Seaplane Terminal in a DeHavilland single-engine "Otter", **Marianne Migliori**, RIMJ Graphic Designer paused to reference the July issue.

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Part II – Brown University's Program in Liberal Medical Education (PLME): Medical Exchange Programs; Student Research

JULIANNE Y. IP, MD
GUEST EDITOR

This issue of the *Rhode Island Medical Journal* continues RIMJ's special themed section on Brown University's Program in Liberal Medical Education; Part 1 appeared in July (http://rimed.org/rimedicaljournal/2015/07/2015-07-14-plme-complete.pdf.). Part 2 offers an overview of our medical exchange programs designed to offer our students international perspectives on health care systems, delivery and innovation; it also offers a sample of our students' research interests.

Currently, we have 12 exchange programs; exchanges involve students from our international partners attending Brown's fourth-year clinical electives and Brown students going to our international partner schools for either clinical electives or an arranged experience which I will briefly review for each program where it is pertinent. In all cases, teaching in our international exchange partner institutions is in English but whenever possible, possessing conversational language skills for the host country are encouraged. All exchanges offer clinical elective rotations (generally for our fourth-year medical students) and most will accommodate our students for research as well. I have outlined some "special programs" for our exchanges that offer them.

In the Far East, we have exchanges with:

- Zhejiang University School of Medicine, Hangzhou China: four reflections are provided in this issue to give the readers a sense of the special summer program; a four-week Introduction to Traditional Chinese Medicine.
- National Cheng Kung University School of Medicine, Tainan, Taiwan offers a two-week summer course on Comparative Medical Systems and Traditional Chinese Medicine.
- Tokyo Women's Medical University, Tokyo, Japan.
- Kyoto University School of Medicine, Kyoto, Japan: special note of public health research given the Fukushima nuclear plant is close by.

In Europe:

- Rostock University School of Medicine, Rostock Germany: two-week summer school course: topics vary but most recently Aging and Comparative Health Systems.
- Tubingen University School of Medicine, Tubingen, Germany; two-week summer school course in Comparative Health Care Systems and Medical Ethics; or four-week Critical Care rotation (Brown intensivists faculty/fellows participate alongside our students).
- University of Bologna School of Medicine

In Africa:

- Kenya-Moi Eldoret, Kenya: month-long clinical elective alongside Brown faculty both Infectious Disease and Pulmonary.
- Ghana- University of Ghana and Kwame Nkrumah University of Science and Technology

In South/Central America:

- University of Nicaragua
- Haiti (on hold)
- Federal University of Medicine Sao Paolo, Sao Paolo, Brazil

And finally, I have included scientific research pieces that our students have written highlighting another core competency, lifelong learning. All Brown's PLME and AMS students are intellectually curious, strive for academic rigor and look to solve ongoing problems in the world. A quick note: these pieces were all voluntarily submitted when I sent out a general call for student participation. These are not necessarily representative of all the students' work but those who chose to share.

SUMMARY

In summary, this is a very brief overview of some of the work that is being done at Brown's Program in Liberal Medical Education and the Alpert Medical School. I appreciate the opportunity to showcase our students and their work. These are the physician leaders of Rhode Island's future in health care and beyond.

Acknowledgments

Thanks to Dr. Joseph H. Friedman for this opportunity to honor my mentor and friend, the late former Dean David Greer, as well as the PLME manager, Hilary Sweigart and our administrative assistant, Terry McAllister, both of whom are the backbone of the PLME.

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Traditional Chinese Medicine Program in Hangzhou, Zhejiang, China

Summer 2013 Reflection

ANNA DELAMERCED, PLME'16 AB PUBLIC HEALTH, MD'20

Guest Editor's Note: *I included 4 reflections from our students on their Zhejiang University School of Medicine (ZUSM) experience to provide perspectives on our students' experiences. The exchanges are meant to provide cultural competency as well as expose our students to international medical perspectives on healthcare systems and actual health care provision. Does a patient in China really use Traditional Chinese Medicine as well as seek allopathic medical care? What does that mean in context of providing care to a patient? How might understanding this help in caring for your own future patients?*

It's the aroma that catches my attention.

Unfamiliar, as if tasting a new fruit for the first time, yet simultaneously intimate, as if stepping into a shop chockfull of antiques that remind you of your own grandmother's home…

Petals of dusty red peep forth from plump pouches of cloth. Seeds of shades of lavender and indigo adorn a round, silver platter. The seemingly endless rows of wooden shelves remind me of a library, an especially old and storied one, like the Providence Athenaeum. Decked in a white coat, a middle-aged man beckons us to enter, greeting our bewildered eyes as we crossed the threshold.

This traditional Chinese medicine pharmacy is perched in the basement of a large, twenty-first century hospital. From ginger to ginseng, wolfsbane to wolfberries, the fragrances of the herbs intermingle and collide in a tiny room in a large hospital in the middle of Hangzhou, Zhejiang, China.

I wondered if, amidst all the modernity of the huge hospital, the simple boxes brimming with dried seahorses and white peonies felt just as out of place as I did. I didn't speak the language, nor did I fully understand the customs. I was nervous, a bit apprehensive of living in a country that is quite different from the one in which I grew up.

To be honest, I was not sure what I would learn during my time abroad last summer in China. The goal was to learn the principles of traditional Chinese medicine. Before embarking on the trip, I had packed a whole suitcase of questions. How would I apply what I learn to my future medical career? Would I be able to forge any friendships that span across different cultures and time zones and ideologies? Will I be challenged academically, emotionally, spiritually, and physically?

One month later, I did return home with a few answers in my pocket. It turns out, I learned a whole lot more outside the classroom. Last summer, I lived in a mid-sized city in southeastern China. Not only did I get to study traditional Chinese medicine, but I also got to learn so much more about myself, the world, and its people. I may have failed miserably at poking myself with acupuncture needles, and should have learned the language before I arrived, and felt very lost for the first week I was there, but my eyes were soon opened, as was my heart.

After more than 24 hours of flight time, with an additional hour of train rides (and an extra 30 minutes trying to find the train station itself), I was transported to a magical place. Where the 21st century meets a thousand-year-old history down winding roads and placid waters. This was my temporary home in a foreign land, a land brimming with beauty that cannot be tamed. I met many people on our daily bus trips, in the herbal clinics, and even on mountaintops.

From left to right, Alpert medical students Edward Tie, Jessica Cao, and Clara Mao in front of the SAHZU Jiefang Road campus in Hangzhou, China.

Eastern medicine varies vastly from medicine in the Western hemisphere. Equipped with fire, alcohol, and bamboo cups, I experimented with cupping therapy and even had the opportunity to practice on my classmates. I enjoyed sampling Goji berries and trying out acupuncture on myself. My knowledge of these alternative remedies greatly enhanced my medical education.

In the future, I could incorporate what I learn from traditional Chinese medicine to my practice as a physician. For example, I embrace the values behind holism, which emphasizes the individual patient, the patient-physician relationship, and preventing disease through healthy lifestyles. Furthermore, I especially was drawn to the ideals of spiritual and mental healing. A health body goes hand-in-hand with a healthy mind. Learning these elements has added a new dimension to my future capacity as a physician.

The pharmacist in the tiny herbal clinic regaled us with stories of how these tea leaves helped an elderly woman overcome a cold-like illness, or how those tree barks and dried fruit seeds render a potent combination to battle a headache. Coming from an American medical background, I was initially dubious. Can these alternative pathways really cure a viral or bacterial infection? Have these remedies been truly tried and tested? By the end of the program, however, my views significantly changed. I witnessed elderly patients receiving these herbal remedies and acupuncture. Even though we just stood there and watched and listened to her, an elderly woman who was receiving acupuncture told us *xièxiè*, *thank you*. Our presence alone was enough to give her comfort, knowing that we wanted to learn so that we may help others like her be healed. Their stories of how they feel much better after undergoing these medical methods gave me a new lens to my vision of health and restoration.

I have learned that we should respect many different ways of healing because healing is truly a complex endeavor. What resonated most with me during my time abroad was our shared goal. In both Eastern and Western medicine, we all just want to help and serve people. We are united by a common vision of sharing the gift of medicine with people who are in need. We need to respond to the needs of people with compassion, empathy, and honor.

What I also remember most about my time abroad were the friendships strengthened, not only with my fellow Brown University classmates but also with new friends thousands of miles away. I remember their smiles, their encouraging faces as they taught me a few Mandarin words, the way we all bear similar goals of impacting people and the world, the way we all just want to heal and be healed.

I returned to America with heightened awareness and an even more gripping passion to keep pursuing medicine. I want to reclaim the original goals of medicine, so we may not just participate in physical healing, but also emotional, spiritual, and mental. And if it takes seemingly out-of-the-box or out-of-the-ordinary methods, let us open our minds. Let us prioritize the needs and interests of the person who has trusted us with his or her care. Treatments and pills and surgical procedures, in both hemispheres of the world, may fail. So at the end of the day, when all the gadgets and gizmos and herbs are stripped away, let us remember the true goal of medicine: to be there for our fellow human beings. Let us grow in grace. Let us grow in wisdom.

Let us be noble in our pursuit of healing. ❖

As Far as the East is from the West: Exchange Experiences in Traditional Chinese Medicine

STEPHANIE GUANG, PLME'16 AB ENGINEERING AND AB PUBLIC HEALTH, MD'20

Sitting in JFK International Airport, I picked up a conversation with the girl next to me and came to discussing our travel plans.

"I am going to study in an exchange program at ZheJiang University School of Medicine and learn about TCM – Traditional Chinese Medicine – like acupuncture, cupping, herbology, etc," I explained

"Oh! Is that the Chinese voodoo stuff?" she asked.

The gap between Western and Eastern medicine is as expansive as the Pacific itself. Western medicine connotes deduction, precision, and pharmaceuticals, whereas Eastern Medicine involves induction, balance, and a sense of spirituality. The two are not two sides of the same coin; they are different forms of currency.-

My parents used TCM very often when I was growing up. They waited hours in line for a famous acupuncturist in Chinatown to insert the needles into their skin that would cure them from pollen allergies. When I, at the uncomfortable age of 13, developed uncontrollable acne and mood swings, I was taken to an herbalist, who brewed me brown-colored, odd-tasting soups to drink with my meals. Nonetheless, TCM was talked about as something you either "believe in" or you don't, as if it were a religion or myth.

I had the unique experience of learning Traditional Chinese Medicine before I took any biology classes such as physiology or anatomy at Brown. As the enthusiastic physicians at ZUSM (ZheJiang University School of Medicine) first explained the duality of yin and yang, the equilibrium of the five elements within the body, and the circulation of chi, the concepts were difficult to grasp. Terms like "essence"

Jessica Cao practicing acupuncture in the rehabilitation inpatient wards.

and "energy" seemed vague in the context of medicine. No matter how many times Professor Zhang explained it, a patient's "essence" didn't seem like a valuable health indicator if it couldn't be quantified or observed. I could not feel if a patient's pulse was "floating" or "knotted," let alone differentiate between the twenty-some-odd pulse diagnoses.

My Chinese relatives mocked me when I told them about the program.

"Ha! You cannot learn TCM in weeks. It takes almost a whole lifetimes to really understand and feel it."

I was confused when they warned me. Physiology was a semester-long course. Anatomy is a block of med school. What could be so difficult about TCM content?

As the weeks went on, the professors commingled theory, observation and practice, even allowing us to practice acupuncture and cupping on each other. Though the concepts never fully made sense, we began to understand the constant tug-of-war between good and bad energies within the body. We also saw the meridians link various acupoints on different body parts to the same imbalance. It was as if we learned to see the patient as a whole person rather than a diseased part.

I was also surprised to see how the different hospital departments like cardiology, neurology, surgery, etc. (whose separation no longer made sense to me), integrated TCM doctors into their practice at ZUSM. Oftentimes, TCM was used beside Western practices and the patient had two doctors with a mutual understanding of each other's treatment. Other times, TCM was brought in as a last resort on, say, a paralyzed patient after all Western medicine's measured had failed.

I saw this coexistence of East and West change within myself as well. I struggled to adequately translate the physicians' Chinese to my non-Chinese speaking peers from Brown and vice versa, and I often just found myself speaking a flummoxed mixture of English and Chinese. Growing up in the U.S., I have always been labeled as "Asian," but when I returned to China, my relatives mock me for my incorrect Chinese pronunciations and strange mannerisms. I could never truly be Western or Eastern, and I exist as a harmonic convergence of the two.

When the program drew to a close, the hospital directors shook our hands and said their farewells. They acknowledged the infeasibility of trying to understand TCM in a manner of weeks, but they hoped we would carry an understanding of the promise of TCM with us. Maybe in the future when we begin practicing ourselves, when we see a patient with suspected spleen damage, we might consider examining the color of their tongue and gums and reflect on the imbalance of dampness versus dryness of the spleen. Maybe if we encounter a patient with symptoms beyond the scope of Western diagnostics, we might recommend TCM for treatment. Maybe in the future West and East can harmonize just as they coexist within me. ❖

Edward Tie practicing cupping on a patient while supervised by Dr. Fei.

Understanding Patient Perspective

CARYN COBB, PLME'15, AB HEALTH AND HUMAN BIOLOGY, MD'19

The summer after my freshman year at Brown University I had the opportunity to travel to Hangzhou, China to do an internship with Traditional Chinese Medical doctors at the Second Affiliated Hospital of the Zhejiang University School of Medicine, a sister institution to the Alpert Medical School, located in Hangzhou, China. My interest in this experience was peaked because I am very interested in orthopedics and osteosarcoma. I knew that there were different methods of treating cancer that expand beyond just chemotherapy. Having the privilege of being able to learn first-hand the impacts and techniques behind Traditional Chinese Medicine opened my eyes to different treatments of diseases, particularly cancer, that reach beyond the Western practices of medicine. This internship provided an opportunity to gain more experience and to better appreciate non-conventional medicine that may be more effective for some patients. As a future physician my ultimate goal is to, the best of my ability, treat the pain of others. Having a broader knowledge-base of ways to help alleviate the discomfort and distress of someone can only be a positive attribute in helping to fight deadly diseases.

Acupuncture has become a more widely received additive treatment for patients who may not be responding to Western medicine. However, there are not many opportunities to shadow acupuncturists and having the chance to experience, first hand, the roots of Chinese medicine in a genuine environment provided an enlightening adventure. Learning about where to place acupuncture needles and the "chi channels" in the body that correspond to a patient's description of their discomfort was a very precise and detailed practice. Every chi channel is believed to be connected to an organ – either the kidney, the heart, the lung, the liver or the spleen. Someone who may be having knee pain could benefit from having the area from the back of their knee up along their thigh stimulated with acupuncture needles. I learned that treating the discomfort of a patient should be looked at from many different points of view as to all the possibilities of why and what could be contributing to an ailment because it is not necessarily as obvious as one may think.

This exchange trip taught me that understanding components of cultural views of medicine such as acupuncture and herbal medicine not only provides additional knowledge of ways to treat sickness, but also allows physicians, who may not be as immersed in a particular culture, to understand ways to approach patients and how to best comprehend a patient's view of medicine and their understanding of a doctor's role as a healer. For example, in China a lot of medicinal treatments are tied in with the idea of the balance with yin and yang in a person's body. I was taught that if a person's yin is low then the yang must be raised. Yin and yang correspond to in and out, front and back, and up and down. They balance each other. For example, many of the patients I saw being treated for sicknesses or allergies in the summer were not affected until the winter, but with yin and yang, the balance can best be treated for a cold disease during a hot season, such as summer. Tying this belief and other ways of addressing sickness into the medical treatment of certain patients can help doctors be more effective in communicating with their patients if the physician understands the perspective of their patient.

America is known as the "melting pot." Many different cultures and ethnicities make up the American population. Understanding other ways to address the healthcare of people can help physicians be more effective in connecting with patients from different backgrounds that may have different ideas of why particular medical practices, from medicine to surgery to routine check-ups, can be beneficial to their daily lives. People have diverse understandings, priorities and conceptions of physicians and their role in being a health advisor. Being open and aware of additional ways to approach western medicine and adding to medical conversations of why a treatment can be helpful to a patient is a key part of being a doctor. A successful physician can be defined as someone who can effectively treat and help people. Being effective in helping to improve someone's health has to include a patient's receptiveness to being helped. Patients are not always responsive to doctor's suggestions and I think sometimes it is because they have different perspectives on certain aspects of health. This exchange trip taught me different ways to think about the human body and how to address particular health problems. Understanding how different cultures approach medicine gave me a chance to view it from a novel perspective. As a future doctor I have learned that I cannot only think of the Western medical view of treatment because not everyone is receptive to that way of thinking. As many physicians, I want to go into medicine to help others and to do this most effectively I have to understand how others see medicine helping them. ❖

At the Children's Hospital in Hangzhou

TAMMY YU, PLME'16, SCB BIOLOGY, MD'20

After morning rounds, the medical students in the Children's Hospital would trickle one by one into the doctor's lounge at the end of the hall, a small room crowded with computers, patients' charts, and books. Sipping hot water from thermoses, they would look up conditions in English-language medical textbooks, occasionally consulting their phones for the Chinese translation. As they worked, they kept up a spirited discussion about the merits and faults of various attendings.

They were not much older than we were – Chinese medical students enter five-year programs immediately following high school – and even through the double lens of culture and difference in skill, we saw in them a glimpse of our future selves. Like medical students everywhere, they faced the pressure of caring for patients without really knowing whether they were capable of doing so. Their official standing didn't matter once they put on white coats. In the eyes of patients and their families, they were already doctors.

Some of the challenges the Chinese medical students will need to deal with sound too familiar to us: structural inequalities and the challenge of providing universal access to health care. Others are very different: the prevalence of certain infectious diseases; a massive population, mostly rural and poor; a standard of care at local hospitals very different from that at large city centers.

Parents regularly visited the doctor's lounge to ask the medical students and fellows, futilely, whether they could take their children out of the ward for lunch. One man came to fetch the medical records for a baby discharged the previous week. He had ridden for hours on motorcycle to get from the surrounding countryside to the hospital, but without proof of relationship, the hospital could not release the patient's paperwork. The man protested that the child's own father couldn't come; he was working too far away, in another city. What he did not say left a terrible helplessness hanging in the air: a single absence from work could easily get a factory worker fired.

The five of us who were part of that summer's Hangzhou exchange program did not know at the outset how much this trip would change our conceptions of medicine. From our experiences in other hospitals in Hangzhou, it was tempting to conclude that Traditional Chinese Medicine has been incorporated seamlessly into the Chinese medical system, but if we have learned anything, it is that facile narratives about China do not capture the complexity of the situation on the ground. In a nation where the medical system is pushing for rapid modernization and progress is so often measured by the attainment of Western standards, the med students at the Children's Hospital had little incentive to study what they viewed as outdated beliefs. One student asked what we were studying in Hangzhou and looked politely incredulous upon hearing acupuncture and herbal medicine. Rounding with them opened up the realization that medicine is rarely simple, and that it usually manages to challenge our expectations.

