

# MINNESOTA MEDICINE

JULY 2015



## The Arts Issue

Winners of our annual  
photography and  
writing contests PAGES 18, 25



One doctor's **PRESCRIPTION FOR HEALTH: Dance!** PAGE 6

Using the arts to **DELIVER MESSAGES ABOUT MENTAL HEALTH** PAGE 38

Student, resident and fellow **RESEARCH** PAGE 42



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# First **national study** on physicians in abusive intimate relationships

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Minnesotans have strong feelings about intimate partner violence. Because of the late Senator Wellstone's Violence Against Women Act of 1994, most people now have greater protection and resources if they experience domestic violence.

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We are asking physicians across the country to participate in a 15-minute survey in order to inform practice and create appropriate intervention programs based on physician recommendations and experience.

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Please help us understand this challenging public health issue.



## **Survey link:**

<http://tinyurl.com/IPVSurvey>



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### Experience of Physicians in Abusive Partner Relationships

Barbara Couden Hernandez, PhD  
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Director of Research,  
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# MINNESOTA MEDICINE

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PHOTO BY SCOTT WALKER

Charles R. Meyer, MD, Editor in Chief

The doctoring life  
is so much fuller  
with an artistic life  
alongside it.

## All of medicine's a stage

Recently, I watched the Guthrie's performance of Sean O'Casey's play *Juno and the Paycock*. Set in the Dublin tenements during the 1922 Irish Civil War, it tells the story of the Boyle family, impoverished and struggling to stay afloat. The women in the family, Juno the mother and Mary the daughter, are the breadwinners. The father, Jack, is a buffoonish drunk who shuns work and only dimly grasps his family's and his nation's predicament. The son, Johnny, one-armed and with a lame leg from wounds incurred during Republican battles, poisons the family atmosphere with his anger and bitterness. An apparent windfall inheritance brings temporary light into this bleak household only to evaporate as tragedy upon tragedy befall the Boyles as the play closes.

In the eyes of some, the play is a family tragedy born of the fatal flaws of its members. Others see it as a social commentary on the pitiful state of the Irish working class in the 1920s. Still others view it as a political diatribe against the bloodshed of the civil war, voiced by Juno when she beseeches "Sacred Heart O' Jesus, take away our hearts o' stone, an' give us flesh! Take away this murderin' hate, an' give us thine own eternal love!" But what do the eyes of a physician see?

I saw a chemically dependent father preferring the bottle to his family and spending money they didn't have for his pub outings. I saw the erosive effects of poverty on the health of a struggling family. And I saw a disabled son beset by the hallucinations and flashbacks of

PTSD. I didn't intend to muster a clinical critique of the play but it's hard to turn off the doctor brain.

I wasn't sure I should turn off my doctor brain. After all, anyone who confronts the arts brings their conscious and subconscious to the viewing/listening experience. We bring our personal histories, our education and our biases. We may even react differently to a play or book depending on our mood that day. Part of being the "audience" is to not just passively let the work of art wash over you but to step into it.

And stepping into artistic works is more rewarding if you create as well as observe. A hefty part of my creative writing program at Bennington College was reading. Reading fiction and poetry informed my non-fiction writing and, similarly, my own writing unlocked delightful discoveries in my reading. Playing trumpet in a community band makes concert-going a deeper experience. After practicing 20th century music with the band, I'm alert to rhythms and harmonies when I go to Orchestra Hall. Participation feeds observation.

Obviously, the contributors to our annual writing and photo contests have discovered this. Their doctoring stokes their creativity, and their creativity pricks their senses when they close the exam room door. The doctoring life is so much fuller with an artistic life alongside it.

*Juno and the Paycock* was tough to watch as the dysfunctional Boyles spiraled out of control—a lot like some folks I see each week in the office. To paraphrase the Bard, all of medicine's a stage.

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# Prescription for dance

Lindsay Leveille, MD, gave what may have been the most unconventional grand rounds talk ever held at Essentia Health in Duluth last February.

As physicians, residents, nurses and others gathered in the doctors' dining room, Leveille turned on the music and began demonstrating some of the moves she uses in the Zumba classes she teaches.

The rhythmic Latin music set the tone for her talk, "Dance Your Way to Health," during which the second-year family medicine resident presented research findings on the health benefits of dance. At the end, she had everyone stand up and learn some basic salsa steps. "You can't talk about dance and not have people dance," she says.

For Leveille, dance has become critical to maintaining balance amid the demands of medical training—something she discovered by accident. Growing up in Proctor, Minnesota, Leveille found more success in sports, including basketball, volleyball and track, than in dance. "I think my mom put me in a couple of dance classes, but it didn't work out," she recalls.

It wasn't until her third year of medical school, when she spent part of 2011 and 2012 in Bemidji doing the Rural Physician Associate Program (RPAP), that she gave dance another try. Leveille admits she was struggling at the time. She was still grieving the loss of her sister, who died in 2006, and medical school was taking a toll. "I had let myself go because I was busy studying. I was not really as healthy as I should be." She set a goal of improving her own health and well-being during her nine months in RPAP.

When one of her preceptor's patients told her about a Zumba class at a local



On her days off from clinic, Lindsay Leveille teaches Zumba in Duluth.

PHOTO BY MIKE KRIVIT

fitness club, Leveille decided to try it. Zumba is a dance and strengthening program set to music that uses Latin and international rhythms. She went back the next day ... and the next. "I fell in love with it and with the culture and the community," which she describes as supportive rather than competitive. She also started looking and feeling better. "Through RPAP and through dance, I was able to heal," she says, calling dance her "personal antidepressant."

As she thought about her transformation, Leveille began to wonder: Why was she able to stick with dance and not other forms of exercise? "I realized there was something different about dance," she says.

Leveille began searching the medical literature for answers. She found a number of studies about the connection between dance and health, and the importance of music. "Music in itself is a motivator for exercise," she says. For example, in one study of 120 infants, researchers found those exposed to music or rhythmic



# Arguably, The **Most Influential** Book For Doctors Ever Written Explains How Physicians Can Avoid Getting Crushed By Taxes & Retire Securely

**WARNING:** *“Uncle Sam by cutting Medicare reimbursements and by increasing your taxes due to the provisions of the Affordable Care Act, is out to get more!”* warns David Denniston-author of a bold & enlightening new book: “The Freedom Formula for Physicians: A Prescription to First-Class Financial Health for Doctors”

A recent study by Fidelity dove into the current savings behaviors of over 5,000 physicians. The results were shocking! They stated, “Many physicians are in danger of not saving enough income to fund a financially comfortable retirement.” **As a doctor you have to ask yourself, “What am I doing to ensure I will have a secure retirement?”**

When asked about the important of having a secure retirement, author and top advisor, Dave Denniston had this to say, “There can be a big difference between what the reality of those Fidelity numbers and what doctors want to believe is real. There’s a lot of danger there and physicians better figure out how to have a secure retirement.”

Mr. Denniston is, perhaps, the best known advisor to physicians in Minnesota today. His authorship to this tell-all book is evident in chapters like: **5 Steps to Get Out of Debt, The Tax Reduction Prescription: Six Ways to Reduce Your Taxes, Investing 201: The Advanced Course On Investments, & Seven Critical Mistakes Doctors Make With Their Money.**

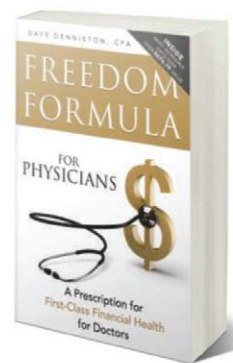
The idea for this landmark book was another industry first from The Capital Advisory Group LLC- the leading independent RIA for doctors in Minnesota. When asked why The Capital Advisory Group felt it necessary to commission a comprehensive book for doctors, managing partner Roger Anderson, CFP replied, “It’s become obvious to us that the next decade will be extremely challenging for the majority of doctors, and we felt an investment into a program to help our doctors thrive while most struggle to survive was money very well spent.”

Mr. Anderson went onto say, “Our substantial investment in this has already proven beneficial because our top clients have gone through training, based on the concepts of this book.”

“Their transformation immediately following the training confirms that doctors can have a secure retirement- without having to worry about going back to work or having debt hang over their heads. Frankly, we were a bit shocked by some of the results following the training. We initially offered the training to a select group of our very top clients, and the immediate and sustained value of this knowledge was measurable and meaningful, and the numbers clearly validated this important discovery.”

When asked how CAG intended to use this new information, Mr. Anderson reported, “We always look inward and roll out powerful ideas to the physicians who place their trust with us, and get the benefit of special wealth strategies for docs.”

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stimuli (drum beats) exhibited more movement than those in a control group who were exposed to an adult speaking. Another found that people who exercise to music tend to not think they are working as hard as they are. “It decreases the perception of exertion,” she says.