One afternoon, my attending asked if I'd like to help with the day's outpatient nutritional consults. I found myself taking the measurements of impatiently-squirming kids. Three or four families were squeezed into the exam room, and more parents and grandparents were waiting through the door and down the hall. Height, weight, head circumference. Height, weight…I was slow, the line seemed endless, and suddenly the reality of what I was doing was overwhelming. This was the first time I had ever been directly responsible for real patients. At the other desk, Dr. Ma was beginning her next consult. The baby in front of me was stirring from her nap, and her family was waiting for me expectantly. I looked up at them and in my shaky Mandarin I said, "She's got her mother's eyes, doesn't she?"

Some things about doctoring transcend the barriers of language and experience. As they smiled, and as some of the tension slipped from their faces, I took a deep breath and went to work.

The coursework we are doing now at Brown sometimes starts to seem like an end in itself. It is so easy to take refuge in studies and lose sight of the real purpose we are here, so easy to forget that at the end of it all, we will be serving other people. When that happens, I will need to think back to those moments of vulnerability we experienced in Hangzhou: the vulnerability of being lost in another country, or of taking responsibility for a patient I was not sure I had the ability to care for. Many such moments of doubt and uncertainty will undoubtedly be waiting for us in the years of training to come. And in those times, I must remember what it felt like in the Children's Hospital to be entrusted with another person's well-being: such a privileged feeling, no matter how far you are from home. ❖

Society and Infant Genital Reassignment Surgery: Past, Present, and Future

MADELINE PESEC, PLME'16 AB PUBLIC HEALTH, MD'20

Guest Editor's Note: *Finally, our PLME (and AMS students) are all highly engaged in scientific inquiry. PLMEs are not "just" into the liberal arts. Over 60% concentrate in the sciences and pursue honors in their field. Many are part of research groups and publish with Brown and other faculty. Included are the following research papers, again, not peer reviewed but submitted by the student in hopes of having their work published.*

KEYWORDS: Disorders of Sexual Development; hermaphrodite; age of conversion; gender reassignment; binary

INTRODUCTION

Due to the lack of understanding of Disorders of Sexual Development (DSD), they can be a stigmatizing and traumatic diagnosis for many. Often, physicians fail to understand the psychological ramifications of a DSD diagnosis for both the patient, and the patient's family. Additionally, society struggles to accept those with a DSD diagnosis, as they do not fit into the ingrained sex binary. The sex binary is expressed in everything from public restrooms to bureaucratic forms. DSD conditions raise complex issues including medicalization, parental acceptance, self-identity, and the production and dissemination of knowledge. DSD, previously known as intersex conditions or hermaphroditism, are defined as a reproductive, genital, or chromosomal condition that deviates from the traditional definitions of male and female and occurs in up to 1:300 live births.[1]

While the management of DSD has become more patient-centered than ever before, there remains significant stigmatization of DSD patients, perpetuated not only by society, but also by the biomedical establishment. The most controversial aspect of DSD care is infant genital reassignment surgery, in which physicians surgically alter the external and/or internal genitalia to conform to society's definitions of female and male genitalia. This surgery is medically unnecessary in the vast majority of cases because it is done for cosmetic reasons or to allow for penetrative intercourse.[2] This article will examine how views about DSD have shifted through history due to the moralism of the biomedical establishment, social movements, and rising academic theories, as well as question the high rates of infant genital reassignment surgery.

Age of the Gonads

Hermaphrodites and intersex individuals have a long documented history, beginning with the etymology of the word hermaphrodites. Greek myth states that Hermes and Aphrodite had a child together but could not decide on its gender. They finally elected to make the child half boy and half girl to ensure that Hermaphrodites was the true amalgamation of both parents. While antiquity held more malleable and geographically variable perceptions of gender, in the seventeenth century, physicians began to advocate for a stronger division between male and female.[3] In the Renaissance, physicians gained more prominence in society, replacing priests as the sole authorities of the anatomy and genitals; they became fascinated by the study of unusual anatomy – what they dubbed "monstrous" births – and named their new field teratology. Medicine entered into what Alice Dreger calls the "Age of the Gonads" where physicians, empowered by their newly invented microscope, examined gonads and genital tissue.[4] Based on their slides, physicians decided the sex of the child. Factors such as the new field of pathology, a greater understanding of embryonic development, and the theory of evolution (which emphasized reproduction) ingrained the genitals' importance as the sex-determining factor.

Age of Conversion

In the middle of the 20th century, the emergence of Freudian theories of gender and sexuality shaped the experiences of those with DSD. Advancements in medicine allowed for a better understanding of embryonic physiology and improvements in surgical procedures made genital reconstruction and reassignment possible. These advancements, combined with the repressive social order, made infant genital reassignment the standard procedure. John Money's psychosocial gender identity theory established conversion-based DSD care, which lasted through the end of the 20th century.[5] This century was consequently dubbed the "Age of Conversion."[6] This theory states that children are malleable at infancy and will conform to any assigned gender, as long as sex assignment surgery is done swiftly after delivery and parents keep details about their child's sex a secret. Because of the intense stigmatization of those affected, biomedicine operated on the axiom that children should never know they were different from their peers.[7] This secrecy is a reflection of the general societal repression at this time and likely stems from the sexually repressive nature of American society in the 1950s and the societal taboos regarding sexual intercourse and the sexual organs.

In the 1960s, the sexual revolution generated conversation about sexuality and the sexual organs.[8] Knowledge from the feminist and LGBT+ movements began to alleviate the heavy tone of moralism adopted in the 1950s. In turn, these movements increased discussion concerning sexual terms and anatomy, allowing the public to better understand their gonads. As society began to embrace the importance of sex, surgeons similarly began putting money, time, and research into preserving sexual nerves during surgery. Despite this

progress, treatment of DSD individuals, however, remained based on "fixing" anatomical deviations and not preserving sexual feelings.[9]

In the wake of the sexual revolution, feminist theories examining DSD, then called intersex, emerged in the 1980s and 1990s. One of the most influential voices was Anne Fausto-Sterling, who began to call for an expansion of the gender binary to include different types of DSD, proposing five sexes instead of two. Ultimately, she argued for the elimination of genders entirely and rejects the convention that a boy must have penis large enough to achieve penetrative intercourse to be considered male.[10] This assertion directly contradicts the biomedical standard that one's genitals determine one's gender. By the close of the 20th century, feminist and queer theories had begun to lift the curtain around DSD and intersex advocates had established their own theories rejecting normative gender categories.

Recently, the debate regarding the treatment of DSD has been elevated to a greater level of importance and physicians have begun to reconsider the ramifications of infant genital reassignment. Despite this progress, at the turn of the 21st century physicians were still promoting treatment based on the framework developed by Money in the 1950s. Until the past decade, the American Academy of Pediatricians characterized DSD as a "social emergency" to be remedied.[11] In 2004, based on the recommendations by the activist organization the Intersex Society of North America, physicians adopted a new multidisciplinary framework that urged caution in infant genital surgery.[12] Unfortunately, this progress, too, is deceptive. The Intersex Society of North America reports that infant gender reassignment surgery persists unabated. In Colombia University's meta-analysis of the developments in treatment of DSD, published in April 2014, the authors support a multidisciplinary approach including a team of psychologists, social workers, and physicians. However, the paper also recommends that reassignment surgery should be preformed within the first week of life when genitals are not exclusively male or female.[13] As this irreversible surgery continues unabated today, it seems theoretical discourse has had little effect on surgeries.

When examining the factors that have lead to today's high level of infantile genital reassignment, many physicians insist that surgery continues in response to parent demand. Parents, upon hearing their child's DSD diagnosis often struggle to comprehend the medical aspects of the disorder and physicians simultaneously push parents to make a swift decision regarding their child's genitals.[14] Many parents report that fear of ridicule encourage them to "normalize" their child's genitals. However, due to the secrecy that shrouds the diagnosis and care of DSD, there exists little data regarding the effects of infant genital surgery. No significant data suggests that these surgeries are beneficial to the child; in fact, in some cases, these surgeries have been shown to cause mental anguish or even harm to the patient.[15]

Parents in the United States possess complete autonomy to make decisions on behalf of their children up to age eighteen in most states. While reproductive services do not generally require parental consent, intersex surgeries and treatments do. Recently, the parental right to make decisions about the bodies of adolescents has received some scrutiny and may soon be challenged in court. The thought that parents make autonomous decisions regarding their child has been contested recently by research showing that the type of counseling parents receive substantially influences the decisions they make. One study showed that while parents believed their decision was based on personal considerations only, it was actually heavily influenced by whether their counseling was surgical or psychological.[16] Given the irreversible nature of infant genital surgery, society must consider parents' true motivations and reevaluate the way in which biomedicine communicates with parents.

Age of Acceptance

Based on the progress of DSD treatment and awareness in the past twenty years, this article asserts that society has begun the Age of Acceptance. Now that feminist theory is well established and those individuals with DSD are more vocal than ever, biomedicine must critically examine how society's prejudices influence biomedical protocols and, more importantly, the quality of life of those with DSD. Studies suggest that societal fears of sexual perversion and deviation are the driving factor behind infant genital reassignment surgeries.[17,18] With an alarming lack of empirical evidence supporting these surgeries and an ever-growing group protesting them, biomedicine must scrutinize their use. If society can begin to understand that one's gender is determined by one's psyche, not by outward appearance, society can enter the Age of Acceptance and begin to erase the notion that genitals define gender. Moreover, as scholars have accepted gender as a spectrum not a binary, so too must they accept sex as a spectrum. An expanded definition of sex will help patients with DSD be accepted in their natural bodies and no longer feel pressured into genital reassignment. Moving forward, biomedicine's approach to DSD must be critically interrogated, and more research on the psychosocial motivators and impact of infant genital reassignment surgery is needed.

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Role of Subventricular Zone Derived Neural Precursor Cells in the Therapy of Experimental Autoimmune Encephalomyelitis

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ABSTRACT

Examining the accumulation of stem cells following transplantation can provide valuable insight on the possibilities of stem cell-based human therapies for neurodegenerative disorders, namely multiple sclerosis (MS). MS is a chronic disease that attacks the central nervous system (CNS). Symptoms may be mild, such as numbness in the limbs, or severe, such as paralysis or loss of vision. MS is currently believed to be an immune-mediated disorder caused by the patient's own immune cells gaining entry into the CNS via the impaired blood–brain barrier. This leads to demyelination and scarring in addition to other common neurological symptoms associated with autoimmune disease. The purpose of this report is to use td-Tomato transgenic mice to determine the accumulation of intravenously-injected Green Fluorescence Protein (GFP) reporter neural precursor cells (NPC) in the CNS. Using a mouse model of MS known as Experimental Autoimmune Encephalomyelitis (EAE), the effect of NPCs in the CNS was evaluated by clinical scores, in vivo *magnetic resonance imaging* (MRI) and Xenogen imaging, and histology. This study provides support for a potential role of NPCs in the therapy of EAE and MS in humans.

KEYWORDS: stem cell use for neurodegenerative disorders; multiple sclerosis

Note: This submission only contains the research abstract. To obtain access to the full-length report, please contact me at soha_ghanian@brown.edu

Radiographic Evaluation of the Carpometacarpal Joint in Early Stage Osteoarthritis Severity and Joint Laxity

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KEYWORDS: carpometacarpal osteoarthritis; radiographic evaluation of osteoarthritis

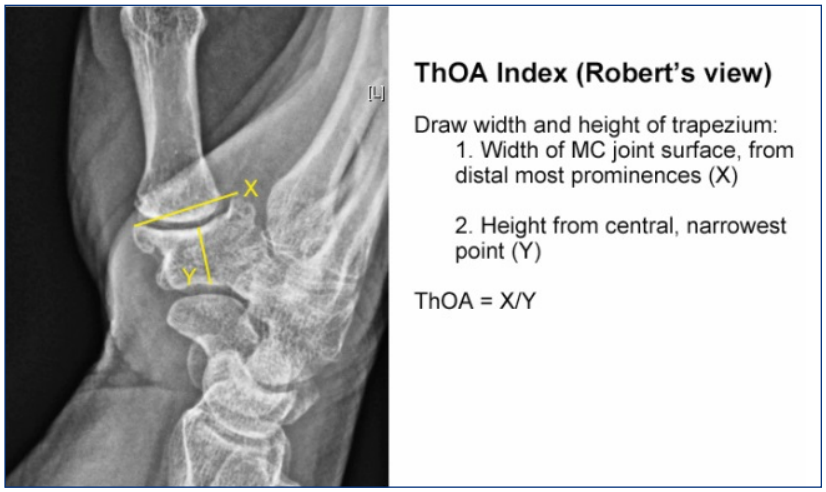
INTRODUCTION

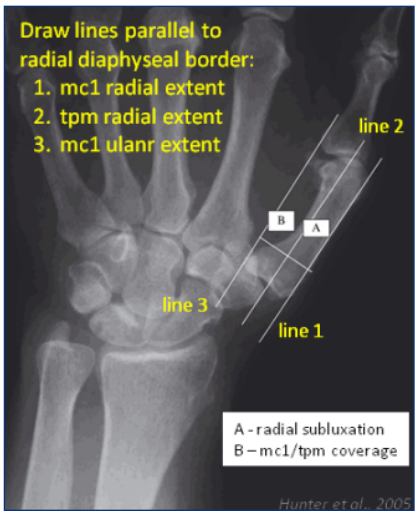
Thumb carpometacarpal osteoarthritis is a common and disabling disorder that affects 15% of adults over the age of 30, and 66% of women over the age of 55.[1] Thumb use is affected by pain, weakness and loss of dexterity, leading to significant impairment (40%-50%)[2] of the upper extremity due to its central role in nearly all grasp and handling maneuvers. Since Kellgren and Lawrence's study documented the prevalence of degenerative thumb CMC arthritis in the late 1950s[3], several subsequent studies have confirmed the importance of accurate radiographic evaluation in the grading of OA across assorted radiographic views. However, widely used OA staging systems are of questionable utility, as they are highly subjective and unreliable between users. The present study will generate heretofore unavailable foundational data on longitudinal and quantitative evaluations of CMC joint subluxation and ThOA (thumb osteoarthritis) indices through key radiographs. In a sample of patients who present with pain and Eaton Stage I/II joint degeneration, radiographic OA progression at 1.5- and 3-year follow-up was expected to be more advanced in patients with larger baseline CMC joint laxity than in those with smaller baseline CMC joint laxity and in those with no evidence of OA.

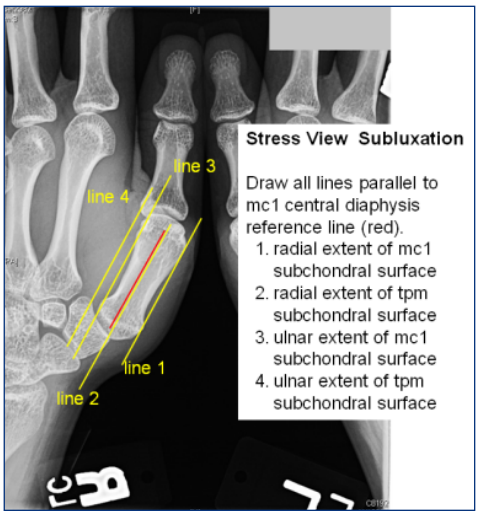
Four fundamental radiographs (lateral view, Robert's view, posteroanterior view, and stress view) were obtained for each subject. A total of 139 (69 normal, 70 OA) subjects were imaged, and data was sent to orthopaedic surgeons, residents, and CMC radiologists. An ImageJ macro was developed that allows raters to grade OA progression using the Eaton and Ladd-Weiss classification systems and digitally calibrate the radiographs to perform the proceeding measurements. In the Robert's view radiograph, Thumb Osteoarthritis index (ThOA) was determined by the ratio of the measured trapezium width to the measured trapezium height. In the lateral view, Hunter radial subluxation (RS) of the base of the first metacarpal off the trapezium and Hunter metacarpal 1-tpm coverage (mc1-tpm), the amount of the base of the first metacarpal covering the articular surface of the trapezium, were quantified. Subsequently, the stress view radial subluxation, articular width (AW) of the metacarpal, and distance (U) between the ulnar articular facet of the trapezium and the ulnar metacarpal edge measurements were performed for both hands in the stress radiograph. In addition to longitudinal data that is currently being collected and processed, reproducibility among and within users (1 biomedical engineering student, 1 medical student) was also evaluated. Intraclass correlation coefficients were calculated for inter-user reliability (with 95% confidence interval) and test re-test bivariate analyses for intrauser reliability (with $p<0.05$).

Statistical analyses using SPSS software of the Eaton and Ladd-Weiss gradings demonstrated significant inter- and intra-user variance. The intraclass correlation coefficient (ICC) was fairly low (ICC=0.392, 95% C.I.) and test-retest

Figures (counterclockwise): Robert's view, Hunter's view, Stress view







coefficients (r=0.197-0.304, p<0.05) as well. In Robert's view, the interclass correlation coefficient (ICC=0.883) for the ThOA index measurements exhibited high agreement, as did the test-retest reliability coefficient (r=0.723-0.984). In the posteroanterior view, raters calibrated the Hunter RS and Hunter mc1-tpm measurements, which translated to a RS/ mc1-tpm ratio of 0.35 (standard deviation = 0.017). Intraclass correlation coefficient (ICC=0.819) and test-retest reliability (r=0.702-0.930) for the ratio confirmed acceptable reproducibility. In the stress view, raters measured RS, AW, and U for both right and left hands, which yielded an average right hand RS/AW ratio of 0.48 (SD= 0.011). Intraclass coefficient (ICC=0.746) and test-retest reliability (r=0.603-0.799) were moderate for the right thumb. Moreover, the left RS/AW ratio of 0.46 (SD=0.008) had higher inter- (ICC=0.813) and intra- (r=0.699-0.923) user reliability. High ICC and r values indicate high fidelity and reliability in this quantified paradigm for defining subluxation and, consequently, OA progression. These results are highly contributive due to the demonstrated consistency of radiographic evaluations, in contrast to the variability in existing classification systems. Such findings facilitate better diagnoses and correlate clinical CMC symptoms to a systematic radiographic standard. Longitudinal data from benchmark year 0 and progression of OA patients at year 1.5 will also be presented at the time of the conference.

The findings from the present study on thumb CMC biomechanics and OA progression will foster the development of new clinical treatment techniques to arrest early stage disease progression. The improvement of radiographic CMC joint analysis and, in particular, quantifying the ThOA index and joint subluxation informs the assessment of degenerative radiographic changes and the detection of subluxation to preventatively reduce risk of osteoarthritis.

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HIV Testing for At-Risk Adolescents at Rhode Island Hospital

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ABSTRACT

Early detection of HIV has great potential to reduce transmission, especially when newly diagnosed individuals are treated early. Early treatment and suppression of viral loads is known to effectively attenuate HIV transmission. However, little is known about whether persons at high risk for HIV are being appropriately tested during healthcare encounters according to national guidelines. Specifically, the at-risk adolescent population may be under tested and are not routinely monitored by state-level surveillance system. This study reviewed HIV testing rates for at-risk adolescents from 2005–2012 at the main tertiary care and pediatric center in Rhode Island. While the absolute number of HIV tests for at-risk adolescents continued to increase, the HIV testing rates for this population decreased during the seven year period. Increasing awareness of HIV testing for patients, their families, and physicians may improve the HIV testing rate among at-risk adolescents in Rhode Island.

KEYWORDS: HIV; adolescents; testing

INTRODUCTION

Early detection and treatment of human immunodeficiency virus (HIV) infection can reduce the viral load in a person living with HIV and, in turn, the risk of transmission to uninfected individuals.[1] Knowing one's serostatus has also been shown to decrease an HIV infected individual's likelihood of engaging in unprotected intercourse with uninfected partners by 68%.[1] High-risk HIV negative individuals can benefit from routine testing, education and counseling, and other prevention interventions such as pre-exposure prophylaxis (PrEP).[2,3] Routine screening is critical to achieve early diagnosis of HIV. At-risk adolescents, in particular, have unique barriers to testing and are less likely to be tested and to benefit from early diagnosis of HIV.

In the past decade, several national and local movements have advocated for improved screening of HIV. In 2006, the Centers for Disease Control and Prevention (CDC) revised its guidelines to include routine HIV testing of all patients aged 13 to 64 years regardless of risk factors.[1] The National HIV/AIDS Strategy (NHAS) issued by the White House in 2010 also prioritized increasing the proportion of people aware of their serostatus from 79% to 90% by 2015.[4] In Rhode Island (RI), the Department of Health (HEALTH) launched a campaign in 2013 titled "Getting to Zero," which set out to "end the epidemic of HIV in RI by 2018.[5] HEALTH also created a website, "Just Get Tested," to help and encourage patients to find HIV testing sites.[6] The collaboration among The Miriam Hospital, HEALTH, AIDS Project Rhode Island, and Rhode Island Public Health Institute launched its campaign "Do It RIght: Get Tested for HIV and STDs" at the RI PrideFest on June 21, 2014.[7,8]

Adolescents themselves have low perceived risk of acquiring infection and engage in unprotected sexual intercourse and other risky behaviors, putting them at significant risk for contracting HIV infections.[9,10] According to the 2013 Youth Risk Behavior Survey (YRBS), 47% of high school students reported having sexual intercourse.[11] Ninety-one percent of these students did not use condoms and 87% reported never being tested for HIV.[11] In 2012, the CDC estimated 60% of youths (ages 13–24 yrs) living with HIV did not know their seropositive status.[12] Past studies have shown that adolescents were 2–7 times less likely to have HIV testing than adults aged 35–44 years.[13,14] Risk factors associated with lower HIV testing rates among adolescents include younger age,[15,16] presence of a guardian,[15] and being Hispanic/Latino.[17] Adolescents have higher rates of testing when they are offered rapid oral tests compared to venipuncture tests,[16,18] have access to confidential testing centers, are recommended by a physician to get tested,[19] have opt-out and routine testing options,[16,20,21] and have HIV test counselors available.[21] Lack of these resources can lead to lower rates of HIV testing among adolescents.

Given the barriers to testing among adolescents, proactive screening for HIV infection is critical in this population. While the CDC division of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) monitors HIV testing rates nationwide, this system does not provide stratification of the data based on age.[22] Moreover, there was no complete standardized reporting until 2008, and thus, data from earlier years are missing in the NCHHSTP database.[22] The YRBS has incomplete reporting of HIV testing rates nationwide and no reporting from RI.[11] Few studies in the past decade have measured testing rates for adolescents. Reported testing rates ranged from 29% to 93% across various healthcare settings, time periods, and geographic regions.[16,23] The purpose of this study was to

investigate HIV testing rates for sexually experienced adolescents presenting to the Rhode Island Hospital (RIH) system which includes Hasbro Children's Hospital and several outpatient centers in RI. Given that RIH is the only major pediatric medical center in RI, this study probably reflects statewide adolescent HIV testing rates.

METHODS

A retrospective cross-sectional review was performed of all patient encounters in the RIH system involving 13-18 year old patients from January 1, 2005 to December 31, 2012. We defined at-risk adolescents as patients with high clinical index of suspicion for history of sexual encounters or sexually transmitted infections (STIs) or illicit drug use, which has been shown to correlate with risky sexual behaviors and infection through intravenous drug use. Tests for syphilis, chlamydia, gonorrhea, herpes, trichomonas, and illicit drug use were used as surrogate markers for clinician suspicion for risky behavior. Similar identification methods were used in a previous study.[16] To reduce potential sampling bias, patients presenting to subspecialty clinics such as Infectious Diseases and HIV clinics were excluded. The data were queried to identify encounters with HIV testing. The lab reports from HIV testing were reviewed and excluded if invalid.

The HIV testing rate was calculated for each calendar year as a percentage of all pediatric encounters with labs involving STI testing or toxicity screen tests. The total number of encounters, absolute number of HIV tests, and testing rates were graphically displayed to demonstrate the time trend. Chi-square analysis was performed on testing rates between 2005 and 2012 to determine significance ($p < 0.05$).

RESULTS

Between 2005 and 2012, there were 21,897 unique encounters with 13,504 at-risk adolescents. Of these encounters with high-risk adolescents, 3,596 (16.4%) encounters had an HIV test performed during the encounter. Forty-two of the 3,596 tests performed demonstrated a seropositive result.

The absolute number of encounters during which an HIV test was performed for at-risk adolescents steadily increased between 2005 and 2012 (See Figure 1). However, the increase in the number of encounters with at-risk adolescents outpaced the rate of increase in HIV tests – particularly between 2007 and 2009. The total encounters with the at-risk adolescent population increased by 253%, but HIV testing encounters increased by 192% between 2005 and 2012 Consequently, HIV testing rate declined from 21.8% to 16.6% (p <0.0001).

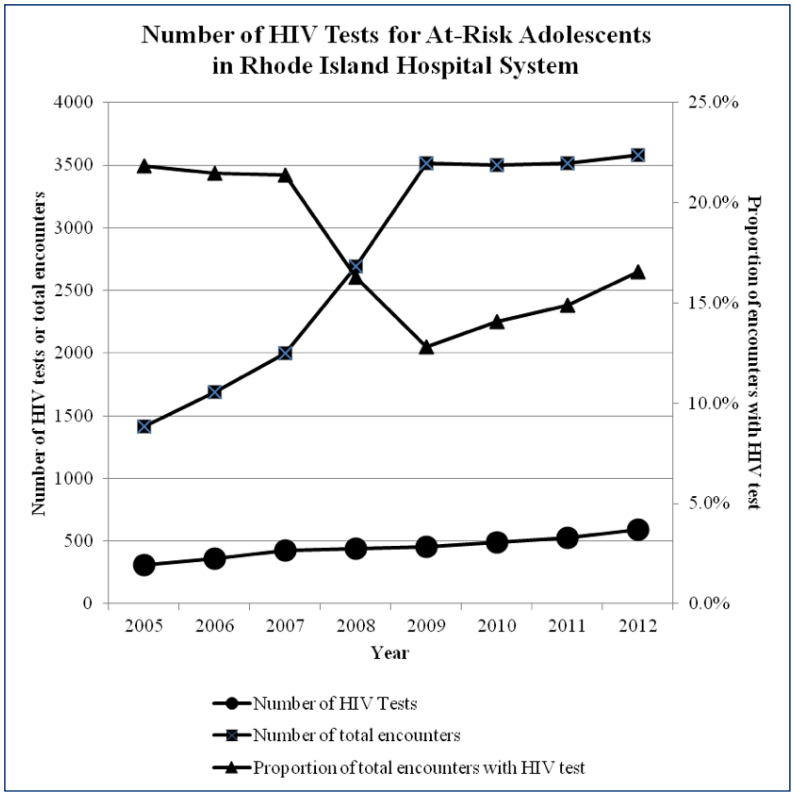
DISCUSSION

HIV testing rates in the RIH system during the 7-year study period was very low at 16.4% compared to previously reported rates of 28.7% to 93.4% for adolescents across various locations and healthcare settings.[16,23] Moreover, time trends demonstrate that HIV testing rates remained low from 2005 and 2012, despite 2006 CDC recommendations and the 2010 National HIV/AIDS Strategy issued by the White House. The impact of more recent statewide efforts by RI HEALTH and the collaboration among The Miriam Hospital and community partners were not captured by this analysis.

Between 2005 and 2012, the HIV testing rate among sexually-experienced adolescents declined. This decline is the consequence of an increase in the number of encounters with STI testing and toxicity screens for adolescents that outpaced the increase in the encounters with HIV testing. On one hand, increased STI testing rates among adolescents can be commended and should be reinforced. However, improvements should be made to include HIV testing as a routine part of the STI screen.

One potential barrier to HIV testing is the stigmatized perception of HIV held by patients, their families, and physicians. The onerous informed consent process and lack of HIV counselors can also discourage patients and their families to seek HIV testing and the physicians to offer one. Of note, RI did change written consent for HIV testing to

Figure 1. Absolute number of encounters with HIV tests and HIV testing rates for at-risk adolescents in the Rhode Island Hospital system from 2005 to 2012



verbal consent in 2010 which may have reduced this barrier to testing. Patients are also more likely to decline the venipuncture HIV tests compared to less invasive urinary testing for other STIs. Finally, lack of clinical guidelines and lack of physicians' awareness that adolescents may receive HIV testing without parent consent and notification can deter routine HIV testing. Overcoming these barriers to HIV testing is critical to reduce transmission of HIV particularly among at-risk adolescents.

Due to the retrospective nature of this study, we were unable to account for all variables that may influence HIV testing rates. For example, the low HIV testing rates found in this study may be due to patient refusal or physician-related and other testing process-related variables. Patient refusal, however, could not have entirely accounted for the low testing rate found in this study. Retrospective analysis of billing data may be incomplete data due to inaccurate reporting. However, the retrospective nature also allowed us to avoid potential observation bias of physicians changing HIV testing practices due to awareness of being observed. Reporting bias was minimized by using laboratory data rather than the provider-based billing data. Because the data is limited to RIH system, it did not capture HIV screening efforts by other clinics and community organizations. Our study population was those with access to RIH, and thus generalizability to RI population may be limited. However, as the only pediatric medical center, RIH serves the majority of the pediatric population in the area and can serve as a model for nearby healthcare facilities.

As the current CDC guidelines recommend, all patients of all ages, regardless of risk factors, should receive annual HIV tests as routine screening. However, even if a patient had an HIV test in the past year, clinical suspicion for STI should warrant HIV testing as part of the STI workup.[24] Our study shows that more than four out of five at-risk adolescents do *not* receive HIV testing during a healthcare encounter. Future studies can explore barriers to HIV testing and assess interventions to help reduce these barriers. Continuation and intensification of efforts to raise awareness and increase HIV testing rates for at-risk adolescents should be recognized as a public health priority.

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Delayed Diagnosis of Subdural Empyema in a Septic Child

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ABSTRACT

The prompt identification of sepsis in children is challenging, but once sepsis is identified, initiation of care and determination of proper disposition may be insufficient to ensure optimal outcomes. The best opportunity for full recovery also requires rapid identification and treatment of the infectious source. Acute bacterial sinusitis is common in the pediatric population, and although intracranial complications of sinusitis are rare, they are associated with significant morbidity and mortality. History and physical examination may be imperfectly sensitive for the presence of acute bacterial sinusitis and its intracranial complications. We present a case of pediatric sepsis in which the diagnosis of intracranial extension of bacterial sinusitis was not made during the first phase of care and describe complications that followed. Emergency physicians should consider subdural empyema in patients presenting with fever, nausea and headache with worrisome vital signs and laboratory values suggestive of a severe infection.

KEYWORDS: Pediatrics, Subdural Empyema, Sepsis, Sinusitis, Infectious Disease

INTRODUCTION

Sepsis, the systemic inflammatory response syndrome with an infectious source, is difficult to identify in the pediatric population since definitions are based on age-related vital signs cut-offs (**Table 1**).[1] Further challenges to Emergency Department (ED) diagnosis stem from the facts that vital signs in the pediatric patient often change dramatically during the ED course and a sizable portion of children meet diagnostic criteria only after triage.[2,3] Lastly, given that half of pediatric patients with sepsis are immunocompetent, emergency physicians must consider sepsis for the totality of patients seeking emergency care for infection.[4] Once a sepsis diagnosis is made, ED clinicians must maintain a broad differential to identify and effectively treat the infectious source.

Table 1. International sepsis consensus systemic inflammatory response syndrome (SIRS) cut-off values by age

Age Group	HR	RR	WBC (or bands >10%)
0-7 days	>180, <100	>50	>34K
7-28 days	>180, <100	>40	>19.5K, <5
1-23 mo	>180, <90	>34	>17.5, <5
2-5 yr	>140	>22	>15.5, <6
6-12 yr	>130	>18	>13.5, <4.5
13-18 yr	>110	>14	>11, <4.5

Acute bacterial sinusitis (ABS) is common, estimated to complicate 5-10% of upper respiratory tract infections.[5] Suppurative intracranial complications of ABS are much less common. In a pediatric series, only 2.4% of all intracranial infections were due to sinusitis.[6] This rare complication is associated with significant mortality, with rates estimated up to 10% in the pediatric population.[7,8] Further, long-term neurologic deficits such as hemiparesis, aphasia, and epilepsy remain common, occurring in 8-19% of survivors.[7,8,9] Subdural empyema (SDE) is the most common sinusitis-associated intracranial infection.[7,6,10,11]

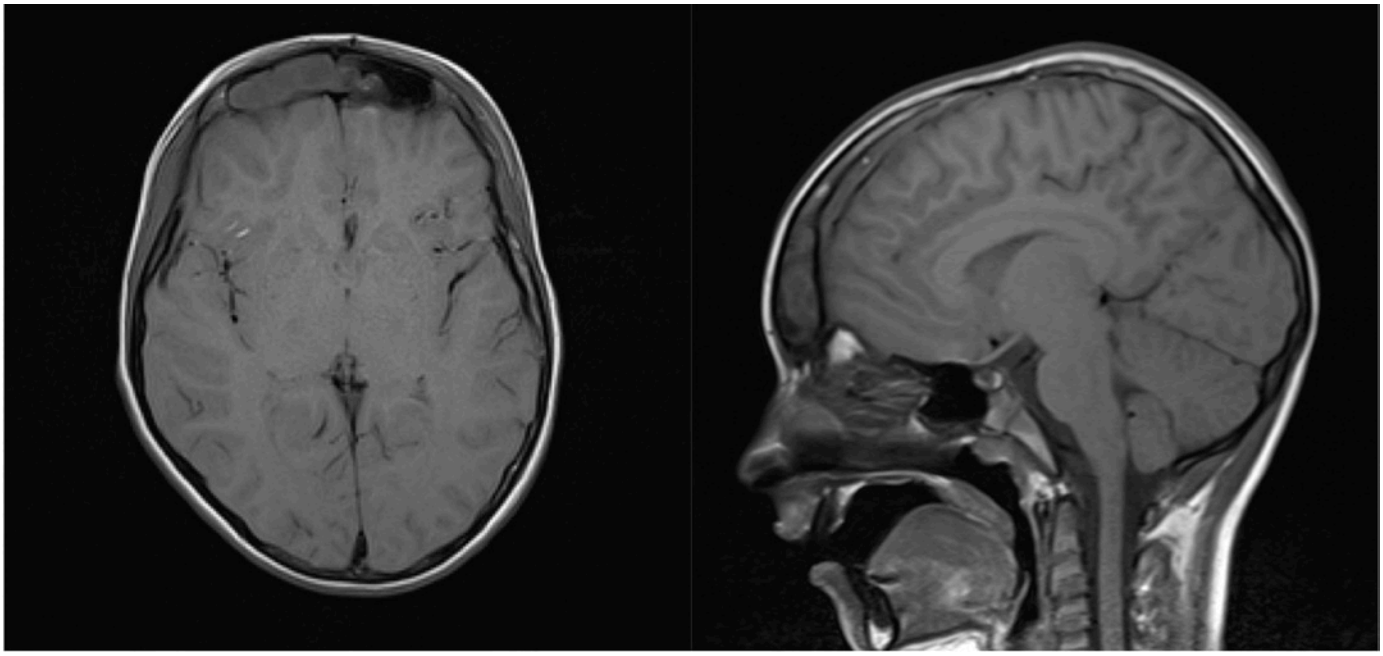
We present a pediatric patient presenting to the Emergency Department with a subdural empyema with significant diagnostic delay. This case highlights the importance of identifying pediatric sepsis; considering the diagnosis of bacterial sinusitis; and considering complications of bacterial sinusitis in the differential diagnosis of fever with unclear source. It illustrates the importance of rapid source identification and clearance to ensure optimal clinical outcomes.

CASE REPORT

An 11-year-old previously healthy boy presented to the ED with fever for 11 days. Family reported fevers reaching 39.4°C (103°F), runny nose, congestion, abdominal pain, nausea, and headache. The patient had negative rapid strep testing and urinalysis by his pediatrician three days prior to ED presentation.

Upon presentation to the ED he appeared uncomfortable, febrile to 38.6°C, (101.5°F), with a heart rate of 98 beats per minute, and respiratory rate of 24 breaths per minute. He was awake and irritable but in no acute distress. Auscultation of the heart and lungs was normal. His abdomen was mildly tender in all quadrants, but was soft without rebound or guarding. The remainder of his exam was unremarkable. During his work-up, an hour and a half after his initial assessment, he developed a heart rate 132, and a respiratory

Figure 1.



rate of 28, with worsening fever of 105.0°F. Initial pertinent laboratory values included: WBC count of 19,000/mm^3 with 15% Bands, C-reactive protein 298.06 mg/L (normal <10.00), ESR 79 mm/h (normal <15). Viral testing, urinalysis, chest x-ray and abdominal ultrasound were negative. He was started on ceftriaxone, given two 20cc/kg boluses of normal saline, and admitted to the pediatric inpatient unit.

An MRI of the brain was obtained fifteen hours after admission showing bilateral frontal subdural empyemas, midline frontal epidural abscess, and left frontal subgaleal abscesses (**Figure 1**), with bilateral frontal, right ethmoid and maxillary sinusitis. He was given vancomycin and metronidazole and was brought to the operating room twenty-three hours after admission and a right frontal craniotomy with washout was performed. He was brought to the operating room again the following morning where a right anterior ethmoidectomy and right middle meatal antrostomy was performed. He was transferred to the pediatric intensive care unit (PICU) post-operatively. Antibiotics were narrowed to ertapenem when cultures from initial drainage and irrigation grew Streptecoccus intermedius.