Other research showed dance improved the quality of life of patients with breast cancer and survivors of childhood sexual abuse, as well as the mood and body image of those who struggled with eating disorders. Studies also showed the cardiovascular benefits of dance are greater than those of more traditional cardio workouts for people with heart disease. “But the big thing I found in all my research is there’s an underlying message that dance is more sustainable as a form of exercise—and I think a lot of that has to do with the music,” she says.

When Leveille came back to Minneapolis after finishing RPAP, she took Zumba instructor training. Today, she teaches most Saturday mornings at Z Studio in Duluth. She also talks up the benefits of dance with her patients and colleagues (some of her fellow physicians and residents and their significant others have come to her classes).

This summer, she plans to get certified to teach Zumba for kids with the goal of one day holding free classes for adults and children with special needs as a way of honoring her sister. “My sister had cerebral palsy and was quadriplegic,” she says. “Zumba would have been something she would have enjoyed immensely.” – KIM KISER

## Keeping patients under wraps

**H**ospital stays may soon be a little less awkward for some patients at Park Nicollet’s Methodist Hospital in St. Louis Park.

Those patients will be among a group testing a more discreet hospital gown, one that ties on the side and has snaps along the sleeves, and is a little less revealing than the standard model. The trial of the premium gown, which is made of softer, more durable fabric, is part of a study of whether hospital linens have any bearing on the patient experience.

The idea for the study grew out of a design competition sponsored by the Park Nicollet Foundation in 2012 called “Project Better Gown.” Students from colleges and universities in several states submitted plans for a more patient-friendly hospital gown. The winning design, created by two University of Minnesota students, was a wrap-style garment that tied along the sides and had a pouch-like pocket in the front.

In working with Medline, a Chicago-area company that manufactures and supplies linens, Foundation staff discovered making that gown would be too costly. “We learned what it took to put a gown on the line of a sewing company and then have to take it off the line to add the pouch,” says Foundation President Christa Getchell. “It was outlandishly expensive.” And, they discovered, Medline and other suppliers already sold gowns with features similar to those of the winning design.

“We had to reinvent our focus and say we won’t try to trademark or copyright the gown but instead do a study of what the ROI of using a premium gown would be,” Getchell says. “How important is it to the organization to use a higher-level gown?

What would the cost be? Would it improve the patient experience?”

One of the execs from Medline suggested they go beyond the gown and study everything that touches the patient: bed linens, towels, pillows, socks. “You can have a great gown,” Getchell says. “But if the towels don’t cover patients when they take a shower or the bed sheets are scratchy, it doesn’t matter. That made sense to our organization.”

In May, the Foundation began surveying patients on two medical/surgical floors of Methodist Hospital about the comfort and quality of the bed linens, bath towels and gowns currently being used. In August, they’ll switch to using premium linens—gowns with side ties, bed linens with a higher thread count, towels that are larger and softer, and socks

that are skid-resistant but also warm and fuzzy—for three months and survey patients about their experience.

Getchell says they’ll look at the cost of using the premium linens versus the standard ones (premium gowns cost more, but can go through twice as many launderings as standard ones before they are taken out of circulation) and patient experience scores. They’ll also explore whether the gowns work for the clinicians treating patients before deciding whether to permanently switch.

“We’re doing this most importantly to better the patient experience—to understand and honor their dignity,” she says. The gown “is one of the first things everyone experiences when they go into the hospital, but it’s one of many things. We want to cover all those bases.” – KIM KISER



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In August, patients at Methodist Hospital will test this patient-friendly gown.

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## Instrumental care

The arts have always had a role at the Mill City Clinic since it opened across from the Guthrie Theater in 2008. In the beginning, it was primarily played by the visual arts. For example, the clinic installed large-scale two-dimensional pieces in its high-ceilinged lobby and two glass cases to hold three-dimensional pieces. “It is really part of the DNA of this clinic to have these elements,” says Jon Hallberg, MD, the clinic’s medical director and a primary care physician who has been caring for actors, musicians and visual artists for 20 years. “It makes sense that if we are going to take care of really creative populations that we have real art from the get-go.”

The clinic has also found a way to integrate music.

About six years ago, Hallberg began collaborating with Michael Silverman, director of music therapy at the University of Minnesota, who arranged to have doctoral students perform for patients in the waiting room as a community outreach component of their studies. They quickly discovered not all instruments were a good fit in the clinic—the cello and the flute, for example, proved to be too loud or their sound too piercing for the space. They settled on the acoustic guitar and electric piano, both of which could be volume-controlled. Now about a dozen students perform on those instruments in the clinic each year.

Silverman and Hallberg began to wonder whether the live music was having an impact. Silverman was aware of studies about patients’ perceptions. However, no one had looked at what staff members thought about having live music in their workplace.

To find answers, Silverman interviewed staff at the clinic—including the clinic manager, two medical assistants, a patient representative, two nurses, two physicians and a physician assistant.

The researchers discovered some patients took to playing the piano in the waiting room when the musicians were not performing, which has led to more conversations with patients about music. In addition, they found patients often remain in the clinic after their appointments to listen to the music.

An article on Silverman and Hallberg’s qualitative research was published in the April 2015 issue of *Musicae Scientiae*. Hallberg hopes it may inspire additional attempts to integrate music into health care and further study of its impact. “Like any research, you hope that others will build upon it and take some of it to heart enough to explore the idea,” he says. “But that said, it’s not for every health care setting; it has to be the right space, right room and right amount of personal space.” – JEANNE METTNER

They told him the live music was “calming, soothing and relaxing for patients who were waiting to see their medical providers.”

They also felt it enhanced the clinic atmosphere in subtle ways and facilitated nonmedical interactions between themselves and the patients, which, Silverman and Hallberg noted, “may facilitate rapport, trust and therapeutic alliance.” Some also commented on the significance of the music being live. “There’s an aspect of watching someone play or perform their talent that is interesting,” noted one staff member. “... having something to watch and appreciate adds so much to the visit.”



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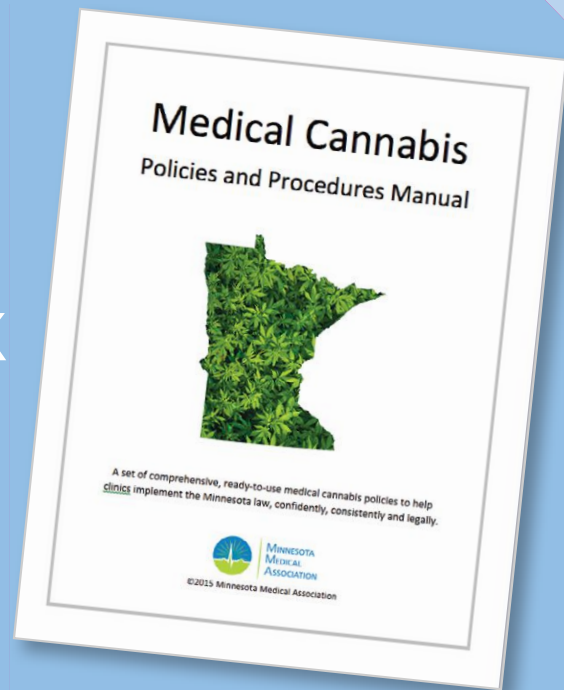
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# VOICE WORK

*Specialists at the Lions Voice Clinic help ensure the show will go on.*

BY SUZY FRISCH

A well-known star is on tour and headed for the Twin Cities. She's been hoarse for days and is worried about whether it's safe to sing. Her manager calls the Lions Voice Clinic: "Can you work her in?"

It will be a high-stakes visit, and the otolaryngologists and speech-language pathologists at the University of Minnesota specialty clinic know a lot is riding on their diagnosis. Either the singer will get the all-clear and be able to perform or have to cancel her appearance for fear of permanently damaging her instrument.

The clinic's staff get such calls all the time. "We like to be able to reassure someone that they are safe to sing. That's the happiest scenario—if we can see that everything looks OK," says clinic director Stephanie Misono, MD, MPH. "Sometimes we talk about possible treatments, and sometimes we have to recommend canceling performances, which we don't do lightly."

For nearly 25 years, the clinic has served touring performers and local vocalists and actors. The Minnesota Opera, Guthrie Theater and other arts organizations regularly send performers to the clinic. However, the bulk of its more than 4,500 annual office visits are for average people

suffering from voice or upper airway issues—teachers, choir directors, lawyers and others who rely on their voices for work. "People get awestruck that we treat the person headlining at the Xcel Center or the Ordway, but we also want to help people who can't sing at church or read with their kids," says Deirdre (D.D.) Michael, PhD, a speech-language pathologist with a doctorate in voice science and clinic co-director.

### A team approach

Physicians and speech-language pathologists treat patients as a team—a concept that was unique in the mid-1990s when otolaryngologist George Goding Jr., MD, and Michael started the clinic. They be-

lieved that patients who saw an otolaryngologist and speech pathologist together would benefit from better diagnoses and treatment plans. "By seeing patients together, we develop a multidisciplinary plan for the patient," Goding says. In addition, patients can ask questions of both professionals and better understand their recommendations.