On hospital day five, despite appropriate antibiotics and surgical debridement, the patient developed worsening mental status and seizures. Repeat MRI showed an interval increase in the left-sided subdural empyemas, increases in the size and number of subgaleal abscesses, and findings consistent with frontal osteomyelytis. He was brought back to the operating room where a left-sided frontal craniotomy and washout as well as a revision of the previous sinus surgeries were performed. The patient improved and was discharged on hospital day 14 with a peripherally inserted central catheter in place to complete his intravenous antibiotic course. On follow-up two months later, the he was free of any neurologic or cognitive deficits. Bone grafting was then performed.

DISCUSSION

This case demonstrates the need for vigilance to identify vital signs meeting pediatric sepsis definitions, the need to consider sinusitis and its intracranial complications in the differential of the septic child, and the potential for subdural empyema to rapidly progress. The complications suffered by this patient, despite receiving timely and appropriate antibiotics and undergoing a first surgical debridement, underscore how critical it is to facilitate early surgical intervention.

Subdural empyema results from two pathways – direct extension and, more commonly, retrograde thrombophlebitis. Thrombophlebitis that begins in the veins draining the sinuses can pass retrograde into the cavernous sinus and other dural venous sinuses.[11] If infection reaches the subdural space, it often spreads rapidly and freely, typically resulting in an acute fulminant presentation.[8] There is an adolescent male predominance. It is hypothesized that teenagers are at increased risk for SDE due to the rapid growth of the frontal sinuses and their blood supply during adolescence. The reason for male predominance is unclear.[12]

Diagnosis is difficult as patients more often present with nonspecific symptoms, most commonly fever, headache, and nausea, and do not reliably report nasal symptoms typically associated with sinusitis.[6,7,12,13] Only 40% of patients have symptoms typically associated with sinusitis such as congestion or rhinnorhea.[6] Patients may also present with altered mental status, focal neurologic symptoms, seizures, or coma; however, most lack any neurologic symptom and

have normal neurologic examinations at presentation.[8]

Laboratory studies often demonstrate elevated inflammatory markers such as white blood cell count, C-reactive protein, and ESR.[5] Imaging studies are essential in confirming the diagnosis. Magnetic resonance imaging affords more detailed images of the brain and surrounding structures and is preferred.[14] When MRI is not available, CT with contrast should be obtained as non-contrast studies may lack the necessary sensitivity to see subtle fluid collections.[15]

Management of SDE involves antimicrobial therapy and surgical drainage. Broad-spectrum therapy with vancomycin, ceftriaxone, and metronidazole provides coverage for most intracranial pathogens.[5] Microbial culture and infectious disease consultation should be obtained to help guide antimicrobial therapy. Surgical management of subdural empyema is an integral part of therapy and should be done without delay. Immediate consultation with neurosurgery and otolaryngology colleagues is critical.

In the case presented, the diagnosis of subdural empyema was not made in the Emergency Department. It was only later in the hospital stay that a clinical concern for CNS infection developed and imaging was obtained. It is noteworthy that initially this patient had reassuring vital signs, and only later in his ED course met consensus definition for sepsis, exhibiting fever, leukocytosis, tachycardia, and tachypnea above age-based threshold values.[1] Two recent, single-center ED cohorts from tertiary children's hospitals demonstrated that severe sepsis and septic shock are identified only after triage in sizable proportions of children.[2,3] Once sepsis is identified, clinicians must entertain a broad differential to identify the infectious source and facilitate appropriate treatment.

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Disclosures

None

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Dyspnea and Chest Pain in a 45-Year-Old Woman

JONATHAN AMELI, MD; WILLIAM BINDER, MD

From the Case Records of the Alpert Medical School of Brown University Residency in Emergency Medicine

DR. JONATHAN AMELI: Today's patient is a 45-year-old woman who presents with difficulty breathing and chest pressure. Her chest discomfort has been constant since the morning. She had mild chest pain the day before, but ignored it due to fear of visiting the emergency department (ED).

The patient has a history of bipolar disorder, morbid obesity, and chronic obstructive pulmonary disease (COPD). She smokes tobacco, occasional marijuana, and has a long-standing cough. She is on aripiprazole, bronchodilators and inhaled steroids for COPD.

DR. FRANCESCA BEAUDOIN: Can you describe her physical exam?

DR. AMELI: The patient is a morbidly obese woman in no distress. She is afebrile. Her pulse is 120 bpm and regular, respiratory rate is 20, blood pressure is normal at 123/70 mmHg, and she has an oxygen saturation of 85% on room air. She has minimal wheezing on lung exam and her heart is tachycardic with regular rhythm and no murmur. Her abdomen is soft and non-tender, and she has bilateral edema in her lower extremities. Her right calf is slightly larger than the left and she has mild erythema overlying the skin bilaterally.

DR. SARAH GAINES: The patient is tachycardic and hypoxic. What were your initial concerns and were you able to make a diagnosis?

DR. AMELI: Our initial concerns included acute coronary syndrome, as well as pulmonary embolism (PE). Other disorders on our differential diagnosis included COPD exacerbation, congestive heart failure, acute aortic dissection, and pneumonia. An electrocardiogram was obtained within 10 minutes of the patient's arrival and she was found to have a sinus tachycardia without significant ST abnormalities. A portable chest xray demonstrated a poor inspiratory effort and non-specific bilateral air space disease. Laboratory studies revealed a WBC count of 18,000 mm3, an unremarkable chemistry panel, and a normal beta natriuretic peptide (BNP) and troponin. A d-dimer was elevated at 2,777 ng/ml. A bedside echocardiogram showed no pericardial effusion, and the patient was stable enough to obtain a pulmonary embolism protocol CT scan. The CT demonstrated a large pulmonary embolus at the right main pulmonary artery as well as multiple left sided segmental and subsegmental pulmonary emboli (**figure 1**). She also had likely pulmonary infarcts seen as ground-glass opacities bilaterally (**figure 2**).

Figure 1. Pulmonary Embolus at Right Main Pulmonary Artery

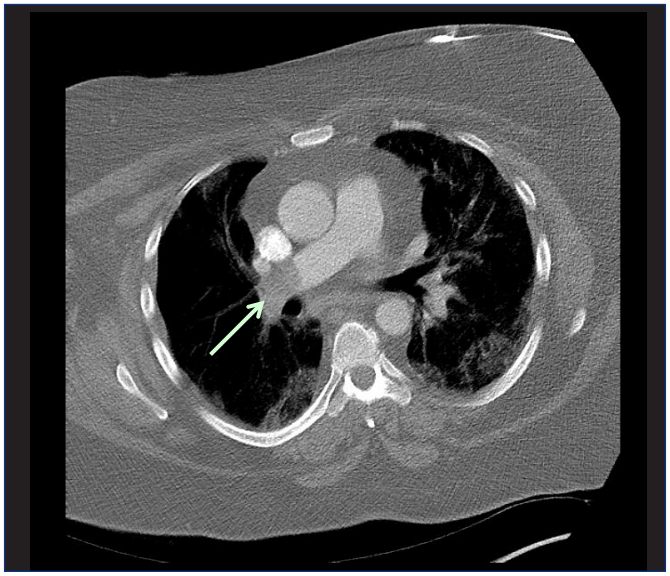
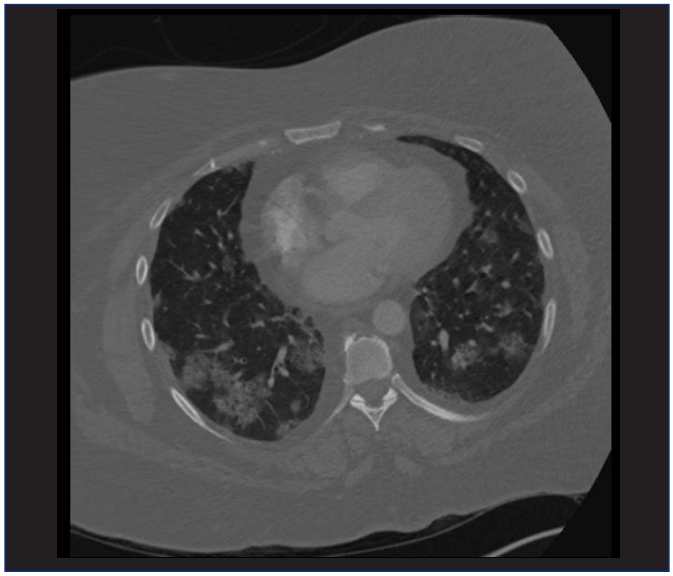


Figure 2. Bilateral ground-glass opacities



DR. JEFF FEDEN: The patient did not have any known risk factors for pulmonary embolism. How common is this disorder?

DR. AMELI: Approximately 5%-8% of the US population has one of several genetic risk factors leading to an increasing risk of venous thromboembolism.[1] Additionally, our patient had minor risk factors (relative risk = 2 – 4) including obesity and chronic obstructive pulmonary disease, as well as tobacco use. Incidence of PE at age 45 is less than 0.2% annually but rises significantly with age.[2] There are greater than 250,000 people hospitalized for PE per year.[3] In the United States, approximately 100,000 deaths per year are related to PE, with many cases not being diagnosed until autopsy, and 15% of all in-hospital deaths can be attributed to venous thromboembolism.[4,5]

DR. JOHN FOGGLE: This patient appeared to be hemodynamically (HD) compromised. What is the pathophysiology of an acute PE that would cause her symptoms?

DR. WILLIAM BINDER: The proximal portion of a lower extremity deep venous thrombosis can break off spontaneously, travel the venous system to the right ventricle, and then lodge in the pulmonary arteries. This obstruction can cause an increase in dead space in the alveoli, leading to high ventilation, low perfusion, and hypoxemia.

In a patient without prior cardiac or pulmonary disease, obstruction of 30–50% of the pulmonary bed will lead to the development of pulmonary hypertension. The sudden higher pressures, in turn, leads to an increase in right ventricular (RV) afterload, followed by RV dilatation and right-sided heart failure.[5,6] If pulmonary vascular resistance rises above a level the RV can tolerate, sudden death through pulseless electrical activity or asystole can occur. In submassive PE, a decrease in RV output causes diminished left ventricular (LV) filling, and interventricular septal bulging. Decreased outflow leads to decreased blood pressure and syncope, or even cardiogenic shock. Other complications include diminished coronary flow and subendocardial RV ischemia and infarction, which may be amplified by underlying coronary artery atherosclerosis. Because of dual pulmonary circulation arising from the pulmonary and bronchial arteries, pulmonary infarction usually does not occur although it is certainly a well known complication of pulmonary embolism.[5] Compensatory mechanisms countering right-sided failure include activation of the sympathetic nervous system and increased inotropy and chronotropy, which help preserve pulmonary artery flow and maintain systemic circulation.[5-7]

DR. LISA MERCK: How do we risk-stratify PE once we have the diagnosis?

DR. AMELI: Risk stratification has important management implications in pulmonary embolism, and is based on the clinical presentation in combination with biomarkers, ECG findings, and echocardiogram abnormalities. Clot burden measured on CT has not been shown to be directly related to clinical manifestations and outcome – a morphologically extensive PE can present as a hemodynamically minor injury, while conversely a small PE can have significant hemodynamic consequences in patient's with impaired cardiovascular status and reserve.[8,9] The American Heart Association (AHA) has defined 3 major risk categories in PE: massive, submassive, and low risk.[3]

Massive PE can be defined as sustained hypotension (systolic blood pressure <90 for at least 15 minutes), pulselessness, or sustained bradycardia (HR <40) with signs of shock, and not due to another cause such as septic or hypovolemic shock.[3] It is a morbid diagnosis. In the International Cooperative Pulmonary Embolism Registry (ICOPER) trial, about half of the patients with acute PE and SBP<90 at presentation died, and 15% of the remainder also succumbed during their hospital stay. Additionally, having right ventricular (RV) hypokinesis, as measured by echocardiogram, doubled mortality.[10] In the Management Strategies and Prognosis of Pulmonary Embolism (MAPPET) trial, which included 1,001 patients, mortality during hospital stay occurred in 25% of patients with acute PE and HD instability, and in 65% of those requiring any form of CPR.[11]

Low-risk PE patients have HD stability on presentation, normal biomarkers such as troponin and BNP, and no signs of RV dysfunction or strain on echocardiogram.[3]

A submassive PE is defined as a PE in a HD stable patient with evidence of RV dysfunction as seen on ECG, biomarker levels, CT scan, or echocardiogram.[3] On ECG, RV strain can be seen as the S1Q3T3 pattern, but more commonly, as a right bundle branch block, or t-wave inversions in leads V1-4.[12] Biomarkers can be used to measure RV dysfunction caused by increased pulmonary vascular resistance. Micro-infarctions and shear stress on the RV lead to elevations in cardiac troponin and BNP. If a patient has normal biomarkers, and they are HD stable, it can be argued that an echocardiogram is not needed to assess for RV dysfunction.[13]

If biomarkers are elevated with a confirmed PE, an echocardiogram is indicated for further risk stratification. RV dysfunction on echocardiogram can be appreciated as dilatation of the right ventricle (RV > LV more than 1:1), paradoxical septal motion (RV bows toward the LV via the interventricular septum), tricuspid regurgitation, or McConnell's sign (RV free wall hypokinesis).[14] The CT PE scan itself can be used to predict RV dysfunction by showing a right to left ventricular ratio of >0.9.[15] Findings of RV dysfunction in combination with acute PE have been shown to be predictive of a higher odds-ratio of short-term mortality.[16]

All three categories of confirmed or highly suspected pulmonary embolism should be treated with supportive care, airway management, and in most cases, intravenous fluids to increase preload. In addition, anticoagulation should be started as soon as possible. Thrombolysis, in addition to

heparin, should be used for all massive PE (SBP<90, HR<40, cardiac arrest with high suspicion). Surgical embolectomy is considered in massive PE when there are absolute contraindications to thrombolysis.[5]

DR. FRANZ GIBBS: Are thrombolytics indicated in submassive pulmonary embolism?

DR. AMELI: The decision to administer thrombolytics in submassive PE is controversial. Short-term mortality in submassive PE is approximately 3%, and development of pulmonary hypertension occurs in 0.1 – 3.8% of patients. Consequently, many studies are not sufficiently powered to evaluate composite endpoints.[9] While the Pulmonary Embolism Thrombolysis (PEITHO) trial demonstrated improvement in HD in submassive PE through fibrinolysis with tenecteplase, the risk of major bleeding was significant.[17] The Tenecteplase or Placebo: Cardiopulmonary Outcomes at Three Months (TOPCOAT) trial showed that treatment with tenecteplase in combination with heparin in submassive PE was associated with positive self-assessment of health (such as exertional dyspnea, exercise tolerance) at 90 days by the surviving patients as compared to those that received heparin alone. Limitations to this trial include an early termination, and a small sample size.[18] The Moderate Pulmonary Embolism Treated with Thrombolysis (MOPETT) trial showed half-dose tPA in combination with enoxaparin for submassive PE was effective in decreasing pulmonary hypertension and recurrent PE at 28 months in comparison to enoxaparin alone. However, limitations of this study included lack of blinding among other issues.[19]

Catheter-directed embolectomy is another alternative method designed to reduce the systemic effects of thrombolysis. While it has been shown to increase RV function in submassive PE, it has not yet demonstrated efficacy in decreasing ICU length of stay, or improving patient outcomes. [20,21]

There still does not exist a single, large trial that shows thrombolysis, in addition to standard anticoagulation for submassive PE, is beneficial in terms of all-cause mortality, although a meta-analysis in JAMA has shown some benefit.[22] The AHA has consistently recommended thrombolytics to be used only for massive PE.[3] The most recent American College of Emergency Physicians (ACEP) clinical policy from 2011 states that thrombolytics should only be used in massive PE, or HD unstable patients with confirmed pulmonary embolism (level B recommendation), or massive PE with high suspicion (level C recommendation).[23]

DR. ERIC GOLDLUST: What was the patient's clinical course and outcome?

DR. AMELI: In the ED, she was immediately started on a heparin drip, and admitted to the medical intensive care unit (MICU). After a very brief stay in the MICU, the patient was transferred to the medical floor, but she suddenly worsened and required intubation for hypoxic, hypercarbic respiratory failure. She had a bronchoscopy that did not show evidence of infection. Her repeat echocardiogram showed mild RV dysfunction. Her biomarkers showed a small increase in troponin and BNP. Thrombolytics were not used. After several days on the ventilator, she was extubated, and had an uneventful course thereafter. She was again transferred to the floor, and gradually weaned off oxygen. Her heparin drip was bridged to warfarin, and she was discharged successfully a few days later.

DIAGNOSIS: Submassive PE in an obese patient with COPD.

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Rhode Island Violent Death Reporting System, 2004–2013

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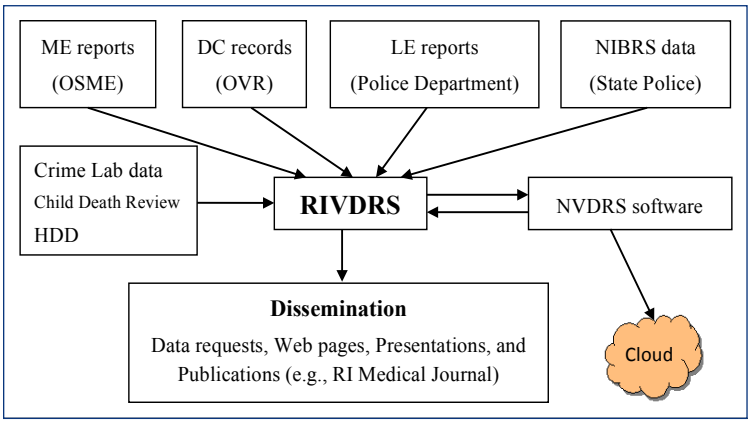
There are highly effective data systems for tracking a range of public health outcomes that are utilized by Federal and State partners to inform prevention efforts. The National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) is an example of a well-established data system that can track the incidence and characteristics of motor vehicle crashes and drive prevention efforts in the United States.[1, 2] Like FARS data, data on violent deaths are contained in many data sources including death certificates (DC), coroner/medical examiner (CME) reports including toxicology reports, and law enforcement (LE) reports. Additionally, violent deaths such as multiple homicides or homicides/suicides that are related are not linked in the databases above. Public health leaders are aware of the need for a national surveillance system for violent deaths.[1, 2]

In 1999, the Institute of Medicine recommended that Centers for Disease Control and Prevention (CDC) develop a fatal intentional injury surveillance system.[2, 3] Six foundations pooled their private resources to fund a pilot program called the National Violent Injury Statistics System (NVISS).[2, 3] The Harvard School of Public Health provided technical leadership for NVISS and officials from the CDC provided technical assistance.[3] NVISS data were used successfully in 2000 to secure congressional funding of $1.5 million to support the administration of the National Violent Death Reporting System (NVDRS) in seven state health departments beginning in 2002.[2-5] In 2003, congress approved additional funds to expand NVDRS to six more states; and by 2009, eighteen states were participating in NVDRS.[2-5] In 2014, an increase in federal funding allowed NVDRS to expand to another fourteen states, raising the total to 32 states.[2-4] CDC's goal is to secure sufficient funding to support all 50 states, all U.S. territories, and the District of Columbia in the system. Today, NVDRS funded states utilize methods for gathering information established by NVISS.[3]

Rhode Island has received CDC funding for NVDRS since 2003 and has been collecting data since 2004. Last year, Rhode Island was one of 32 states that secured a new 5-year grant that provides funding through 2019.

The collection and dissemination of comprehensive information on violent deaths in a standardized manner is critical to support violence prevention efforts in Rhode Island. The goal of the Rhode Island Violent Death Reporting System (RIVDRS) is to collect timely, accurate, and comprehensive surveillance data on all violent deaths using web-based data entry system and guidelines provided by CDC, and disseminate data to the public and stakeholders working to prevent violence in their communities.[6] **Figure 1** displays the overall picture of RIVDRS.

Figure 1. The Diagram of Data In and Out



ME, Medical Examiner; **OSME**, Office of State Medical Examiners; **DC**, death certificate; **OVR**, Office of Vital Records; **LE**, law enforcement; **NIBRS**, National Incident Based Reporting System; **HDD**, hospital discharge data; **RIVDRS**, Rhode Island Violent Death Reporting System; **NVDRS**, National Violent Death Reporting System.

METHODS

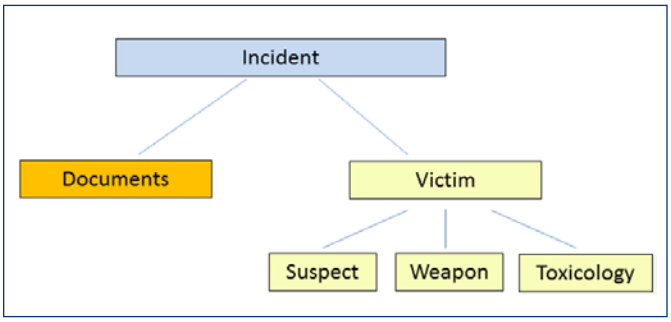
Data Sources

RIVDRS collects violent death data from four major data sources: 1) death certificates; 2) medical examiner reports, including toxicology reports; 3) law enforcement reports, including Supplementary Homicide Reports and National Incident-Based Reporting System reports, where available; and 4) crime laboratories.[7] RIVDRS is a population-based surveillance system that collects all violent deaths that occur among Rhode Island.[2] It is a joint project of the Office of State Medical Examiners and the Center for Health Data and Analysis at the Rhode Island Department of Health.

RIVDRS details demographic characteristics, mechanisms of injury, location of death, toxicology information (blood alcohol or drug content), circumstances preceding the deaths (e.g., physical and mental health problems, job loss, family stressors, interpersonal relationships), etc. The data are collected and stored in a nested manner; for instance, a victim is considered nested within a violent incident and a suspect is nested within a victim. Analyses and data linkages must

consider this three-level hierarchy structure (see **Figure 2**). RIVDRS data can be analyzed on the incident, victim, or suspect levels.

Figure 2. Nested Structure of NVDRS Web Export Files



Source: NVDRS Secure Access Management Services (SAMS) analysis help website

Definitions

Violent deaths: Based on the World Health Organization definition, a violent death results from the intentional use of physical force or power against oneself, another person, or against a group or community. The International Classification of Diseases, 10th revision (ICD-10) codes are used to identify the underlying cause of deaths. Violent deaths include suicides (ICD-10: X60–X84, Y87.0), homicides (X85–Y09, Y87.1), deaths from legal intervention (a subtype of homicide where the victim is killed by law enforcement acting in the line of duty) (Y35.0–Y35.4, Y35.6–Y35.7, Y89.0), deaths of undetermined intent (Y10–Y34, Y87.2, Y89.9), unintentional firearm fatalities (W32–W34, and Y86 restricted to firearm accidents), deaths related to terrorism (U01–U03).[2]

State occurrent violent death: "The initial injury must have occurred within the state or on those portions of the American Indian reservations within the state."[2]

Youth suicide: Suicide committed by a person less than 25 years of age. There is generally a lower age limit on suicide because young children are not thought to have the capacity to intentionally kill themselves because they do not fully understand the finality of the act. RIVDRS has generally set that lower limit at 13; however, two deaths among twelve-year-olds in 2011 were included.

Analyses

Rhode Island is the smallest state, with a population that has been stable at just over 1 million for over ten years (1.053 million in 2013).[8] RIVDRS data for the period 2004–2013 were used for this study. Percentages by manner of death and age group were calculated. Statistical analyses were conducted with SAS 9.4 (SAS Institute Inc. Cary, North Carolina, USA).

RESULTS

Table 1 compares the 2012 and 2013 RIVRDS data. During these two years, the number of deaths increased by 36.4%, from 151 in 2012 to 206 in 2013.

Table 1. Rhode Island Violent Deaths Under Surveillance, 2012–2013

Manner of death	2012	2013
Suicide	107	137
Homicide	30	33
Undetermined cause	12	35
Legal intervention	2	1
Unintentional firearm	0	0
Total	**151**	**206**

Figure 3 shows trends of the suicides, homicides, and undetermined deaths for the 10-year time period 2004–2013. The majority of Rhode Island violent deaths were suicides. Annual numbers of total suicide in Rhode Island increased steadily from the 75 reported in 2005 to 134 in 2010, an overall increase of 78.7%. The numbers moderated a bit in 2011 and 2012, but were still over 100 per year. A new high was reached in 2013, with 137 reported. Compared to suicide, homicide was relatively stable across years.

Figure 3. Manner of Death by Incident Year, Rhode Island 2004–2013

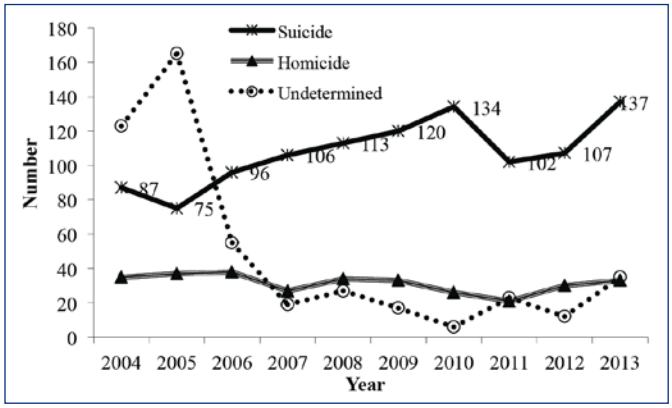


Figure 4 displays suicide deaths by two age groups and by incident year in Rhode Island, during 2004-2013. Overall, there was an increase in the total number of suicide deaths across each year in Rhode Island. The suicides were predominately among adults. The adult trend for suicide deaths was very similar to total suicide deaths in Rhode Island. Youth suicide varied quite a bit year to year with no clear trend; and contributed little if any to the increase in total suicides in Rhode Island since 2004.

Figure 5 illustrates the 10-year trend in suicides in Rhode Island among five age groups. The highest percentage of suicide was among persons aged 45-64 years (482 deaths or 50.0% of all adult suicides). The next highest percentage of suicide was among adults aged 25–44 years (356 deaths).

Figure 4. Suicide Deaths by 2 Age Groups by Incident Year in Rhode Island, 2004–2013

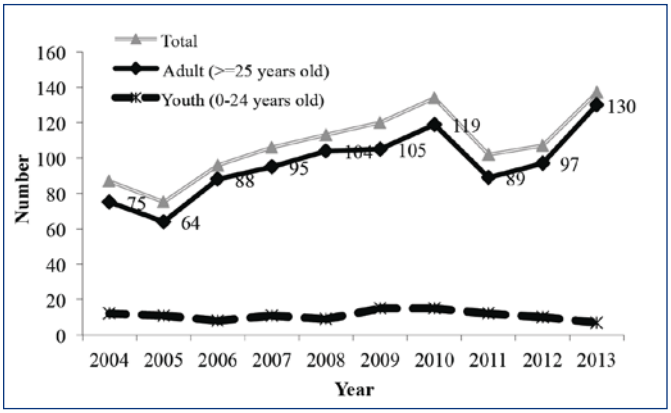
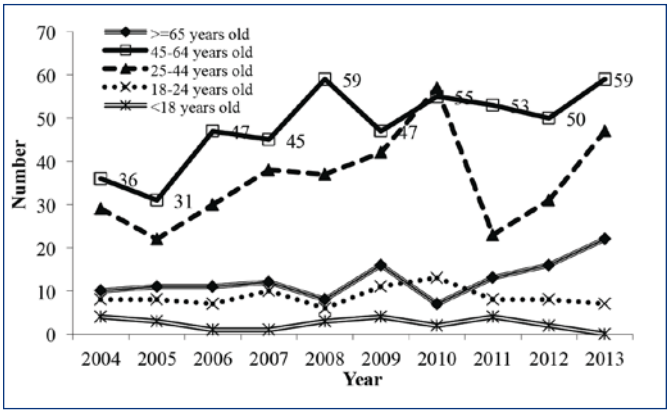


Figure 5. Suicide Deaths by 5 Age Groups by Incident Year in Rhode Island, 2004–2013



DISCUSSION

RIVDRS is a primary source of data on fatal intentional injury related to the leading causes of mortality in Rhode Island's population. RIVDRS is a critical surveillance tool for a number of the Health Department's programs, particularly in the area of injury prevention. It also provides a vital source of data for other state agencies and community organizations as they work towards reducing violent deaths among the populations they serve. Additionally, RIVDRS can provide data on Rhode Island's progress towards the achievement of related Healthy People 2020 Objectives (national objectives managed by the Office of Disease Prevention and Health Promotion within the U.S. Department of Health and Human Services).

Suicide is the leading cause of violent death in Rhode Island. The number of suicides has increased each year in Rhode Island from 2004-2013. In Rhode Island, the highest number of suicides occurred among the middle-aged (45 to 64 years). There are more deaths due to suicide in Rhode Island than due to car crashes. An understanding of suicide is important for public health interventions. Early recognition of high-risk individuals may successfully prevent suicide. RIVDRS collects circumstance information related to areas such as mental health/substance abuse, interpersonal issues, life stressors, and events preceding the suicide. Suicide is a serious public health problem and many suicides are preventable. Early recognition of high-risk individuals and linkage to services may successfully prevent suicide.

Data strengths

RIVDRS strengths include the following: 1) the system combines information from the different data sources and provides a complete picture of violent deaths; 2) RVDRS is able to link records on violent deaths that are related and happened within 24 hours of each other, for instance, homicides followed by the suicide of the suspect, or multiple homicides; 3) annual RIVDRS data sets allow for trend analyses in Rhode Island; 4) the same data are collected in 32 states allowing comparison with other states; 5) the NVDRS implemented a new web-based system in August 2013, which is an improved system and has enhanced data entry; 6) since the NVDRS is state-based, states can choose to capture data beyond what the CDC collects. For instance, Rhode Island can choose to collect data that law enforcement and other agencies that have a role in violence prevention deem valuable. Thus, Rhode Island can analyze data that are richer than those available to the CDC;[1] unlike most public health surveillance systems, the system is incident based rather than person based;[9] the Web-based Injury Statistics Query and Reporting System (WISQARS) allows the general public or researchers to obtain injury data or reports easily and quickly. An automated data query system for all violent deaths is under WISQARS website.[10]

Data limitations

There are some limitations of the system as well: 1) in Rhode Island, LE does not release homicide data until the case has been adjudicated, and this can result in very long time lags; 2) Rhode Island has not been able to obtain data from the Massachusetts Violent Death Reporting System on Rhode Island victims who died in Massachusetts due to their state's restrictions; 3) RIVDRS is in the process of determining how to best evaluate timeliness, completeness, and data quality of the program, and the level of missing data after a given time period.

In summary, RIVDRS covers all types of violent deaths (e.g. suicides, homicides) and includes data on demographics, location of death, circumstances of death, cause of death, toxicology test results, etc. This system pools data on violent deaths from multiple sources into a usable, anonymous database. These sources include reports from vital records, medical examiner, law enforcement, crime lab, and child death review team data.

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Disclosure

The authors have no financial interests to disclose.

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Rhode Island Monthly Vital Statistics Report
Provisional Occurrence Data from the Division of Vital Records

VITAL EVENTS	REPORTING PERIOD		
	FEBRUARY 2015	12 MONTHS ENDING WITH FEBRUARY 2015	
	Number	Number	Rates
Live Births	843	11,385	10.8*
Deaths	908	10,191	9.7*
Infant Deaths	2	53	4.7#
Neonatal Deaths	0	41	3.6#
Marriages	235	6,981	6.6*
Divorces	232	3,014	2.9*
Induced Terminations	222	2,844	249.8#
Spontaneous Fetal Deaths	43	592	52.0#
Under 20 weeks gestation	43	527	51.7#
20+ weeks gestation	0	65	5.7#

* Rates per 1,000 estimated population
# Rates per 1,000 live births

Underlying Cause of Death Category	REPORTING PERIOD			
	AUGUST 2014	12 MONTHS ENDING WITH AUGUST 2014		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	188	2,333	221.5	3,416.5
Malignant Neoplasms	186	2,414	229.2	6,309.5
Cerebrovascular Disease	31	379	36.0	477.5
Injuries (Accident/Suicide/Homicide)	71	740	70.3	10,969.5
COPD	21	489	46.4	430.0

(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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Coverys, the leading medical liability insurer in Rhode Island, has joined forces with RIMS to target new levels of patient safety and physician security while maintaining competitive rates. Call to learn how our alliance means a bright new day for your practice.

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RIMS and Coverys announce new partnership

In October 2014, the Medical Society entered into a new strategic partnership with Coverys, the 40 year-old medical liability insurance giant headquartered in Boston.

Coverys and RIMS have pledged to combine and coordinate their complementary strengths for the purpose of enhancing patient safety. The two organizations share the conviction that safety is fundamental to promoting and maintaining the kind of professional liability environment that everyone wants for Rhode Island: one that is stable and responsive to the needs of the medical profession and the public. RIMS and Coverys are uniquely positioned to support each other in this endeavor.

Key elements of the new collaboration will be peer review, risk management and continuing education. RIMS' peer review prowess is well established, particularly in the highly sensitive and all-important area of physician health. In addition, RIMS is recognized by the American Council for Continuing Medical Education (ACCME) as the agency responsible for accrediting the CME programs of all the hospitals within the state of Rhode Island. RIMS has been a consistent star nationally in earning an unbroken string of long-term recognitions from ACCME.

For its part, Coverys is one of a tiny number of medical professional insurers that have devoted the necessary and substantial resources to gaining and maintaining full accreditation by the ACCME as a source of Category 1 CME credits for physicians. RIMS regards this extraordinary commitment to CME as particularly meaningful and praiseworthy in an insurance company. Of course, medical peer review and continuing medical education, each in its own way, provide targeted risk management and serve to enhance quality and safety.

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RIMS has also agreed to advise Coverys and to offer the company additional eyes and ears focused on the evolving insurance market, the medical practice environment and the medical liability climate, as each of these is affected by legislative, regulatory, judicial, economic, demographic and political developments in the Ocean State. In recognition of their strong relationship and mutual support, RIMS and Coverys will also engage in joint marketing.

Coverys is the sixth largest medical liability insurer in the nation. It protects more than 32,000 physicians, dentists and other health professionals nationally, as well as over 500 hospitals, health centers and clinics. It is rated A ("excellent") by A.M. Best. It writes over $400 million in premium, has net assets of $3.5 billion, and maintained a policyholder surplus of $1.5 billion as of the end of last year. Member companies include Medical Professional Mutual Insurance Company ("ProMutual") and the ProSelect Insurance Company.

Coverys is the dominant insurer of physicians and surgeons in Rhode Island. The Rhode Island Medical Society Insurance Brokerage Corporation (RIMS-IBC) is proud to have been appointed as an agent for Coverys three years ago. The RIMS-IBC is a full-service agency that specializes in medical professional liability.

RIMS-IBC

Robert A. Anderson, Jr, Director of the IBC, can be reached at 401-272-1050.

SECOND ANNUAL RIMS MEMBERS

CONVIVIUM

SAVE THE DATE

SEPTEMBER 26

The *new* tradition continues. Members are invited to schmooze, graze, and relax with colleagues at Agawam Hunt during the day and at the Save The Bay Center in the evening.

HOW DO YOU SWING?

Whether you prefer a golf club or tennis racquet, come play at Agawam Hunt in Rumford.
Starting at 10am
Reserve your tee time or court now, contact Steve DeToy.

EAT, DRINK, BE CHUMMY

Nosh and mingle waterside at the Save the Bay Center in Providence.
Entertainment by The Bebop Docs
6:30pm

RIMS 204TH ANNUAL MEETING

Inauguration of Officers and Presentations
Dr. Charles L. Hill Award
Dr. Herbert Rakatansky Award
Dr. John Clarke Award
Dr. Stanley M. Aronson Award

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Working for You: RIMS advocacy activities

July 1, Wednesday

Health Care Planning and Accountability Advisory Committee

Good Samaritan Rally, State House

July 6, Monday

Fellows Orientation, Lifespan; RIMS staff attending

July 7, Tuesday

Physician Health Committee, Herbert Rakatansky, MD, Chair

Health Professional Student Loan Repayment Program board meeting at DOH

Meeting with UnitedHealthcare

July 8, Wednesday

AMA Conference Call

Reinvent Medicaid meeting, Rhode Island Foundation

July 8, Wednesday

AMA Conference Call

July 9, Thursday

Meeting with John Snow, Inc. regarding potential reimbursement survey

July 13, Monday

Meeting with Brian Clyne, MD, Alpert Medical School, regarding leadership in health care curriculum

Board of Directors meeting

July 15, Wednesday

RIMS Insurance Brokerage Corporation Board of Directors meeting

July 22–July 25, Wednesday–Friday

American Association of Medical Society Executives (AAMSE) Annual Meeting, Portland, Oregon; RIMS' Steve DeToy and Megan Turcotte, presenters

July 27, Monday

Meeting, Department of Health, stimulant prescribing guidelines

July 29, Wednesday

SIM Quality Measures Alignment Workgroup; Peter Hollmann, MD, and Staff

RIMS announces 2015–16 slate of officers and 2015 award recipients

Russell A. Settipane, MD, will be take office as the 157th President of RIMS on September 26.

On September 26, 2015, at its 204th Annual Meeting (*see page 44*), RIMS will inaugurate the following slate of officers for the 2015–16 term:

Russell A. Settipane, MD	PRESIDENT
Sarah J. Fessler, MD	PRESIDENT-ELECT
Bradley J. Collins, MD	VICE PRESIDENT
Christine Brousseau, MD	SECRETARY
Jose R. Polanco, MD	TREASURER

At the same event, RIMS will present its annual awards to the following recipients.