Goding explains that they've found patients are more likely to follow through with therapy when the speech pathologist is involved from the beginning and they're able to form a relationship.

Patients come to the clinic with any number of problems. Some might have



muscle tension dysphonia, where the muscles around the larynx are out of balance, causing poor voice quality or problems such as cracking on high notes, the need to exert increased effort when speaking or singing, and vocal fatigue. Others may have polyps or cysts on their vocal folds, or vocal-fold hemorrhage, which can devastate the voice. Yet others may have swallowing disorders, breathing issues and chronic cough. Treatment might include antibiotics, medication to reduce acid reflux or steroids to decrease inflammation. Medical treatments are often paired with speech and voice therapy, either a one-time session or multiple sessions over several weeks or months. In some cases, Goding and Misono may recommend surgery for problems that don't resolve with medication and/or speech therapy.

The clinic receives support from Lions 5M International Hearing Foundation, which has funded some of the advanced diagnostic equipment used for laryngeal imaging and visualizing vocal-fold vibra-

“ We like to be able to reassure someone that they're safe to sing. That's the happiest scenario.”

– Stephanie Misono, MD, MPH

tion. The Lions have also generously supported many faculty and resident research studies.

Misono's research, for example, is focused on improving diagnosis and management of voice problems. She is also exploring how psychological factors such as stress affect voice function, which is often an issue for the performing artists who come to the clinic.

One important characteristic of the clinic is that its physicians and speech pathologists have backgrounds in music.

Misono is a classical violinist who trained at Juilliard. Lisa Butcher, a speech-language pathologist and vocologist, is a professional singer who has performed with the Minnesota Opera, Minnesota Orchestra and other groups. Goding has sung in choirs, and Michael is a lifelong singer who has taught voice for 40 years. With their musical inclinations, they empathize deeply with their patients' voice troubles. Michael, for example, conquered her own vocal injury in the 1980s. “It's really important that we can tell them we understand what it's like to go out on stage in front of a thousand people and not know what sound is going to come out of your voice. We know how psychologically distressing that is. We can say ‘I get it, I've been there—now let's help you walk the road to put yourself and your voice back together again.’” MM

Suzy Frisch is a freelance writer in Apple Valley, Minnesota.

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INSPIRED TO CREATE

# Three medical students on what prompted them to take up *an artistic challenge*

BY KIM KISER

In May, students and faculty from the University of Minnesota Medical School gathered at the Frederick R. Weisman Art Museum to celebrate this year's recipients of the Fisch Art of Medicine Student Awards. The awards program, in its eighth year, was established by Robert Fisch, MD, a retired pediatrician who is himself an artist. Its purpose is to encourage medical students to step away from their studies and explore an artistic interest.

This past year, 14 students received awards and used them to study drawing, painting, jewelry making, photography, Irish dance and music. During the celebration, the students shared their stories about what inspired them, why they chose to do what they did and what they learned from the experience. Here are three of those stories.

## *Jaime Kingsley-Loso*

As a girl growing up in Harmony, Minnesota, Jaime Kingsley-Loso was a doodler. "I've always doodled," she says, explaining that she was inspired by her grandmother who considered everything from the margins of the phone book to the backs of envelopes to be a canvas. "If you saw my folders and notes from class when I was a kid, they were all doodled on," she says.

Kingsley-Loso never considered doodling to be art. "In fact, I took one drawing class in college and did more poorly than I did in any other class,"

she recalls. "I thought drawing wasn't for me."

Last year, she took her daughter and son, now ages 5 and 6, to the Fisch awards

celebration to see what some of her friends had done. It got her thinking: What would she do creatively if she had the opportunity and resources?



Jaime Kingsley-Loso



Kingsley-Loso's handmade greeting cards



## Eva Lu

Eva Lu's nudge to take up figure drawing came from a patient she met during her OB/GYN rotation. The woman was a Minneapolis artist who did charcoal and oil figure painting as well as impressionistic painting. Lu, who grew up in Fuzhou on the southern coast of China, had studied Chinese painting and oil painting as a child.

Over a long clinic visit, their conversation turned to art. Lu told the woman how art had once been an outlet for her but that she set it aside when she started medical school. The patient challenged Lu to again make it part of her life. "She encouraged me to slow down, take a moment to soak in the beauty of life and really live in the present," Lu recalls.

With that in mind and after hearing how friends who had received Fisch awards found the experience invaluable, Lu decided to apply. She used the money to purchase supplies and take a figure drawing class at The Atelier, a studio in Minneapolis.

On Sundays, she and a group of professional artists and artists-in-training would set up their easels and

draw a model seated on an elevated platform. "The entire setting was very private, peaceful and very conducive to creating art,"



Eva Lu

Lu recalls. And being able to immerse herself in something other than medicine on the weekends was "incredibly therapeutic."

As she begins her anesthesiology residency at the University of Michigan, Lu says she hopes to continue drawing. "It has been a beautifully therapeutic time when I can observe, connect, learn, discover inner peace and all



A figure drawing by Lu

the while create art that really is a product of living in the moment," she says of the studio sessions.

Kingsley-Loso decided she wanted to try drawing again and applied for a Fisch grant. She used it to enroll in an expressive arts class while taking part in a three-week integrative healing course on the Big Island of Hawaii. One of her assignments was to draw something quickly—in five minutes. Doodles came naturally. "It became like a meditation for me," she says.

When she got home, Kingsley-Loso bought art supplies and decided to make greeting cards, remembering how important the letters and cards she received from her grandmother were to her in college ("They felt like home") and how letters shaped her relationship with her husband.

When they started dating, he lived in Nebraska and she was in Minnesota. They wrote letters that included doodles, pictures, even crossword puzzles. "The letters were like an expression of the evolution of our relationship," she says.

Kingsley-Loso crafted her cards just days before the awards celebration and was surprised when people asked if they could buy them. (She ended up giving them away.)

Kingsley-Loso, who is starting a residency in dermatology at the University of Minnesota, says she plans to continue doodling and making cards—and encouraging her kids to do the same. "In medi-

cine, you're always working toward this ultimate goal. We sometime forget that this is our life, and the moments are what we have," she says. "We need to enjoy the process and the journey and not just look toward the end."

## Emily Wolff

Before medical school, Emily Wolff spent two years teaching science at Best Academy East, a charter school in north Minneapolis.

The school was relatively new at the time, and the Teach for America corps member

recalls her frustration over not being able to find good classroom materials. “There was no curriculum when I started, and I would go home every night desperately trying to figure out what to do to teach these kids,” she says.



Emily Wolff

Few books dealt with science in a way she felt was appropriate for elementary school students. “You can find cute stories that aren’t really accurate, or you can find books that are very information-heavy and not really fun to read to a class,” she says.

Wolff, who grew up in Davey, Nebraska, came from an artistic family. Her father, a veterinarian, does woodworking and sketching; her mother makes pottery; her sister is a graphic designer. Wolff, too, had made pottery before starting medical school (she calls her two years of teaching “a little detour” on her road to medicine). Although she had never considered herself to be good at drawing, she kept thinking about the kids she had taught and their need for good science books and decided to apply for a Fisch award, so she could learn more about book-making.

The grant allowed her to take a class on creating picture books at Minneapolis College of Art and Design. During the eight-week session, Wolff produced four full-page illustration spreads and numerous storyboards. One told the story of two girls who attempted to catch the moon but instead captured fireflies. “A good storybook tells a story with pictures more than words,” she says, adding that she learned about things she never thought about—where to place text on a spread, how to accommodate the centerfold, which colors do and do not

print well as text. “There’s so much more to this than drawing,” she says.

Wolff hopes to continue with these efforts as she begins the North Memorial family medicine residency program in Minneapolis. Ultimately, she would like to collaborate with

a writer to produce some medical-themed books that she could self-publish and make available to kids in her clinic. “That’s my dream.” MM

Kim Kiser is an editor of *Minnesota Medicine*.



The illustrations Wolff hopes to use in a children’s science book one day.



## Updates in Internal Medicine

October 15-17, 2015

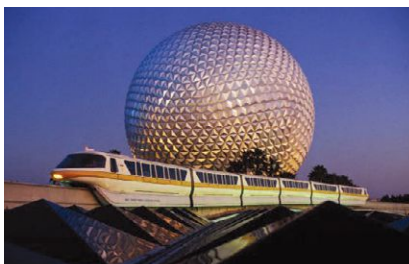
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# The well-trained eye

The winners of our annual photo contest

Early in their schooling, physicians begin to develop their eye. They learn to notice what looks normal and what appears to be suspect. They train their eye on images of the patients they care for, the manifestations of illness and the signs of healing and recovery.

Many further cultivate their ability to recognize a significant image working behind a camera. Physicians and physicians-in-training seem to be natural photographers. That's why we weren't surprised to receive 50 entries in our photography contest this year.