Peter A. Hollmann, MD
THE DR. CHARLES L. HILL AWARD
Recognizes a RIMS member physician for leadership and service

Charles B. "Bud" Kahn, MD
THE DR. HERBERT RAKATANSKY AWARD
Recognizes individuals distinguished through exemplary professionalism and/or humanitarian service in medicine

The Honorable Sheldon Whitehouse, United States Senate
THE DR. JOHN CLARKE AWARD
Given to individuals who have made exceptional contributions to public life through outstanding civic leadership and service

Herbert Rakatansky, MD
THE DR. STANLEY M. ARONSON AWARD
(*inaugural presentation*)
Recipients of the RIMS Aronson Award are individuals who have distinguished themselves in one or more areas of Dr. Aronson's rich legacy as an educator, visionary, scholar, public intellectual and prolific writer. Dr. Aronson is remembered as having taught that medicine is the most scientific of the humanities and the most human of the sciences.

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UNIVOTO University Otolaryngology

Women's Medicine Collaborative A program of The Miriam Hospital A Lifespan Partner

East Greenwich Pediatrics • Anesthesia Care, Inc • Urology Associates

For more information about group rates, please contact Megan Turcotte, RIMS Director of Member Services

Why You Should Join the Rhode Island Medical Society

The Rhode Island Medical Society delivers valuable member benefits that help physicians, residents, medical students, physican-assistants, and retired practitioners every single day. As a member, you can take an active role in shaping a better health care future.

RIMS offers discounts for group membership, spouses, military, and those beginning their practices. Medical students can join for free.

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Advantages include representation, advocacy, leadership opportunities, and referrals

Complimentary subscriptions
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

Financial Planning for Physicians

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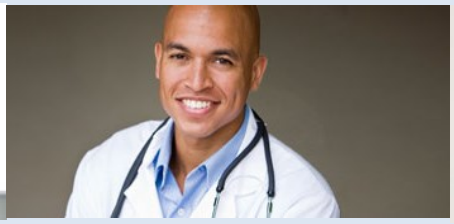
The Baystate Financial Medical Division was created to specifically address the unique challenges that face physicians and medical practitioners in today's financial environment. We help medical practitioners, at all stages of their careers, plan for the financial future for themselves, their practice and their families.

Mid Career Practitioners: Breaking Through

Physicians have a distinct disadvantage in meeting mid-life financial demands because of delayed entry into the workforce. Doctors are challenged to pay down hefty student loan debt while making up for the earning-time gap. They need expert financial advice to cover mid-life household expenses and avoid a major shortfall at retirement.



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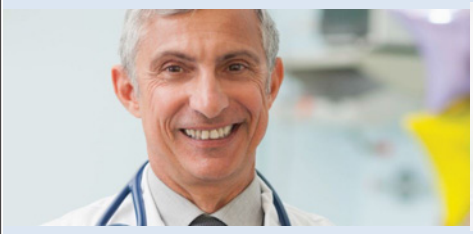
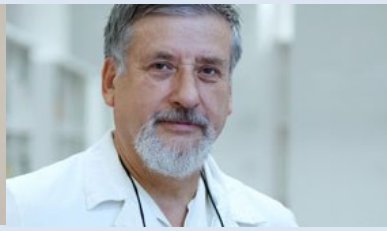
Doctors nearing retirement prefer to have a firm grasp of the financial and tax implications of winding down their careers, as well as estate planning and securing adequate resources to enjoy a comfortable retirement. Making realistic assumptions about the future is a key attribute of a quality long-term retirement plan.





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The Miriam and Newport hospitals named two best regional hospitals by U.S. News & World Report

The two Lifespan hospitals tie for first place in annual ranking of top hospitals

NEWPORT AND PROVIDENCE – Newport and The Miriam hospitals have both been recognized as top hospitals for 2015–16 in Rhode Island and the Providence metro area by U.S. News & World Report. The U.S. News Best Hospitals rankings recognize hospitals that excel in treating the most challenging patients.

Newport Hospital was recognized for high performance in the areas of chronic obstructive pulmonary disease (COPD) and heart failure. The Miriam Hospital was noted for its high performance in gastroenterology and GI surgery and geriatrics.

"A Best Hospital has demonstrated expertise in treating the most challenging patients," says Ben Harder, chief of health analysis at U.S. News. "A hospital that emerged from our analysis as one of the best has much to be proud of."

For 2015–16, U.S. News analyzed nearly 5,000 hospitals for adult and pediatric care based on critical criteria and patient outcomes, including excellence in multiple common procedures and conditions. Objective measures such as patient survival and safety data, and adequacy of nurse staffing largely determined the rankings.

Data were produced for U.S. News by research organization RTI International. U.S. News used that data, as well as the new Best Hospitals for Common Care ratings published in May, to produce the state and metro rankings. The rankings are available at http://health.usnews.com/best-hospitals.

"This special distinction is acknowledgment of the life-saving, life-changing work that our dedicated staff members perform every day," says Arthur J. Sampson, president of The Miriam Hospital. "Our team of experts is truly dedicated to our patients – working tirelessly to ensure that we positively impact them and that they have an outstanding experience while under our care. Our patients say they feel they are treated like family – which speaks volumes about our commitment to delivering the best patient-centered care we can."

Crista F. Durand, president of Newport Hospital, says, "It is often the series of small human exchanges that our patients have with our providers and staff that makes all the difference and gets to the heart of our mission and the higher standard of excellence that we hold ourselves to. Our core principles of empathy, respect and accountability can be found at play in our halls and units day after day, and I feel fortunate to lead a group of such committed, talented people who share the common goal of ensuring patients receive the highest quality care." ❖

OHIC Adopts Standards to Improve Health Care Delivery and Payment Systems

CRANSTON – In a step aligned with Governor Gina M. Raimondo's efforts to strengthen the health care system for all Rhode Islanders, Health Insurance Commissioner **KATHLEEN C HITTNER, MD**, today adopted standards to significantly align health care payment methods with efficiency and quality by setting targets for commercial health care payment reform and for continued investments in the primary care patient centered medical home. These standards stem from the Affordability Standards implemented in 2010 by the Office of the Health Insurance Commissioner (OHIC) to support the agency's mission of improving the affordability of health insurance for consumers and employers.

Beginning in March 2015, OHIC convened two advisory committees to develop recommended plans to expand the use of health care payment methods that reward efficiency and quality, instead of volume, and to increase the percentage of insurer-contracted primary care practices that are operating as patient-centered medical homes (PCMHs). Upon Commissioner Hittner's approval, the recommended plans became standards which the Commissioner will enforce with the full power of the Office.

"My Office is committed to holding premiums in check through our annual rate review process and directing insurers toward practices that change the fundamental factors underlying high medical expense growth rates," said Commissioner Hittner. "OHIC's new standards will address those fundamentals by rewarding cost efficiency and quality, instead of volume, and further enhancing primary care's ability to manage population health and total cost of care."

The Care Transformation Plan requires insurers to increase the percentage of their primary care network functioning as a PCMH by 5 percentage points for 2016 and sets a target of 80% of Rhode Island primary care clinicians practicing in a PCMH by 2019. The Alternative Payment Methodology Plan establishes payment reform targets for commercial insurers and sets a target for at least 30% of insured medical payments to be made through an alternative payment model by 2016. The payment reform targets will increase the use of payments that emphasize value rather than volume and include efficiency-based global and bundled payment models, as well as payments based on quality performance.

"OHIC's Affordability Standards support our efforts to make health care more accessible and affordable for all Rhode Islanders," said Health and Human Services Secretary Elizabeth Roberts. "We will continue to work closely with OHIC and align targets as we build a more innovative health care system." ❖

Drs. Kenneth Chen, Raymond Powrie lecture at ISOM annual course

PROVIDENCE – **KENNETH K. CHEN, MD**, director of the Division of Obstetric and Consultative Medicine and co-director of the Integrated Program for High Risk Pregnancy at Women & Infants Hospital, and **RAYMOND O. POWRIE, MD, FRCP, FACP**, interim chief of medicine at Women & Infants Hospital, an attending physician in the Center for Obstetric and Consultative Medicine and senior vice president for Quality and Clinical Effectiveness for Care New England, served as lecturers at the International Society of Obstetric Medicine (ISOM) Regional Course and 6th Maternal Medicine Course at Singapore General Hospital in May.

"These lectures were given to a number of delegates - mainly of the Asia-Pacific and Oceania regions – from various medical specialties who wished to learn more about the management of pregnant women with preexisting and/or acquired medical disorders," said Dr. Chen. "A number of delegates proceeded to sit the RCOG (Royal College of Obstetricians and Gynaecologists) fellowship examinations which were held shortly after the completion of the course and the general feedback was that this course prepared them very well for this examination."

Dr. Chen delivered lectures titled: Updates in Treatment Options for Diabetes in Pregnancy, Obesity and Pregnancy Post Bariatric Surgery, Endocrine Disorders in Pregnancy, and Critical Care in Obstetrics. Dr. Powrie gave the following lectures: Prescribing Medications in Pregnancy, Neurological Disorders in Pregnancy, and Common Hematological Problems for Obstetricians. Additionally, Drs. Chen and Powrie both served on a workshop panel to discuss complex cases of medical disorders in pregnancy. ❖

WOMEN & INFANTS

Women & Infant physicians Drs. Kenneth Chen and Raymond Powrie delivered lectures at the International Society of Obstetric Medicine (ISOM) Regional Course and 6th Maternal Medicine Course at Singapore General Hospital in May.

Memorial Earns $1.25M Grant to Boost Primary Care Coverage for Children, Adolescents In Underserved Areas

PAWTUCKET – The U.S. Health Resources & Services Administration (HRSA) recently awarded a five-year, $1.25-million grant to the Department of Family Medicine at Memorial Hospital to improve the availability of primary care for children and adolescents in underserved areas.

The grant, entitled "Transforming Family Centered Primary Care for Children and Adolescents in Underserved Areas," will focus on care provided by Memorial's Family Care Center to families in Pawtucket and Central Falls.

"The purpose of this grant is to enhance the training of medical students, family medicine residents and family medicine faculty at Memorial, as well as community faculty throughout these two underserved communities," says **MELISSA NOTHNAGLE, MD, MSc**, residency director for The Warren Alpert Medical School at Brown University Family Medicine Residency Program at Memorial, and principal investigator on the grant.

In addition to cultivating a workforce of primary care providers who are well prepared to deliver patient and family-centered care for children and adolescents, the intent of the grant is to encourage practitioners to work in underserved communities.

"We will be looking to these practitioners to become the future leaders in transforming primary care delivery systems," Dr. Nothnagle explains.

The nation's health care system is evolving to be more focused on keeping people well instead of helping people when they are sick. This grant, according to **JEFFREY BORKAN, MD, PhD**, chief of the Department of Family Medicine at Memorial and chair of the Department of Family Medicine and assistant dean for Primary Care-Population Health Program Planning at Alpert Medical School, will help further the efforts to strengthen the primary care services at Memorial and broaden their availability.

"This grant is a wonderful accomplishment and it will directly benefit the training of our residents and the patients for whom they care – both now and in the future. An incredible family medicine residency team put together a top-notch grant and this award will support continued educational innovation and the care of Rhode Islanders," Dr. Borkan says. ❖

Roberta Goldman, PhD, on Reducing Obesity Risk Factors in Hispanic Children

PAWTUCKET – Childhood obesity is more prevalent among Hispanic children than children of other ethnic groups, a problem that has been steadily increasing in the United States over the past decade. An anthropologist and researcher with the Center for Primary Care and Prevention at Memorial Hospital is part of a team that conducted focus groups to best determine a plan for reducing risk factors for obesity in Hispanic children.

The study – entitled "Reducing Hispanic Children's Obesity Risk Factors in the first 1,000 Days of Life: A Qualitative Analysis" – was published in a recent issue of the *Journal of Obesity*. **ROBERTA GOLDMAN, PHD**, of Memorial, was one of its authors.

"According to the CDC (Centers for Disease Control), one in three Hispanic children is overweight or obese," Dr. Goldman notes. "The obesity epidemic in Hispanic communities has become a crisis, and Hispanic children are becoming obese earlier in their lives than ever before."

The researchers' goal was to examine underlying reasons for early life obesity risk factors and identify potential early intervention strategies. Through seven focus groups gathering almost 50 pregnant or new mothers, the following reasons for early life obesity were identified:

- Some mothers' attempts to cope with the physical changes of pregnancy trumped healthy eating and physical activity, even among women who believe good nutrition and exercise are important.
- Women believed excessive gestational weight gain negatively impacted their baby's health, but they did not think it would lead to childhood obesity.
- Women understood that chubby babies are not necessarily healthy, but did not connect that to later life obesity.
- Mothers felt responsible for ensuring that their babies felt full. Fear of infant hunger can drive bottle use and the early introduction of solid foods.
- Mothers felt compelled to offer early solids and sugary drinks based on their belief that their babies did not like anything else.
- Mothers did not see the harm in television viewing, and some actually felt that screen time promotes infant learning and visual development.

In terms of possible interventions, Goldman says the study participants identified physicians and nutritionists as key resources, and many expressed interest in mobile technology and group or home visits.

"What we found is that there are opportunities to improve Hispanic mothers' understanding of the role of early weight gain in childhood obesity and other obesity risk factors. This can be done in the first 1,000 days of a baby's life," the researchers explain in summation. "Interventions that link health care and public health systems, and include extended family, may help reduce obesity among Hispanic children." ❖

First Cardiovascular Genetics Clinic opens at the Cardiovascular Institute

PROVIDENCE – The new Cardiovascular Genetics Clinic at Rhode Island Hospital is the first in the state to offer evaluation and genetic counseling for cardiac conditions.

"If we can identify an inherited cardiac disease in advance, keep it under surveillance, and intervene appropriately, a patient's life can be dramatically improved and prolonged," said **JOSEPH B. WEISS, MD, PHD**, the director of the new clinic and a cardiologist with the Cardiovascular Institute of Rhode Island, The Miriam and Newport hospitals.

After the evaluation and genetic testing, the clinic offers counseling, referrals and follow-up for all confirmed cases. ❖

Research Team Wins Best Poster at American Society for Reproductive Immunology Annual Meeting

PROVIDENCE – **SHIBIN CHENG, MD, PHD**, research scientist at Women & Infants Hospital of Rhode Island and assistant professor of pediatrics at The Warren Alpert Medical School of Brown University; **JAMES F. PADBURY, MD**, pediatrician-in-chief and chief of Neonatal/Perinatal Medicine at Women & Infants Hospital and the William and Mary Oh-William and Elsa Zopfi Professor of Pediatrics for Perinatal Research at the Alpert Medical School; **AKITOSHI NAKASHIMA, MD, PHD**, a visiting scientist from the University of Toyama, Japan; and **SURENDRA SHARMA, MD, PHD**, a research scientist and professor in the Department of Pediatrics at Women & Infants Hospital the Alpert Medical School, won the Best Poster Award for their poster, "Understanding and prediciting preeclampsia, an enigmatic pregnancy complication, using Alzheimer's tools," at the 35th Annual Meeting of the American Society for Reproductive Immunology at Queen's University, Kingston, ON Canada.

The research examined the similarities in the development of preeclampsia, or pregnancy-induced hypertension, and Alzheimer's disease. The link that is thought to be common between both diseases is protein misfolding and aggregation. When these proteins aggregate and jumble, they form ball-like structures that deposit in the brain in the Alzheimer's process and in the placenta causing poor placental transfusion in preeclampsia.

"Making a link between the two diseases provides for an opportunity to understand how they develop and how best to treat them going forward," explained Dr. Sharma. ❖

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Southcoast Centers for Cancer Care expands Clinical Trials Program through partnership with Brown University Oncology Research Group

FALL RIVER, MASS. — Southcoast Centers for Cancer Care, a part of Southcoast® Health, today announced that it has joined the Brown University Oncology Research Group (BrUOG) network in order to expand the scope of its existing Oncology Clinical Trials Program.

"This is very exciting for our patients," said **ELIZABETH BLANCHARD, MD**, director of the Clinical Trials Program at Southcoast Centers for Cancer Care. "This will promote research collaborations within Southcoast and help us continue to be a part of the progress happening in cancer care."

BrUOG is a network of Brown University-partnered hospitals known for cutting edge trials and innovative therapies. Studies done out of the BrUOG network have made significant contributions to cancer medicine and continue to set the stage for clinical trials being done nationwide.

"BrUOG is a group where physicians have successfully collaborated for the common good of making advances for clinical cancer research," explained Dr. Howard Safran, Medical Director of BrUOG. "We are very excited to now have Southcoast Centers for Cancer Care as part of our team and look forward to a longstanding partnership and collaboration."

Through this partnership, Southcoast patients with a broad range of disorders, including cancers of the breast, brain, lung, gastrointestinal tract, skin and prostate, as well as leukemia and lymphoma, will have access to clinical trials specific to their condition. Many of these trials utilize novel therapeutic agents or new combinations of treatments in an effort to improve outcomes.

Also by partnering with BrUOG, Southcoast physicians will have the ability to develop their own research ideas, while working in collaboration with BrUOG-affiliated physicians.

To date, Southcoast has partnered with Boston Medical Center (BMC) to offer clinical trials as part of their National Cancer Institute (NCI) Minority-Based Community Clinical Oncology Program (MB-CCOP). This has allowed Southcoast oncologists to participate in NCI-sponsored cancer prevention, control and treatment clinical trials with special efforts to raise awareness and participation by minorities. In addition, trials of new therapies and supportive care are currently enrolling patients at Southcoast. ❖

W&I Team Publishes Research on Treatment for Obese Women Undergoing Cesareans

PROVIDENCE – A team of researchers has published a clinical trial in *Obstetrics & Gynecology*, "Cefazolin prophylaxis in obese women undergoing cesarean delivery: A randomized controlled trial," aiming to clarify the use of prophylactic antibiotic use during cesarean delivery of obese women.

Researchers included **LINDSAY MAGGIO, MD**, a fellow in the Division of Maternal-Fetal Medicine at Women & Infants Hospital; **MELISSA DACOSTA, PharmD**, of the Department of Pharmacy at Women & Infants; **DWIGHT J. ROUSE, MD**, principal investigator for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Maternal-Fetal Medicine Units (MFMU) Research Network, and professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University; **BRENNA L. HUGHES, MD**, chief of the Women's Infectious Diseases Consultative Service at Women & Infants and an associate professor of obstetrics and gynecology at the Alpert Medical School; and **DAVID P NICOLAU, PharmD**, at the Center for Anti-Infective Research and Development at Hartford Hospital.

"The hypothesis was that the prophylactic antibiotic dose is not sufficient to reach a high enough concentration in the adipose tissue of obese women. Therefore, it would be ineffective in minimizing infection," explained Dr. Maggio. "Women in the study agreed to be randomly assigned to receive either the standard two gram cefazolin dose or an increased three gram dose. We then measured the cefazolin concentrations in the adipose tissue. We found that both doses of antibiotics had similar adipose tissue concentrations. In other words, the higher dose of prophylactic antibiotic failed to achieve significantly higher adipose tissue concentrations, which could mean that it may not be any better at preventing infections."

These findings are important because new recommendations say that obese women undergoing cesarean delivery should receive a higher dose of the antibiotic cefazolin to prevent surgical site infection. In obese women undergoing cesarean delivery, prophylaxis with this higher dose of 3g of cefazolin did not significantly increase adipose tissue concentration. Thus, our data do not support the new recommendations for 3g dosing. ❖

Medical examiner placed on paid administrative leave

Follows OSME accreditation downgraded to provisional in June

PROVIDENCE – Rhode Island's chief medical examiner, Dr. Christina Stanley, was placed on paid administrative leave on July 22, according to the Rhode Island Department of Health (DOH). Dr. Stanley has held that position since the fall of 2011.

No specific reason was given for the decision, which was made by newly installed DOH medical director, Dr. Nicole Alexander-Scott. Contractual, temporary physicians will be used to absorb the workload.

The department has been reviewing the structure and staffing at the Office of the State Medical Examiner (OSME), following an accreditation downgrade from full to provisional by the National Association of Medical Examiners (NAME) in June. The department has until December 2015 to remedy deficiencies found in the report.

Among the deficiencies noted were turnaround times in reports of post-mortem examinations; data from 2013 and 2014 showed that 78% and 74% of the reports were completed within 90 calendar days; the standard is 90% of completed reports.

It found insufficient staff coverage to handle the caseload 24/7. The report stated, "the high quality of the work performed by OSME is currently hindered by the lack of a sufficient number of medicolegal death investigators." It stated the five investigators are "spread much too thinly to be able to handle case follow-up work and other investigative functions in a timely fashion…"

However, in its summary the report also lauded the Rhode Island Office of State Medical Examiners as functioning at a "highly professional level in all areas of its operations…The OSME has made significant contributions to public health locally and nationally, including the identification of a cluster of deaths due to acetyl fentanyl and the institution of measures to improve the quality of infant death investigations." ❖

The full report can be found here: http://www.rimed.org/rimedicaljournal/2015/08/OSME-certification-letter.pdf

Rhode Island Department of Corrections Medical Program Director

The Rhode Island Department of Corrections is seeking an Internal Medicine or Family Practice Board Certified Physician to serve as its Medical Program Director. This leadership and policy maker position is responsible for inmate clinical healthcare delivery services for the RIDOC and coordinating professional and clinical duties of medical and treatment providers.

The RIDOC is a dual jurisdiction department responsible for both the Jail System as well as the Prison System within the State and services approximately 3200 inmates on an annual basis.

The Medical Program Director develops and implements programs as needed to ensure the RIDOC medical services are in compliance with all required healthcare laws and the community standard of care in Rhode Island. The Medical Program Director is responsible for supervision and clinical support of the medical providers and mid-level providers working within the RIDOC approving consultants, outside referrals, non-formulary medications and labs, medical furloughs, medical complaints, and outside elective medical care. The Medical Program Director also participates in medical education research.

Qualified applicants must have a MD degree and ideally is Board Certified in either Family Practice or Internal Medicine or Board Certified in a related specialty and must be eligible to be licensed in the State of Rhode Island.

The position is a 35 hour non-standard weekly position; the salary range is $149,658.00 - $167,551.00 plus a full benefit package.

Interested applicants should visit www.apply.ri.gov and apply for job number 1380-13200-28. The Rhode Island Department of Corrections is an AA/EOE employer.

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Appointments

Ziya L. Gokaslan, MD, FACS, appointed chief of neurosurgery at RIH, Miriam; chairman of the department of neurosurgery at Alpert

PROVIDENCE – **ZIYA L. GOKASLAN, MD, FACS**, has been appointed chief of neurosurgery at Rhode Island Hospital and The Miriam Hospital, and chairman of the department of neurosurgery at The Warren Alpert Medical School of Brown University, effective July 1, 2015.

In this role, Dr. Gokaslan, who comes to Rhode Island from Johns Hopkins University School of Medicine, will lead all clinical, research and teaching efforts in neurosurgery across the entire Lifespan system. In addition, he will serve as the clinical director of the Norman Prince Neurosciences Institute where he will be responsible for continuously enhancing collaboration and advancement among the institute's neurosciences faculty and the Brown Institute for Brain Science.

"Dr. Gokaslan is a skilled surgeon, a talented educator and scientist, and he understands the strength of academic medicine," said Jack A. Elias, MD, dean of medicine and biological sciences at Brown University. "His mentorship of medical students, residents and fellows is well known, and we admire his dedication to the advancement of knowledge in the neurosciences."

Most recently, Dr. Gokaslan has served as the vice chairman of the department of neurosurgery, director of the neurosurgical spine program, director of the neurosurgical spine metastasis center and a professor of neurosurgery, oncology and orthopedic surgery at the Johns Hopkins University School of Medicine in Baltimore, Maryland. Prior to joining Johns Hopkins, Dr. Gokaslan was an associate professor of neurosurgery at the University of Texas MD Anderson Cancer Center in Houston and served as deputy chair of its department of neurosurgery.

Dr. Gokaslan's clinical practice focuses on the radical surgical treatment of both primary and metastatic spinal tumors, sacral neoplasms and spinal cord tumors. He developed many novel approaches for resection of pancoast tumors, spinal neoplasms, as well as sacral tumors, including total sacrectomy and complex spinal and pelvic reconstruction. He transformed the surgical treatment of spinal neoplasms and devised techniques rendering certain tumors resectable once deemed inoperable. These led to significant improvement of survival in patients with various neoplastic conditions. His basic research focuses on the development of new animal models to study the pathophysiology of neoplastic spinal cord compression and to define the roles of proteolytic enzymes in tumor invasion and to devise novel therapeutic approaches to treat spinal tumors.

LIFESPAN

He is a prolific researcher serving as principal investigator and collaborator on numerous projects regarding spinal oncology and surgery. He has authored over 300 peer-reviewed papers and presented more than 250 national and international lectures since 1996. He has authored and co-authored four book and numerous book chapters. He serves on the editorial boards of top academic journals, including the *Journal of Spinal Disorders & Techniques*, *European Spine Journal*, *Nature Reviews in Neurology*, the *Journal of Surgical Oncology*, and *World Neurosurgery*. He also served as co-editor of *Journal of Neurosurgery-Spine* from 2012 to 2013. He is a member of numerous prestigious societies, notably the Society of Neurological Surgeons, the Cervical Spine Research Society, the American Society of Clinical Oncology, the American Association of Neurological Surgeons, the Congress of Neurological Surgeons and the North American Spine Society as well as Scoliosis Research Society. He is also a past president of the American Association of Neurological Surgeons/Congress of Neurological Surgeons' disorders of the spine and peripheral nerves section.

Dr. Gokaslan was recently awarded the Leon Wiltse Clinical Research Award by the North American Spine Society for his excellence in leadership and clinical research in spine care.

He earned his medical degree from the University of Istanbul, Turkey. He completed an internship in general surgery, a fellowship in neurotraumatology and a residency in neurosurgery at Baylor College of Medicine in Houston, Texas. From 1993 to 1994, he was a fellow in clinical spinal surgery at New York University Medical Center. ❖

Appointments

Maureen G. Phipps, MD, Elected to Professional Board

PROVIDENCE – **MAUREEN G. PHIPPS, MD, MPH**, of Wrentham, MA, chief of obstetrics and gynecology at Women & Infants Hospital of Rhode Island and Care New England, was elected to serve on the Council of University Chairs of Obstetrics and Gynecology (CUCOG) through 2017. Dr. Phipps is also chair and Chace-Joukowsky professor in the department of Obstetrics & Gynecology and assistant dean for teaching and research in women's health at The Warren Alpert Medical School of Brown University, and professor of epidemiology at the Brown University School of Public Health.

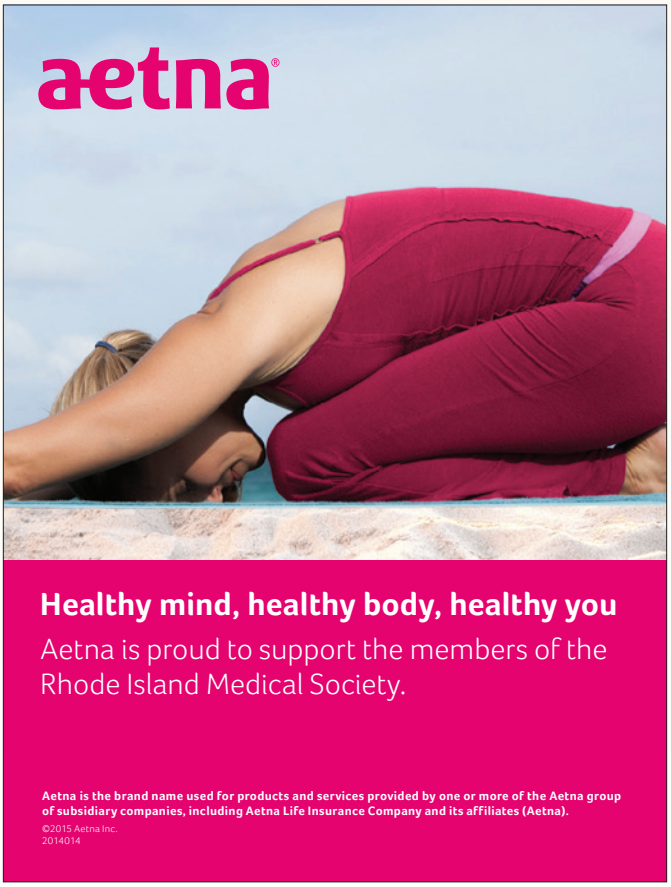
Dr. Phipps now serves on a six member executive board as an at-large member. She joins Laurel Rice, MD, CUCOG president, University of Wisconsin Medical School and Public Health; Haywood Brown, MD, president-elect, Duke University Medical Center; Daniel Clarke-Pearson, MD, secretary and treasurer, University of North Carolina at Chapel Hill; Deborah Anne Driscoll, MD, immediate past president, Perelman School of Medicine at the University of Pennsylvania; and David Chelmow, MD, member at large, Virgiina Commonwealth University School of Medicine.

"I am honored to represent chairs from across the country and our faculty locally to continue to promote leadership development, academic pursuits, innovative care models and clinical input into financial reform. We are facing significant challenges in medicine and being part of developing solutions, advocating for patients and providers as well as keeping physicians informed is critically important to our future success."

Dr. Phipps received a bachelor of science degree in biology from Boston College. She earned her medical degree from the University of Vermont College of Medicine and completed her residency in obstetrics and gynecology at Brown University/Women & Infants Hospital of Rhode Island. She completed her masters in public health at the University of Michigan School of Public Health and a fellowship in the Robert Wood Johnson Clinical Scholar Program.

She has led numerous initiatives at Brown, Women & Infants Hospital, and in Rhode Island including leading the effort for the Brown/Women & Infants Hospital National Center of Excellence in Women's Health and the Rhode Island Task Force on Preterm Birth. Her research and academic activities involve collaborations across departments, hospitals, and state agencies.

Nationally, Dr. Phipps has been chair of the American College of Obstetrics and Gynecology Committee on Health Care for Underserved Women, is an associate editor for the leading specialty journal, the American Journal of Obstetrics & Gynecology and is currently serving on the US Preventive Services Task Force. Phipps has been recognized on numerous occasions as an outstanding teacher and mentor, including being recognized nationally with the American Congress of Obstetrics & Gynecology Mentor Award for District I (National Recognition Award), the Council on Residency Education in Obstetrics and Gynecology Excellence in Teaching Award (National Recognition Award), and the Association of Professors of Gynecology and Obstetrics Excellence in Teaching Award (National Recognition Award). Phipps' broad interest in women's health has been geared toward improving the health of underserved women. In addition to excellence in clinical care and research, she is dedicated to training the next generation of women's health providers. ❖



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Appointments

RHODE ISLAND HOSPITAL

Jose Polanco, MD, named medical director of adult ambulatory services at RIH

PROVIDENCE – Rhode Island Hospital named **JOSE POLANCO, MD, FACP**, of Cranston, as the medical director of adult ambulatory services. In addition to the clinics, Dr. Polanco will oversee the Hallett Center for Diabetes and Endocrinology and the Samuels Sinclair Dental Center. He will also collaborate on the integration of all of Lifespan's 17 adult clinics.

"Dr. Polanco is a strong advocate for underserved populations and truly an asset to our hospital," said **MARGARET M. VAN BREE, MHA, DrPH**, president, Rhode Island and Hasbro Children's hospitals. "He has demonstrated ability to improve access to care and to streamline care provision. We are extremely fortunate to have Dr. Polanco as part of our team."

Dr. Polanco is a graduate of Brown University, State University of New York, Binghamton, and State University of New York Health Science Center College of Medicine. He completed his residency in general internal medicine at Rhode Island Hospital and is board certified in internal medicine.

His experience in ambulatory care includes serving as medical director and attending physician for the ambulatory center at Memorial Hospital and chief medical officer of the Blackstone Valley Community Health Care, Inc., both in Pawtucket, Rhode Island; and establishing Edgewood Medical, a large, successful independent primary care practice in Cranston.

Dr. Polanco is a clinical assistant professor of medicine at the Alpert Medical School of Brown University and serves as treasurer of the Rhode Island Medical Society.

He established and continues to participate in an educational, call-in radio program for the Latino community on Poder 1110. ❖

Margaret Bublitz, PhD, joins Women's Medicine Collaborative

LIFESPAN

PROVIDENCE – The Women's Medicine Collaborative announced that **MARGARET BUBLITZ, PhD**, has joined the Women's Behavioral Medicine team as a clinical psychologist. She began seeing patients on June 10.

A graduate of the University of British Columbia, Dr. Bublitz conducts research at the Centers for Behavioral and Preventive Medicine at The Miriam Hospital, and has extensive experience in behavioral medicine, psychoneuroendocrinology, and perinatal health.

"It's exciting to have Dr. Bublitz join the Women's Medicine Collaborative staff as part of Women's Behavioral Health," says Teri Pearlstein, MD, director of Women's Behavioral Medicine at the Women's Medicine Collaborative. "With the research she is doing on potential connections between psychological stress and dysregulation of biological systems and poor health, Dr. Bublitz has a real passion for women's behavioral health that is evident in her expert, compassionate approach to patient-centered care."

Dr. Bublitz's past grant work examined the etiology of preterm birth in victims of child sexual abuse. She is currently co-investigator on two National Institutes of Health Research Project (R01) grants: Fetal Behavior; Brain & Stress Response: Ultrasound Markers of Maternal Smoking and Neural Response to Peer Rejection. Bublitz completed her clinical psychology internship and NIH T32 post-doctoral fellowship in cardiovascular behavioral medicine at The Warren Alpert Medical School of Brown University, where she is also an assistant professor in the Centers for Preventive and Behavioral Medicine in the Department of Psychiatry and Human Behavior.

"I have a particular interest in exploring the link between maternal history of early-life stress and preterm birth," says Dr. Bublitz, "and my hope is to identify changes that at-risk patients can make during pregnancy to reduce rates of preterm birth." ❖

Dr. Charles Rardin named vice president of the American Urogynecologic Society

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, has been named vice president of the American Urogynecologic Society (AUGS).

This appointment starts a four-year process that will culminate in Dr. Rardin being named president of AUGS in 2017.

A graduate of the University of Rochester School of Medicine, Dr. Rardin completed a residency in obstetrics and gynecology at Beth Israel Deaconess Medical Center in Boston, followed by a fellowship in urogynecology and pelvic reconstructive surgery at Mount Auburn Hospital and Harvard Medical School. He has achieved certification in Female Pelvic Medicine and Reconstructive Pelvic Surgery (FPMRS) by the American Board of Obstetrics and Gynecology (ABOG).

WOMEN & INFANTS

Appointments

Drs. Mckaila Allcorn, Raneem Islam, Lisa Salisbury join Memorial staff

PAWTUCKET – Memorial Hospital recently appointed **MCKAILA ALLCORN, DO**, **RANEEM ISLAM, DO** and **LISA SALISBURY, MD**, to its medical staff in the Emergency Department. All three physicians will work out of Memorial Hospital.

Dr. Allcorn earned her medical degree from Oklahoma State University College of Osteopathic Medicine, Tulsa, Oklahoma. She completed her emergency medicine residency at Kent Hospital, Warwick, RI, University of New England College of Osteopathic Medicine.

Dr. Allcorn is a member of the Rhode Island Medical Society and American College of Emergency Physicians. She is certified in advanced trauma life support, advanced cardiac life support, basic life support and pediatric life support.

Dr. Islam earned her medical degree from Michigan State University, College of Osteopathic Medicine, East Lansing, MI. She completed her emergency medicine residency at St. Joseph's Regional Medical Center, Paterson, NJ. Dr. Islam completed a fellowship in International Emergency Medicine, University of Massachusetts Medical School, Worcester, MA. She also completed a Master's of Public Health from Tufts University.

Mckaila Allcorn, DO

Raneem Islam, DO

Lisa Salisbury, MD

PHOTOS: MEMORIAL HOSPITAL

Dr. Islam is a member of the Massachusetts Medical Society, American College of Emergency Physicians, International Emergency Medicine, Women in Emergency Medicine and American College of Osteopathic Emergency Physicians. Dr. Islam is certified in advanced trauma life support, advanced cardiac life support, basic life support, pediatric life support and level III ultrasound certification.

Dr. Islam's clinical interests include global public health issues, health systems strengthening and increasing access to emergency care in low-resource settings with involvement in ongoing projects in Uganda and Bangladesh.

Dr. Salisbury earned her medical degree from the University of Massachusetts Medical School, Worcester, MA. She completed her emergency medicine residency at Baystate Medical Center Springfield.

Dr. Salisbury is a member of the American College of Emergency Physicians and the Massachusetts and Rhode Island College of Emergency Physicians. She is certified in advanced cardiac life support. ❖

Physiatrist Mustapha Kemal, MD, joins Newport Hospital

NEWPORT – **MUSTAPHA KEMAL, MD**, has joined the Newport Hospital medical staff as part of Newport Physiatry. Dr. Kemal, who also serves as medical director of the Vanderbilt Rehabilitation Center at Newport Hospital, began seeing patients on July 13.

NEWPORT HOSPITAL

Dr. Kemal received his medical degree from King Edward Medical University in Lahore, Pakistan, and completed his residency in physical medicine and rehabilitation at the Hospital of the University of Pennsylvania in Philadelphia. He is a member of the American Academy of Physical Medicine and Rehabilitation and is board certified in physical medicine and rehabilitation.