Having so many great images to choose from made judging a challenge for *Minnesota Medicine* art director and photographer Kathryn Forss and 33-year veteran photographer Mike Krivit.

"The entries this year were technically strong — and we often chose between them by the strength of their composition," Forss wrote. "Many had an interesting story to tell — they were more than just a technically strong image made of an attractive subject. They were thought-provoking and beautiful."

Thanks to all who took the time to enter and share their amazing work with us.

*NOTE:* You can see the winning photos on display at the MMA Annual Conference September 25-26 at the Doubletree Park Place Hotel in St. Louis Park.



## *Havana Harbor at Dawn*

David Boran, MD, family physician, Essentia Health, Crosslake Clinic, Crosslake, Minnesota

**WHAT INSPIRED THIS PHOTO:** I have had the privilege of traveling to Cuba with the Santa Fe Photographic Workshops three times. This photo was made while walking along the Malecón near Havana Harbor at dawn. It is my attempt to show usual activity in the wonderful light of early morning.





**PHYSICIAN**  
*Second place*

*Blue-Eyed Shags,  
Port Lockroy, Antarctica*

Lynn Cornell, MD, renal pathologist,  
Mayo Clinic

**WHAT INSPIRED THIS PHOTO:** The blue-eyed shags reflect the colors of Antarctica—white, black and blue. These two birds were nesting quietly near a colony of thousands of penguins, and they could easily be overlooked in the presence of more charismatic birds.



*The Juggler*

Lisa Erickson, MD,  
reproductive medicine and infertility  
specialist, Center for Reproductive Medi-  
cine, Minneapolis

**PHYSICIAN**  
*Third place*

**WHAT INSPIRED THIS PHOTO:** This photo represents the kaleidoscope of activities that takes place at Lake Calhoun on a summer day. I asked the juggler permission to shoot him in action, and he juggled until he could juggle no more. We were both in the zone; he with the toss and me with catching the image.





*Rainbow Falls*

Siu-Hin Wan, MD, internal medicine residency, cardiovascular diseases clinician investigator program, Mayo Clinic

WHAT INSPIRED THIS PHOTO: The appearance of rainbows requires a combination of water droplets and sunlight. The mist from Niagara Falls on a bright day resulted in the perfect conditions for a rainbow.

*Keyhole to Preserving the Memory of Science*

Colin Boettcher, MD, anesthesiology residency program, University of Minnesota

sidewalks were filled with thousands of people. Walking through the gardens near the Smithsonian Institution Building (the

WHAT INSPIRED THIS PHOTO: I was leaving the last lecture of the day at the Society of Cardiovascular Anesthesiologists annual conference in Washington, DC. I

had been informed the cherry blossoms were at their peak and wanted to see them before the sun set. The streets and



memory of early science in America, and the sculpture provided the perfect context in which to frame my own memory.

Castle), I found a couple reviewing their photos. The couple became a small microcosm of the thousands unknowingly preserving the





*Watching Over Athens*

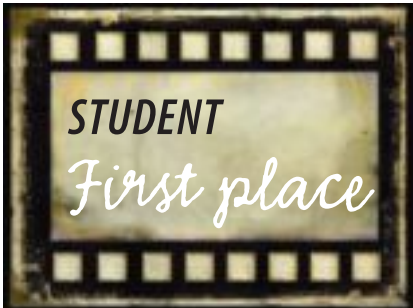
Vania Phuoc, MD, internal medicine residency program, Mayo Clinic

WHAT INSPIRED THIS PHOTO:

During my fourth year of medical school, I had the privilege of visiting Athens. Everywhere I turned, sights were picture-worthy. But nothing proved as breathtaking as the view from the Acropolis. True to its original intention, it still watches over Athens as a citadel, guarding history as

the modern world encroaches. Old meets new in the stark contrast of contemporary buildings

merely feet away from famous ruins, lending to the unique beauty of this ancient city.



*The Perfect View*

Kristin Comstock, University of Minnesota Medical School (now beginning a family medicine residency in Duluth)

WHAT INSPIRED THIS PHOTO: I took time during my residency interviews to explore the surrounding areas, often by going on

hikes. This was taken during a hike in Bozeman, Montana, after my interview in Billings. Views like this melted any interview jitters away.



*Split Rock Lighthouse  
Star Trails*

Kirsten Larson, University of  
Minnesota Medical School,  
Duluth

WHAT INSPIRED THIS PHOTO:

This was inspired by my  
passion for astrophotography,  
as well as by my hope to  
capture an image highlighting  
the movement of the stars  
across the sky. I thought  
the contrast between the  
steadfast lighthouse and the  
moving stars would create an  
interesting image.



*Life Reflections on Lake Superior*

Dema Alniemi, Mayo Medical School

WHAT INSPIRED THIS PHOTO: Lake Superior proved  
to be the perfect location for my brother and me  
to have a deep discussion about the importance of  
work-life balance. This photo captures the essence  
of the conversation we shared that day.





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# Minnesota Medical Cannabis Program launches July 1, 2015

Patient certification launched June 1.

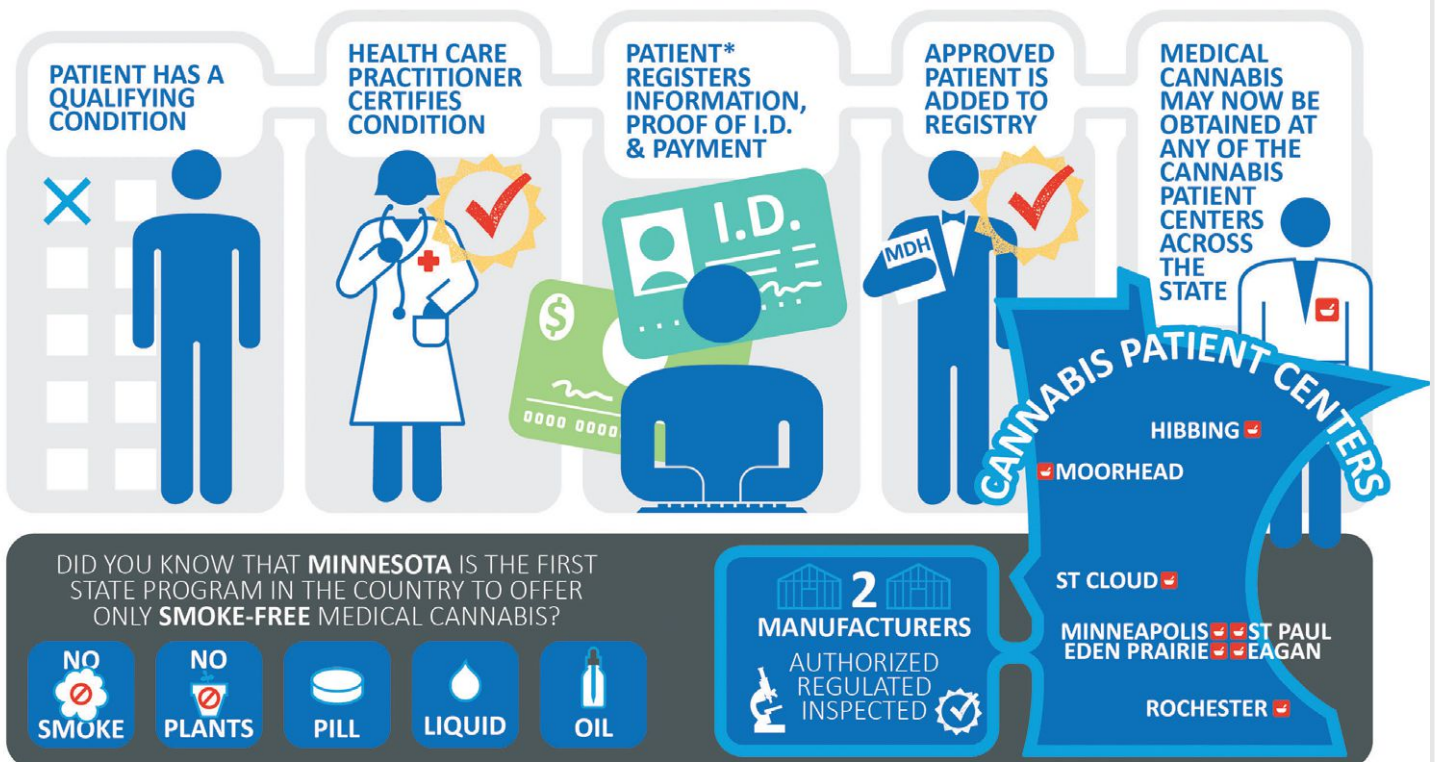
Eagan and Minneapolis Cannabis Patient Centers open July 1, where approved patients can purchase their medical cannabis.

Health care practitioner and patient brochures and additional clinical information resources are available at:

[mn.gov/medicalcannabis](http://mn.gov/medicalcannabis)

Depth and quality of clinical trial evidence varies by condition; use by patients is admittedly experimental. The program offers a legal option to qualifying patients who could possibly benefit.

## OVERVIEW OF MN MEDICAL CANNABIS PROGRAM



\*Care-giver may represent a patient by applying and meeting conditions including a background check.



## 2015 Writing Contest

# Word play

The winners of our annual writing contest

The best part of sponsoring an annual writing contest is getting to tell the winners they've won and hearing their initial response. "Hooray!" one winner fired back in an email. "This is so exciting!" wrote another.

It is gratifying to discover that the words you've struggled to put on paper have hit the mark. A writer is never quite sure if what's in the mind will make sense when it's placed in front of readers. So it takes special courage to send off one's hard-won work to be critiqued by a panel of judges.

This year, some 30 medical students and physicians mustered that courage and sent in their stories, essays, commentaries and poems. Some wrote about times long gone. Some described memories that have lingered. Others wrote about events that just occurred. Many were very well-done, and the choosing was difficult.

But our judges deemed two poems to be so carefully crafted they rose above the other entries. And they selected other pieces as noteworthy as well (see our honorable mentions). We'll publish these in future issues.

Congratulations to the authors of these pieces, and thanks to our judges: Dominic Decker, Theodore Fagrelus, Charles Meyer, MD, Dan Hauser and Ruth Westra, DO, who had the very difficult task of comparing poems with essays and stories. And finally, thanks to all who entered our contest.

That so many in Minnesota's medical community are reflecting on experiences, probing issues and mulling over ideas says a lot about who our state's physicians are. And that is worth celebrating. Hooray, this is so exciting!

### *Honorable mention*

"IF THE TIME CAME," by Michael Shreve, MD

"INFINITE AND SINGULAR," by Sean Schulz, DO, University of Minnesota Smiley's Family Medicine Residency Program

"ROSE," by John Eikens, MD

"CLINICAL NOTE: MS.S, 25F" by Jessica Saw, Mayo Medical School

"THERE ARE DAYS WHEN I NEED A DAY," by Holly Belgum, University of Minnesota Medical School

"THE WEIGHT OF DUST," by Missy McCoy, University of Minnesota Medical School



PHOTO BY MIKE KRIVIT

Gary Snead, DO

Our physician winner is pediatrician Gary Snead, DO, who practices with St. Cloud Medical Group. He performs osteopathic manipulation on patients of all ages and practices behavioral medicine mostly with children and adolescents who have ADHD.

#### ON WRITING

I like “playing” with words. My mother patiently taught me grammar and punctuation rules. Now, it’s sometimes fun to twist, break or change those rules. And I love puns. I’ve been writing creatively since high school, but I’ve never before submitted work for any contest or for publication.

Writing helps me process thoughts and remember interesting ideas. My ADHD brain would otherwise quickly move on to other things. Even the most interesting and clever thoughts are subjected to short-term memory overwriting.

#### ON WHAT INSPIRED HIS WINNING POEM

Lately, we have been talking a lot about vaccine refusal. I know that basic, scientific, rational arguments are not going to be heard by those who choose to not vaccinate their children. To me, it seemed that a true, emotional, word picture would more clearly communicate the advantages of immunizations. I recalled my Mom and I going to visit someone she knew who had had polio as a child and was in an iron lung. The visits left a strong impression on me.

I was on a long drive through Minnesota last spring, when the parts of the poem just came together. When I got home, I typed up what I had put together on that trip and shared it with my daughter, who had just taken a poetry class at Minnesota State University - Mankato. She shared the poem with a classmate, and together we edited it down to the form I submitted.

PHYSICIAN Winner

## *Summer's Sorrow*

BY GARY SNEAD, DO

Shh, Listen.

Silence speaks a summer's sorrow.  
A soft summer's breeze sends whispers  
across the water at the NO SWIMMING hole.  
White puffs from the cottonwood mixed with milkweed tufts  
are the only balls bouncing across the NO BASEBALL field.

It is a summer of lost laughter,  
the Big Death, emptying bedrooms.  
The funeral is the final goodbye to a family's future.  
The little deaths lock life in limbs of lost use,  
in useless lungs, air out of reach.

Atmosphere of life  
lost to the little ones,  
out of reach of the suffering.  
Air all around worthless as an ocean of saltwater to the stranded sailor.

Arise, sensitive souls  
Sister Kenny heard and obeyed, moved by frozen children's cries,  
she moved the motionless,  
the lost found some hope.

Arise  
Engineers erected electric elongated traps to catch and move the air.  
The breathless given a chance to rest.

Arise  
Salk heard the supplications from the silenced cries of the sick  
and found a possibility, not yet perfected, but  
particular,  
purposeful,  
to push away the pain and paralysis,  
to prevent the passing of patients punished by proliferating polio.

Sabin's sweet success, sugar cubes saved summer.  
Some are saved from the Big Death.  
Some are spared the loss of little deaths.  
Iron lungs now silent.

The silence speaks of summer's sorrows.  
Will we now fear what saves?  
Have we stopped listening to the silence of those summers?



PHOTO BY KATHRYN FORBES

Angela Volkert

Our student winner is fourth-year University of Minnesota medical student **Angela Volkert**. Volkert, who grew up in Northfield, spent her first two years at the University of Minnesota, Duluth. She plans to go into rural practice and is interested in OB/GYN and family medicine.

**ON WRITING**

I have been writing off and on since taking a creative writing class in high school. I now write as a way to try to capture memories of things that I have experienced throughout this whirlwind process of medical school. I want to remember those big moments, and writing is a nice way to fully process significant events.

Writing also helps me feel connected with the patients I interact with. It is a way I can share what I've learned with family and friends. Each day is unique and brings experiences I know others may find hard to fully relate to.

**ON WHAT INSPIRED THIS POEM**

This poem was inspired by an interaction I had while on my OB/GYN rotation. The morning described in the poem was very difficult emotionally. I found myself replaying the events in my head. Writing about them was a way to not only help me through the difficult situation but to share it with others, as situations like this occur everywhere.



## Nursery Trio

BY ANGELA VOLKERT

I was greeted with three bassinets in the nursery this morning,  
Two perfect little girls wrapped in pink blankets and a sweet boy in blue  
All swaddled and content they slept while a nurse and I worked around them  
Soft coos and wide yawns came out of the tiny bundles  
Rarely a peek out of a half-opened eye might surprise me  
I can only imagine what they might be dreaming about  
What is this world besides loud, cold and bright to them?  
All three appear the same, navigating Day 1 of this life together

My attention is shifted, there are rising voices outside  
Beyond the ambiance of the nursery, the hallway hosts emotional turmoil  
A visitor from the County has brought fourth court orders  
News that hits like a tornado—ripping and howling the dark reality  
Knocking down these new parents—frustrated, ashamed, furious and helpless  
Their pasts prove them unsuitable—too dangerous to raise their twin girls  
Drugs and jail stints haunt their histories and taunt while circling their conscience  
Wishing it all back, wishing for a fresh start, praying for forgiveness  
“Effective immediately” the orders echo down the hall  
Forcing them to only peer at their two new daughters through the nursery glass

They haven’t moved an inch, but are suddenly in a completely different place than their neighbor in blue  
Positioned now behind the starting block before they even knew they were in a race  
Destined for a future of foster homes and shuffling  
The challenges they will face have just multiplied  
Will they share the same playgrounds? Be read to at night?  
Will they be able to look up into the stands and see their parents cheering them on?  
Will they be the lucky ones and gain their parents back?  
Or will they be taken in and loved by another set of parents?

The boy’s bassinet has since returned to the family’s room  
He’s across the hall asleep in mom’s breast shadow  
The girls sleep side-by-side, with only each other  
For those few moments this morning they got to be a part of that perfect tiny trio.  
Three new slates: lined up and full of potential.

The pager on my hip interrupts: I have to get to clinic  
I leave the dim room slowly and with a heavy heart—willing them my hopes:  
Keep that potential girls—bottle it up and protect it.  
Fight for yourselves, work toward your goals and look after one another

# Task forces to examine health care financing, opioids, more



Several task forces and studies dealing with improving health care in the state were formed during this year's legislative session.

Leading the way is the 29-member Task Force on Health Care Financing, which will advise the governor and Legislature on strategies to increase access to and improve the quality of health care in Minnesota. The task force will look at options for sustainable financing, coverage, purchasing and delivery of insurance purchased through MNsure, and offered through the Medical Assistance and MinnesotaCare programs.

Members will include legislators, commissioners and representatives from consumer groups. Although the charter does not call for including a physician on the task force, the MMA is working to get at least one of its members a seat. Ultimately, this group will make recommendations on future funding of health care programming including the state's tax on health care providers, which is scheduled for repeal on December 31, 2019. This task force's report is due January 15, 2016.

## Prescription opioids

In addition to the financing task force, legislation calls for an opioid prescribing work group. The 14-member group will include one physician with a DEA license, as well as other prescribers, consumers, chemical dependency professionals, medical examiners and law enforcement representatives.