"The expertise that Dr. Kemal offers covers such a broad range of physical medicine and rehabilitation services focused on helping patients move more easily, independently and with less pain – all without undergoing surgery," said Crista F. Durand, president of Newport Hospital. "Whether treating fibromyalgia or tennis and golf elbow, Dr. Kemal takes the time to listen to and assess a patient's whole condition when diagnosing injuries or illnesses that compromise his or her ability to function."

Dr. Kemal's expertise includes management of spasticity (a muscle control disorder) using medications, Botox injections and intrathecal baclofen pumps. He also has expertise in the field of orthotics and prosthetics and disability assessments.

"It is so rewarding to be able to work closely with patients to identify their physical problems and prescribe preventive or non-surgical ways to treat them and improve their mobility," said Dr. Kemal. "This can really make a big difference in a patient's daily quality of life." ❖

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Appointments

Pulmonologist John Day, Jr., MD, joins Newport Hospital

NEWPORT – Newport Hospital announced that **JOHN A. DAY, JR., MD**, has joined the Newport Hospital medical staff as part of Newport Pulmonary Medicine. He began seeing patients on July 15.

A graduate of Harvard College, Day received his medical degree from Cornell University Medical College. He completed his residency at the Vanderbilt University Medical Center in Nashville, Tennessee, and a fellowship in pulmonary and critical care medicine at The Warren Alpert Medical School of Brown University and Rhode Island Hospital. Dr. Day is board certified in pulmonary and critical care medicine. He is a fellow of the American College of Chest Physicians and a member of the American Thoracic Society, and is an assistant professor of medicine at the University of Massachusetts Medical School.

"Dr. Day has vast experience treating a wide range of lung diseases and conditions of the chest," said Crista F. Durand, president of Newport Hospital. "While his specialties include chronic obstructive pulmonary disease (COPD), asthma, cough, and shortness of breath, he has extensive expertise diagnosing and managing virtually all standard pulmonary disorders. That breadth of experience and his ability to handle related clinical problems make Dr. Day a valuable asset to Newport Hospital and the Newport community."

NEWPORT HOSPITAL

Dr. Day also has experience treating lung infections, pleural disease, sleep apnea, restrictive lung disease, lung nodules and lung cancer, various environmental and occupational lung disorders, and pulmonary vascular disease. The procedures he performs include bronchoscopy and thoracentesis.

"The patients who I see frequently have some difficulty breathing or another significant lung issue," said Dr. Day, "so it is quite satisfying to be able to clarify the nature of the problem, improve people's breathing, and help them to feel better." ❖

Recognition

Dr. William Oh Honored as 'Legend' by Los Angeles Biomedical

PROVIDENCE – **WILLIAM OH, MD**, principal investigator of the Women & Infants/Brown Center of the Neonatal Research Network of the National Institute of Child Health and Human Development and neonatalogy professor at The Warren Alpert Medical School of Brown University, was honored by the Los Angeles Biomedical Research Institute (LA BioMed) as a "Legend" at the Institute's reception in May. The Legends reception honors current and former LA BioMed researchers who have been leaders in their fields.

WOMEN & INFANTS

Dr. Oh is considered one of the founders of the field of neonatal medicine and has developed much of the current knowledge on newborn metabolism.

Originally trained in the Philippines where he received his medical degree, Dr. Oh came to the U.S. in 1958, for a pediatric residency at Michael Reese Hospital in Chicago, where he became chief resident and a research fellow in neonatology. From 1964 to 1966, he initiated a series of research projects at the Karolinska Institute in Stockholm that resulted in one of the first series of papers to examine neonatal blood pressure, neonatal blood volume, neonatal hemodynamics and neonatal renal function.

Dr. Oh became director of neonatology at Michael Reese Hospital in 1966, and in 1969 joined the faculty as chief of neonatology at Harbor General Hospital in California until 1974. In 1975, Dr. Oh left California to become pediatrician-in-chief of Women & Infants Hospital and professor of pediatrics and obstetrics at Brown University, where he was appointed chairman of the Department of Pediatrics in 1989. During this highly productive part of his career, Dr. Oh published virtually non-stop in a number of areas of neonatal medicine.

He continued his efforts toward understanding neonatal blood pressure, the role of acid-base balance upon abnormal fetal heart rate patterns and neonatal well-being, the effects of insensible water loss upon neonatal metabolism, nutritional well-being in neonates, neonatal glucose metabolism, intrauterine growth retardation, neonatal renal function, bilirubin toxicity, and many other issues. ❖

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Recognition

Valery Danilack, PhD, Receives Honorable Mention for Research

WOMEN & INFANTS

PROVIDENCE – **VALERY DANILACK, MPH, PhD**, postdoctoral research fellow in the Department of Obstetrics and Gynecology at Women & Infants Hospital and the Warren Alpert Medical School of Brown University and recent doctoral student at the Brown University School of Public Health, received an Honorable Mention for the 2015 Society for Pediatric and Perinatal Epidemiologic Research (SPER) Student Prize Paper Award for her submission entitled "Development of a risk prediction model for cesarean delivery after labor induction." The award was announced at the SPER Annual Meeting, June 15–16 in Denver, CO.

Pregnant women are often concerned if labor induction will end in cesarean delivery, but this outcome is not easy to predict, especially before labor has started. Dr. Danilack and her team studied individual and pregnancy characteristics among 51,327 women who had labor inductions at 14 member hospitals in the National Perinatal Information Center, Inc. from 2007 to 2012.

The best model to predict cesarean delivery after labor induction had a combination of 10 characteristics, including maternal age, race, prior birth, gestational age, and several conditions of pregnancy. Knowing these 10 characteristics, a risk score from 0 to 1 that represents the risk of cesarean delivery after labor induction could be calculated. Among women predicted to have the lowest risk, only four percent actually had cesarean delivery, and among women predicted to have the highest risk, 93 percent had cesarean delivery.

"These results are important because knowing if an individual woman's risk of cesarean delivery after labor induction is high or low is informative for patients undergoing labor induction and useful for labor care," explained Dr. Danilack of her findings. ❖

Neil Ead receives 2015 Founders Award from American Pediatric Surgical Nurses Association

HASBRO CHILDREN'S HOSPITAL

PROVIDENCE – **NEIL EAD, RN, MSN, CPNP**, a pediatric advanced practice surgical nurse at Hasbro Children's Hospital, has received the 2015 Founders Award from the American Pediatric Surgical Nurses Association (APSNA). The award is presented annually at the APSNA conference to an honoree who has made a significant contribution to the advancement of the care of pediatric surgical patients.

Ead, who is also a senior teaching associate in surgery at The Warren Alpert Medical School of Brown University, was nominated for the award by a group of his APSNA peers. He has been a member of APSNA for 20 years, serving on its Board of Directors for nine of those years and president for the 2013–2014 term.

A resident of Cranston, Ead joined Hasbro Children's Hospital and the Department of Surgery of the Alpert Medical School 17 years ago, as one of the first advanced practice members of the faculty and one within a designated surgical specialty.

In addition to his roles at Hasbro Children's Hospital and Brown, Ead also teaches at Regis College School of Nursing, and the University of Rhode Island College of Nursing. He received his bachelor's degree from Barry College in Florida, and his master's degree from the Yale University School of Nursing. ❖

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Interstice: Memory, Mind and Alzheimer's Disease Art Exhibit Opens at Granoff Center

MARY KORR
RIMJ MANAGING EDITOR

PROVIDENCE – A unique curated multimedia art exhibit on Alzheimer's disease (AD) opened in the Cohen Gallery at the Granoff Center for the Creative Arts at Brown on July 16. As you enter the gallery, the visual expression of the ravages of AD by neuroscientist **PETER J. SNYDER, PHD**, titled *Collapse of a Memory Circuit,* draws in the visitor by its size, scope and fluidity. It looks like a giant 3-D mobile of several dozen glazed ceramic neurons suspended on vintage rope and antique block-and-tackle (which Dr. Snyder found on Ebay).

A woodturner and ceramicist, Dr.

COURTESY OF PETER J. SNYDER

Collapse of a Memory Circuit (detail)

MARY KORR

Collapse of a Memory Circuit *by Peter J. Snyder*
Artist Peter J. Snyder discusses his three-dimensional representation of a cortical memory circuit as originally envisioned by Donald Hebb (1952) and rendered in 2-D line diagrams, but in the process of structural collapse due to Alzheimer's disease. Large installation involving approximately 30 raku-fired clay bodies, molded from original wooden sculptural form, incised and glazed suspended by old cotton-farm ropes and antique blocks and tackle.

Exhibit features work of 5 RI artists

The exhibition features all Rhode Island-based artists, who created works in pen and ink, metal, enamel, wood, photography, sound and film to tell the story of Alzheimer's. The artists used a number of raw materials, such as images, recorded voices, retinal scans and brain scans of nearly 60 Rhode Island residents who are all caring for loved ones with Alzheimer's, and who are all concerned about succumbing to the disease themselves.

Artists include:

- **Babette Allina** – multi-media artist, curator and responsible for all community engagement and governmental affairs for the Rhode Island School of Design.
- **Cybele Collins** – Rhode Island School of Design graduate, local artist and graduate student in molecular biology.
- **Will Reeves** – Rhode Island School of Design graduate, metal shop technician for the school's industrial design department, local artist, designer, educator and co-founder of *The Wurks* in Providence.
- **Dianne Reilly** – associate professor of art at Rhode Island College, head of the jewelry metals area at the college, local artist and designer.
- **Peter J. Snyder, PhD** – Lifespan chief research officer and senior vice president, professor of neurology, Alpert Medical School of Brown University and scholar-in-residence, Rhode Island School of Design; woodturner, sculptor and specialist in diagnosis and treatment of Alzheimer's.

The exhibit runs through September 9, 2015. Sponsors include Lifespan health system; Creative Arts Council, Brown University; Norman Prince Neurosciences Institute, Rhode Island Hospital; Brown Institute for Brain Sciences; The Department of Cognitive, Linguistic & Psychological Sciences of Brown University; The University Neurology Foundation and *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*.

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Wooden vessel created by Peter J. Snyder contained photo cards of the eyes of AD patients on the front, with information on Alzheimer's Disease for the general public on the back.

Snyder is senior vice president & chief research officer at Lifespan, professor of neurology at the Alpert Medical School as well as scholar-in-residence at the Rhode Island School of Design.

At the opening celebration, which also featured the work of four other artists, he described this installation as a representation of a cortical memory circuit inspired by the drawings and diagrams of neuropsychologist Donald Hebb (1952) which depicted the structural collapse due to Alzheimer's disease.

Patients and their families, colleagues, and family and friends of the artists attended the event, which will be on display through September 19.

"Who this disease affects goes way beyond just those diagnosed; it also greatly impacts family members, care givers and care providers. We expect the numbers to rise dramatically over the next 20 years, as the baby boomers age. Now, more than ever, there needs to be an increased effort to raise public awareness of Alzheimer's," said Dr. Snyder, who specializes in the diagnosis and treatment of this disease.

This exhibit does just that, as one could observe by the reaction of several children at the event, who reached out to touch the disassociated neurons or dart in and out of a suspended metallic wall inscribed with memories of patients. One young reader read aloud the memories as if he was reading a storybook…"I remember Adele…."

After the event, RIMJ asked Dr. Snyder a few questions about the artistic and scientific coalescence of his work.

Q. Did you study art in college and have you been influenced by any specific artist(s)?

A. I did study ceramics and photography in college, in addition to neuroscience and psychology. When I graduated from college I applied to both art schools and PhD programs, was accepted to both, but I decided to pursue a dual-PhD program in neuroscience and clinical (neuro)psychology. Throughout all of my training and early career, I always set time aside for ceramics, but about 10 years ago I started to work mostly in wood. I try to bring together my understanding of the natural world as a neuroscientist, and with my understanding of human experience as a psychologist, to convey ideas in my studio art practice. My academic research is centered on the biology of Alzheimer's disease.

I have been heavily influenced by a number of artists, such as contemporary woodturners Graeme Priddle (New Zealand) and William Hunter (United States). I also take great inspiration from the famous photographer, Roman Vishniac, who really pioneered artistic electron microscopy photography (amongst other major accomplishments) in the 1950s.

Q. What are your thought processes as you create the visual expression of neuroscience and disease in your work and how has your art informed/enhanced your career as a researcher and neuroscientist?

A. I use my artwork to reflect on my clinical research, and to understand the anatomy of what I am studying in the lab and clinic. When I started to explore high-resolution optical computed tomography (OCT) of the retina, for potential biomarkers of preclinical Alzheimer's disease, I needed to learn retinal anatomy in much greater detail than I had previously mastered. One day I started to turn and carve a piece of manzanita burl at my lathe, and after 4-5 hours of being lost in thought, looked at what I had done, and I was literally surprised to find that I had just completed a vessel in the shape of an eye, complete with ganglion cells around the rim. At the clinic and lab I look at data and brain images and sometimes daydream about how I might use this material in my artwork. When I am in my studio at home, I use my craft to brainstorm about new ideas and scientific questions that often lead to new experimental designs. I would have a hard time doing one without the other.

Q. The eyes on the cards in wooden bowl – who photographed them and are they the eyes of patients?

A. I photographed them, and they are of my clinical research study subjects at Rhode Island Hospital. All of my subjects have (quite enthusiastically!) signed model releases, and about a dozen of them attended the exhibit opening. I took those photos as part of data collection for a study, in which I

Retinal Vasculature Montage *by Peter J. Snyder*

Retinal imaging of both the vasculature and individual cell layers holds great promise for the development of sensitive biomarkers of early AD progression. Two-dimensional image constructed by overlay of Optical Computed Tomography (OCT) image of artist's right retina on top of 15 inch by 3.5 inch turned spalted ash platter with artist's retinal vasculature in pyrography.

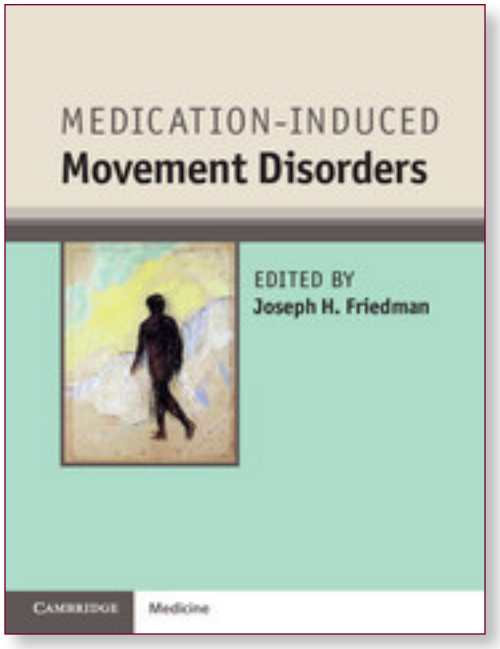
administered a low-dose of an anti-cholinergic medication via a subcutaneous injection, and I was looking at the magnitude of the pupil dilation response to that cholinergic challenge.

Q. You describe yourself as a woodturner. Why wood rather than other media?

A. I spent about 20+ years working in clay for the most part, and about 10 years ago I moved to wood because I wanted to work with a "warmer" organic material. I now mix wood and metalwork for the most part, and I enjoy combining media. I have a small coal blacksmithing forge at home. I apprenticed for 7 years under a phenomenal woodturner, named Ken Dubay. Ken passed away unexpectedly a few years ago, and I miss him dearly. Ken was an ironworker by trade, with just a high school education, but he was the single best – most talented – teacher that I have ever had in my life. ❖

Medication-Induced Movement Disorders Book Published

Medications that may produce movement disorders are widely used. The resulting disorders are often highly disconcerting for the patient and their relatives, especially when the connection between medication and disorder is not recognized. However, ascribing an adverse drug effect to medication exposure is often difficult, especially when the side effect is rare. Covering various drugs – including the major classes of medications working primarily on the brain, specifically antipsychotics and antidepressants – this all-encompassing review of medication-induced movement disorders aids early recognition and improved treatment. The problem of what to do when the offending medication cannot be reduced is also reviewed. It discusses the best options for evaluation and treatment, including medical imaging and deep brain stimulation, and guides the clinician in managing the disorder, making this a vital reference for medical specialists and consultants in neurology and neuropharmacology and any clinician seeing patients on medications crossing the blood brain barrier.



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A Century Ago, Fresh Air Camp Opens for Consumptives in Foster

MARY KORR
RIMJ MANAGING EDITOR

In June 1903, Rhode Island opened the Pine Ridge Camp for Consumptives in Foster, RI, the first "open-air" treatment facility in the state for those with "phthisis." Surgeon **WILLIAM HARLAN PETERS, MD**, who began practicing in Providence in 1895, at Rhode Island Hospital and the North End Dispensary, served as superintendent.

There were several consulting visiting physicians and nurses at the camp, treating the 25 to 35 resident patients. The prescription was fresh air, nourishing food and rest.

Pine Ridge was situated on 50 acres of farmland and pine forests, with fresh springs and trout streams. Residents lived in 22 tents, the sides of which were kept rolled up except during storms. An old barn served as a dining room, and a woodshed for the kitchen. Residents were expected to pay what they could afford, up to $7 per week, for this rural retreat. And while the warm days of summer were no doubt pleasant, the winter proved too trying for one gentleman.

Winter view of a section of Pine Ridge Camp for Consumptives, composed of discarded street cars and lightly built houses, at Foster, RI.

Street cars as living quarters for consumptives, Pine Ridge Camp, Foster, RI.

The *Providence Medical Journal* Vol. 5 in 1904/'05 carried an article by Dr. Peters on the camp as it sought to expand and establish winter quarters. Eventually ten pine cabins were built with donations from families who had lost a member to tuberculosis. They had two beds and were heated by coal stoves, which were only lit in the most extreme conditions. Patients were expected to be outside during the winter, on the cabin "piazzas," talking, reading, and resting, snuggled in woolen, hooded snowsuits, and blankets. At night, the floor-to-ceiling shutters on two sides of the cabin were kept open to allow the fresh air in.

Dr. Peters writes of one patient who arrived on a winter afternoon and left the following morning. "He expected someone to kindle his fire and carry his meals."

Or perhaps the patient was unaccustomed to breaking the ice in his washstand with a poker and melting it in a saucepan over the coal stove before he could wash.

An administration and recreation building was also erected and the Rhode Island Company donated two unused streetcars, which were transformed into sun parlours and bedrooms. "The consensus of opinion among patients is that they are more desirable than the ordinary cabin," Dr. Peters wrote in a *JAMA* article.

In April 1904, he reported that 50 patients were or had been under treatment for periods ranging from two weeks to five months; 8 were incipient cases (60 percent cured); 15 were moderately advanced (30 percent arrested), and 36 were far advanced (14 percent showed great improvement).

Cabin at Pine Ridge Camp, Foster, RI. Cost complete $150.

The following summer 180 applications were filed, many if whom were put on a waiting list as news of the "fresh-air" cure was heralded in local newspapers. ❖