This group will develop criteria for opioid prescribing protocol; sentinel measures; educational resources for prescribers; and general parameters that define community standards for opioid prescribing.

The law also requires the Department of Human Services to report to the Legislature by September 15, 2016, and annually thereafter, on the implementation of the opioid prescribing improvement program in the Minnesota health care programs (Medical Assistance, MinnesotaCare). The report must include data on the utilization of opioids within these programs.







### International immigrant medical graduates

New legislation calls for the health commissioner to submit an annual report on progress toward integrating international medical graduates into Minnesota's health care delivery system.

The report will be made to the chairs and ranking minority members of the legislative committees with jurisdiction over health care and higher education. It must include recommendations on actions needed for continued progress in finding a place for these medical graduates within the health care system. The report is to be submitted by January 15 each year, beginning in 2016.



### Pilot program for high-risk pregnant women

This program establishes integrated care for high-risk pregnant women. The intent is to improve birth outcomes and strengthen resilience for pregnant women enrolled in Medical Assistance. The program must promote the use of coordinated care and provide enhanced services to these women including better early identification of drug and alcohol abuse during pregnancy. It should also increase access to social services, continuity of care and more effective patient education about prenatal and postnatal care. A report is due to the Legislature by January 31, 2019.



### Legislative task force on child protection

The formation of this group came out of the *Minneapolis Star Tribune* series in the fall of 2014 that painted a negative picture of the child protection system in Minnesota. The task force is charged with oversight of and monitoring changes to the child protection system recommended by the Governor's Task Force on Child Protection. The reforms are intended to "ensure every child is protected from maltreatment and neglect and to ensure every child has the opportunity for healthy development." The task force will report to the governor and Legislature by February 1, 2016.



### Health disparities payment enhancement study

The Department of Human Services is tasked with developing a methodology to pay a higher rate to health care providers who take into consideration the higher cost, complexity and resources needed to serve patients and populations who experience the greatest health disparities. The goal is to achieve the same health and quality outcomes in these populations as in other patient populations. A report is due to the Legislature by February 1, 2016.

## News Briefs



### Survey: Physicians cautious about joining medical cannabis program

A survey conducted by the MMA on June 2 shows that a majority of Minnesota physicians do not plan to participate in the state's medical cannabis registry at this time. Of the more than 500 respondents, 8 percent said they plan to participate, 69 percent said they do not, 17 percent haven't decided and 6 percent noted that they don't have patients with

a qualifying condition. The survey was sent to more than 14,000 physicians, both members and nonmembers of the MMA. The largest percentage of respondents identified themselves as family medicine physicians (32 percent), followed by internal medicine physicians (11 percent), pediatricians (7 percent) and psychiatrists (6 percent). Of note, specialties that will likely have the most interaction with patients looking to be certified (neurologists, ophthalmologists and oncologists) were at 3 percent each.

### Annual Conference continues to take shape

The MMA's Policy Council has selected the topics for policy forums at this year's Annual Conference September 25-26 at the Doubletree Park Place Hotel in St. Louis Park. Forums will cover value-based payment and end-of-life care. There will also be an open-issues forum. Stay tuned to *MMA News Now* and the Annual Conference webpage ([www.mnmed.org/AC2015](http://www.mnmed.org/AC2015)) for details. Registration will open in July.



### On the calendar

Event	Date	Location
Preconference Hippocrates Cafe	Sept. 24	Doubletree Park Place Hotel, St. Louis Park
2015 Annual Conference	Sept. 25-26	Doubletree Park Place Hotel, St. Louis Park

Check the MMA's website ([www.mnmed.org/events](http://www.mnmed.org/events)) for more information and to register.

### Healthiest State Summit scheduled for August

In 1992, Minnesota had the No. 1 health ranking. By 2014, it had dropped to No. 6. Why? Find out more about this phenomenon and help find a way to reverse the trend at the Healthiest State Summit. The event takes place August 6 from 8 a.m. to 4 p.m. at the University of Minnesota's Continuing Education and Conference Center. Hosts include the Twin Cities Medical Society and the Minnesota Public Health Association. Additional sponsors include the MMA, UCare, Minnesota Department of Health and HealthPartners. Read more at [www.metrodoctors.com](http://www.metrodoctors.com).

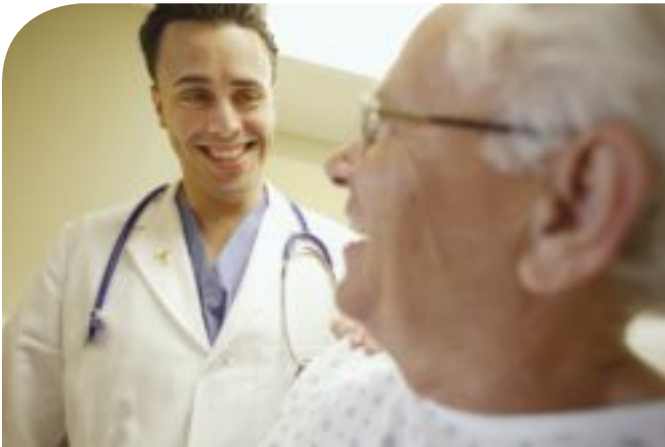


### Members help ban e-cigs in indoor public areas in St. Louis County

Two Duluth-based members testified before the St. Louis County Board in May as it considered further restricting e-cigarette use in indoor public areas. The measure passed by a vote of 5 to 2. The members taking part included Elisabeth Bilden, MD, an emergency medicine physician with Essentia Health, and August Lindmark, a University of Minnesota Medical School, Duluth student. One of the MMA's top public health priorities has been to further restrict e-cigarette use. The ordinance prohibits e-cigarette use in all places in St. Louis County where smoking is prohibited by the state's Freedom to Breathe Act.

#### Correction:

The article on "Right to Try" legislation in the June 2015 issue included an inaccurate statement. The bill *does* require that patients give written informed consent in order to receive a prescription or recommendation from a physician before they are eligible. We regret the error.



### Foundation's Physician Volunteer Program now in full operation

The MMA Foundation's Physician Volunteerism Program has moved from a pilot project to full operation with the listing of several new volunteer opportunities for Minnesota physicians. Focusing on the most critical needs first, the MMA Foundation reached out to community clinics. As of May 26, eight have asked to participate in the program and have expressed a need for physician volunteers at a total of 17 locations in the Twin Cities and greater Minnesota. Volunteer opportunities are now posted online at [www.mmafoundation.org/pvp](http://www.mmafoundation.org/pvp). New opportunities will be posted as they become available.

### Member continues work on MNsure board

MMA member **Kathryn Duevel, MD**, has been selected as vice chair of the MNsure board of directors. Duevel has served as a board member since the group was formed in 2013. A retired OB/GYN in Willmar, Duevel is the lone physician on the board that oversees Minnesota's health insurance exchange.

### Attention: Important Message for MMA Members

On May 21, the MMA launched a new and improved membership database. It allows you to pay your dues online, more easily sign up for events and allows you to better interact with the MMA. Your first interaction with the membership database will occur when you sign up for an MMA event or meeting. When you register for an event or meeting you will be prompted to enter an email address. If you do not have an email address in our system, you will be prompted to provide some general information before you can register. If you do have an email address in our system, you will see a screen that provides you the following option: "If you forgot or do not know your credentials, please click for email instructions." Click the link. You will then enter your email again and hit the reset password button. An email will be sent to you that will allow you to create a password that you should save and use in the future on the new membership database. If you have questions, please contact Jaime Olson ([jolson@mnmed.org](mailto:jolson@mnmed.org)).



## CHANNEL YOUR PASSION

# Join a committee

The MMA is seeking volunteers to serve on its policy committees.

As a committee member you

- influence the MMA's direction,
- acquire new leadership skills, and
- network with physicians who care about the same issues you do.

It is easy and only includes four evening meetings annually. If you can't make a meeting in person, you can also call in.

For specific committee assignments, go online to: **[www.mnmed.org/committee](http://www.mnmed.org/committee)**.

If you are interested in volunteering, send an email to [mma@mnmed.org](mailto:mma@mnmed.org) and indicate the specific committee. An MMA staff person will follow-up with you.



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## MMA in Action



Cindy Firkins Smith, MD

Immediate Past President **Cindy Firkins Smith, MD**, MMA CEO **Robert Meiches, MD**, and **Kathleen Baumbach**, MMA manager of physician outreach, held a listening session with leaders at Hutchinson Health Clinic in late June.



Robert Meiches, MD

**Brian Strub**, MMA manager of physician outreach, and Baumbach attended the graduate medical education orientation in early July on the University of Minnesota, Twin Cities campus. The two also met with clinical leadership at Open Cities Health Center in St. Paul on June 6.

MMA Foundation CEO **Dennis Kelly** attended the Rural Health Conference in Duluth in late June.



Kathleen Baumbach

MMA President **Donald Jacobs, MD**, met in June with new Fairview system CMO **Lizbeth Thomas, DO**.

Jacobs, Meiches and **Terry Ruane**, MMA director of membership, marketing and communications, met with Ridgeview CEO **Bob Stevens** in May. Jacobs also met with the Ridgeview and Lakeview Clinic senior leaders about membership and participation.



Brian Strub

Strub was appointed to serve as a judge for the 2015 Profiles of Excellence Awards presented by American Association of Medical Society Executives (AAMSE). This is the second time Strub has represented the MMA as a judge for this national recognition program for leadership in local, state and national medical societies.

Meiches and Board of Trustees member **Edwin Bogonko, MD**, addressed physi-



Dennis Kelly



Donald Jacobs, MD



Edwin Bogonko, MD, (left) and MMA CEO Robert Meiches, MD, meet with Gov. Mark Dayton.

cian leaders at the Minneapolis Heart Institute in late May. They discussed prior authorization, maintenance of certification and heart health public health initiatives. Bogonko and Meiches had a surprise encounter with Gov. Mark Dayton after the meeting. They briefly discussed the value of MMA membership with the governor and the legislative session.

Strub and MMA member **Tom Arneson, MD, MPH**, research manager with the Minnesota Office of Medical Cannabis, met with the quality committee at Gateway Clinics in Moose Lake in early June to discuss the state's medical cannabis law.

**Maya Babu, MD**, was re-elected as the Resident Fellow Section representative at the AMA House of Delegates on June 6. Babu will serve on the board through 2017.



Maya Babu, MD

The following members attended the AMA Annual Meeting in Chicago in June: Jacobs, Smith, **Sally Trippel, MD**, **Will Nicholson, MD**, **Ray Christensen, MD**, **David Luehr, MD**, **Stephen Darrow, MD**, **Paul Matson, MD**, **Benjamin Whitten, MD**, **Di-onne Hart, MD**, **Ken Crabb, MD**, **Blanton Bessinger, MD**, **Peter Amadio, MD**, **Eric Tangalos, MD**, **Laura Dean, MD**, **Gary Bryant, MD**, **Lyell Jones, MD**, **Daniel Brown, MD**, **Steven Meister, MD**, **John Abenstein, MD**, and Babu. In addition, **Sagar Chawla** and **Elizabeth Fracica** attended as medical student delegates, and **Kerri Chung, DO**, went as a RFS delegate. MMA staff included: Meiches, **Dave Renner**, director of state and federal legislation, **Janet Silversmith**, director of health policy, and **Teresa Knoedler, JD**, policy counsel.



Steven Meister, MD, discussed the implications of the Avera-Marshall case at the AMA Annual Meeting in June.

# HOW TO BE HEARD

Got an idea that should become MMA policy? Follow these steps to get it considered.



## STEP 1

**Introduce your idea** through one of these nine channels.



LETTER



EMAIL



CALL



WEBSITE



SPECIALTY SOCIETIES



COMPONENT MEDICAL SOCIETIES



CLINIC VISITS



LISTENING SESSIONS



OPEN-ISSUE FORUMS

**IF YOUR IDEA GENERATES INTEREST, PROCEED TO STEP 2**



## STEP 2

**Your idea has moved forward** for consideration by one of these three forums:



POLICY COUNCIL



STANDING COMMITTEES



TASK FORCES

**IF ONE OF THESE THREE GROUPS PASSES YOUR IDEA ON, PROCEED TO STEP 3**



## STEP 3

**Last step!** Your idea will be discussed and decided upon by the Board of Trustees.



BOARD OF TRUSTEES

**DID THE BOARD OF TRUSTEES ACCEPT IT? CONGRATULATIONS!**

## SUCCESS!

Your idea made it all the way through, and has become **NEW MMA POLICY**.

## VIEWPOINT

# Prior authorization reform: We are just getting started

Now that the legislative session is finally over, we are turning our attention to a series of steps we hope will address one of the most painful administrative burdens in medicine today: medication prior authorization.

This past February, we worked with lawmakers from both parties to introduce legislation that would vastly improve the prior authorization process for medication. We were unsuccessful in getting a hearing in the House because of resistance by business groups, health plans and pharmacy benefit management companies. They argued, erroneously, that our recommended changes would add to health care costs. They also contended that this bill would take away one of the best tools they have to control drug costs. The reality is that medication prior authorization does very little to control costs because most Minnesota physicians already make cost-effective prescribing decisions. Furthermore, the rapidly rising cost of prescription drugs is related to increasing drug prices, not over-utilization.

Physicians are just as concerned about rising health care costs as anyone. We see patients forgoing therapies that could be very beneficial to them because they cannot afford them. We also recognize the impact of rising prescription drug prices on health insurers, self-insured businesses and the state. And we know that prior authorization adds cost—an estimated \$68,274 per physician per year. It's time for us to agree that our shared goal is to en-

sure that patients get the medications they need in a timely manner.

The MMA will continue discussions with legislators, the Council of Health Plans and the Institute for Clinical Systems Improvement over the coming months about how we can achieve our mutual goals of ensuring that prescribing decisions are evidence-based, ensuring patients receive needed medications in a timely manner, and eliminating prior authorization requirements that are unnecessary. We are also eager to talk with others, including business leaders, about these goals. This is an issue that must move forward during the next session.

We have had great support from physician, pharmacy and, most importantly, patient groups (see our list of partners at [www.fixPANow.com](http://www.fixPANow.com)) who have experienced firsthand how the current prior authorization requirements too often result in people not getting prescription medicines needed for their health.

While we must all work to address growing drug costs, we must, first and foremost, recognize that prior authorization process is a threat to patient safety and health. That is truly unconscionable. This is a message we believe resonates with all Minnesotans. We will continue our efforts in the coming months and are optimistic that we will soon be able to reform these burdensome requirements.



Douglas Wood, MD  
MMA Board Chair

It's time for us to agree that our shared goal is to ensure that patients get the medications they need in a timely manner.



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*The Physician's Role*

*in Innovation and the Future of Healthcare.*

**NEW:** Dr. Jon Hallberg's **Hippocrates Cafe** with Guthrie Theater actors and musicians on Thursday, Sept. 24.

Friday and Saturday, Sept. 25-26  
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For more information, go to **[mnmed.org/ac2015](http://mnmed.org/ac2015)**

# Mental Health Messaging to College Students

## *Three Arts-Based Approaches*

BY GARY CHRISTENSON, MD

University students are bombarded with information. Thus, reaching them with messages about mental health can be challenging. Rather than using the traditional channels to share such information, the University of Minnesota's Boynton Health Service has turned to the arts in recent years. This article describes how it used three arts events during the 2014-2015 academic year to increase awareness about mental health, reduce stigma around mental health problems and promote open discussion about mental health.

We are increasingly bombarded by messages. Whether on brochures, flyers, posters, billboards or television or in emails, texts, tweets, banners or pop-up ads, everyone seems to be competing for our attention. College students especially are targeted by those trying to sell, convince and inform.

This presents a challenge for those of us trying to reach young people with messages about mental health. In recent years, staff at Boynton Health Service, the student health service on the University of Minnesota's Twin Cities campus, have turned to the arts to promote mental health services.<sup>1</sup>

For the past three years, we've sponsored a daylong event called *Cirque de-Stress*, which uses the circus arts to increase awareness of mental health issues and resources available on campus. We did this knowing that the start of college is a time when young people must contend with increased academic challenges, new living arrangements, different social support systems, new food options, peer pressure, romantic relationships and financial responsibilities—all of which make them vulnerable to stress. According to the 2013 College Student Health Survey Report, more than one-fourth (29.3%) of students on the Twin Cities campus reported that they are unable to manage their stress. Furthermore, 29.9% reported having been diagnosed with a mental health condition



Under the big-top at Coffman Union.

during their life (14.3% reported having been diagnosed within the last 12 months).<sup>2</sup>

We reported on our first experience with the event in 2013.<sup>3</sup> The success of our initial efforts led us to do a repeat performance during the next academic year and then to branch out with other arts-based programming.

Thinking that we needed to reach students more than once a year with messages about mental health, we developed three art-themed events for the 2014-2015 school year. This article describes our approach.

### Circus

*Cirque de-Stress* is a day of circus performances held in the Great Hall of Coffman Union.<sup>4</sup> Although we held the initial *Cirque de-Stress* in the spring of 2013, we decided to hold the second and third circus events in October, as we wanted to inform students of resources earlier in the school year.

In circus, we find natural metaphors for life. The balancing, juggling and spinning required for the high wire, trapeze, juggling and acrobatic acts that were demonstrated throughout the day help convey ideas about finding balance in one's own





PHOTO BY ANNA WEGGEL-REED

A humorous metaphor for the importance of finding balance in life.

life, juggling responsibilities and avoiding spinning out of control.

Between acts, students visit stations where they can watch and participate in additional circus and carnival-themed activities and learn about such things as counseling services at the university, on-line stress reduction courses, and mental health advocacy and promotional organizations such as the campus chapter of Active Minds.

Our most recent Cirque de-Stress event included a number of new acts. The *de-stress* student group made their first public appearance in anticipation of providing peer-to-peer “stress check-ins” (consisting of stress assessment, advice for stress management and referral to other resources as needed), which they began offering during the spring semester. The Amazing Hondo, a magician whose performance was sponsored by the Minnesota Department

of Human Services, did card tricks and used the con game three-card Monte to raise awareness about problem gambling. The University’s recreation and wellness program put up a slack line to promote the importance of exercise to both mental and physical health. Blue Cross and Blue Shield of Minnesota provided a bicycle-driven blender; attendees could ride the bike to produce nutritious smoothies. Melrose Institute staff promoted awareness of eating disorders and the Minnesota chapter of the National Alliance on Mental Illness (NAMI) promoted its own resources as well as the “Make it OK” campaign ([makeitok.org](http://makeitok.org)), which encourages people to talk about mental health and illness.

About 3,000 students and staff attended the 2014 Cirque de-Stress. In surveys about previous Cirque de-Stress events, we found attendance was associated with acquisition of new skills to manage stress, increased awareness of resources and decreased stigma related to mental health. In 2014, we surveyed attendees both at the time of the event and two months later. At follow up, respondents reported feeling stressed (as it was close to finals) but described using some of the coping strategies introduced at Cirque de-Stress (eg, interacting with animals, using aromatherapy, talking with a counselor) to manage it.

## Music

On January 28, 2015, during the second week of spring semester, we held an event called Finding Harmony: Music and Mental Health.<sup>5</sup> This was a more intimate event that was held in the coffee-house-like setting of the Whole Music Club at Coffman Union. It featured a panel of popular local musicians who shared their personal experiences with mental illness. The panel included Charles Bothwell (AKA Astronautalis), Claire Monesterio from GRRRL PRTY, and John Solomon and Molly Moore from Communist Daughter. The discussion was moderated by Honeydogs’ front man Adam Levy, who organizes an annual program called Dissonance, Mental Health



PHOTO BY ANNA WEGGEL-REED

Officers from the University of Minnesota Police Department, who are often the first to respond to students in mental health crisis, challenged attendees to remove pieces from a tower of wooden blocks to remind them of the importance of maintaining a strong support system.



PHOTO BY LIAM DOYLE, MINNESOTA DAILY

John Solomon and Molly Moore perform at Finding Harmony.

and Music for students at McNally Smith College of Music.<sup>6</sup> Levy has been a mental health activist since the loss of his 21-year-old son to suicide in January of 2012.<sup>7</sup>

Throughout the evening, each musician performed a song and shared their own experiences with mental illness, touching on anxiety, depression, bipolar disorder, alcoholism, Tourette’s disorder, obsessive compulsive disorder, and grief following the deaths of friends and family members from overdose and suicide. They also told inspirational stories of healing through psychotherapy, medication, self-discovery, writing and performing music, and other means. An open discussion followed the presentations.

More than 50 students attended Finding Harmony. Because of the smaller audience, attendees had the opportunity to participate in an honest exchange with the speakers. As such, we felt the event furthered the goal of the Make it OK campaign to normalize conversations about mental health. Dave Golden, director of public health and communication at Boynton Health Service, summarized what occurred during the evening this way:

“Finding Harmony was so real and powerful. Everyone there just started joining in, sharing their stories about their own mental health. There was laughter, camaraderie, empathy and hope, all presented in a way I have never seen before. This is the way we should talk about mental health.”

(Finding Harmony was recorded. The video can be viewed from the Art Program page of the Boynton Health Service website, [www.bhs.umn.edu](http://www.bhs.umn.edu).)

## Visual Arts

In mid-spring, a call went out to the university community to submit artwork for a juried exhibition focused on destigmatizing mental health. The selection committee was composed of students and staff from mental health and public health programs, as well as art programs on campus. Seventeen works were selected based on their artistic merit, relevance to the mental health theme, representation of different experiences and balance in relationship to the overall exhibit. The pieces were created by three undergraduate students, two graduate students, six staff members, one former staff member and one faculty member. The artwork was displayed along with the artist’s explanation of the work. The exhibit was displayed in a gallery space within Boynton Health Service from April 20 to May 14.

The title for the exhibit, *Multiple Layers*, was taken from architecture student Zhezi Yang’s reference to the “multiple layers” conveyed in her collage, *The Sensitive Poet*. The artist described the work as “A story about a poet with a complex psychological condition. The poet’s emotions of depression and solitude, eagerness and nostalgia, romance, understanding, sympathy, and spirit of truth, simplicity, goodness and sacrifice are all rendered.”



PHOTO BY ANNA WEGEL-REED

A participant adds comments about one of the pieces on display at Multiple Layers.

Several pieces depicted mental health themes more globally and metaphorically. For example, design professor Kate Maple's painting *Wabi Sabi* depicted a cracked bowl repaired with a mixture of lacquer and gold. The piece is in the Japanese tradition of Kintsugi, which respects the beauty and value of objects even when damaged. A related theme was captured in Kay Kirscht's "3/4 of her paint chipped off; she is still a doll," a photograph of an aged Minerva tin doll head. "She is still a doll and a valuable antique (one that I cannot restore without diminishing her value)," the author wrote. Michael Schmidt's *Chop Wood, Carry Water* was composed on a rustic plank using wood burning and colored pencil. It spoke to the need to focus on accomplishing simple daily tasks, even when feeling overwhelmed. The title refers to the Zen proverb "Before enlightenment, chop wood, carry water. After enlightenment, chop wood, carry water."

Several other pieces were notable. One graduate student, who asked that her name not be used, submitted two paintings. Her *Portrait of an Internal Battle* was done in a mere 15 minutes during a hypomanic episode whereas *Portrait of Euphoria* took four years to finish. A monster's multiple eyeballs, described by the artist as a "personification of anxiety disorder," surround the self-portrait within Kit Leffler's multimedia work *I Don't Do Crowds*. Another piece by the same artist, *Procession with Worldly Belongings*, was reminiscent of Atlas carrying the world on his shoulders. However, the artist's burden includes both objects she owns and images representing her family history of anxiety disorder.

We invited viewers to interact with the artists and other viewers by writing comments on sticky notes and affixing them near the artworks. Some expressed appreciation for the exhibit, and others reflected about the imagery and/or offered critiques. We surveyed attendees at the opening. Among their comments were the following:

"Attending Multiple Layers helped me better understand my stress."

"It was very therapeutic! Great community-building event."

"The personal stories were eye-opening, touching, relatable, helpful."

Respondents unanimously recommended repeating the mental health art exhibit the next year. (Photographs of the artwork can be viewed on the Boynton Health Service website.)

## Conclusion

Through Cirque de-Stress, Finding Harmony and Multiple Layers, our university health service has aimed to raise students' awareness of mental health resources at key times during the academic year (the start of both semesters and the end of the school year). All components of our programs were well-received and appear to have contributed to the goals of normalizing conversations about mental health and raising awareness of preventive strategies and mental health resources on campus. We believe other arts-based approaches, including comedy, spoken word, theater and dance, also can be harnessed to improve mental health on campus. In the age of information overload and with an audience that is targeted with messages of all types, the arts are effective ways to draw attention to important health concerns and deliver crucial messages. **MM**

Gary Christenson is chief medical officer of Boynton Health Service at the University of Minnesota.



A piece illustrating the moods of bipolar disorder.

PHOTO BY ANNA WEGGEL-REED

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# Athlete's Dystonia

## *An Occupational Hazard of Athletes*

BY JEREMY K. CUTSFORTH-GREGORY, MD, AND JAMES H. BOWER, MD, MAYO CLINIC DEPARTMENT OF NEUROLOGY

### About this Section

Each year, *Minnesota Medicine* highlights research and clinical work undertaken by Minnesota medical students, residents and fellows. The goal is to not only showcase the good work these medical trainees are doing but also to inform readers about pertinent topics.

This year, 22 trainees submitted brief papers describing original research or interesting cases. They were evaluated with regard to these and other questions: Did the authors provide an adequate description of the case or the problem? Was their methodology sound? Did they conduct an adequate review of relevant scientific literature? Do the findings or does the case have implications for practice or further research? The reviewers selected the following submissions for publication in this issue.

We thank both those who submitted their work and our reviewers: Peter Kernahan, MD, PhD; Barb Elliott, PhD; Barbara Yawn, MD; and Angie Buffington, PhD.

**D**ystonia is a movement disorder characterized by involuntary sustained or intermittent muscle contractions that cause abnormal postures (eg, twisting) or repetitive movements (eg, tremor). Dystonia may affect multiple regions of the body or be limited to one region (focal). Focal dystonia may be triggered by repetition of specific tasks. In adults, it usually affects the upper limbs or craniocervical segment.

A new form of task-specific focal dystonia called runner's dystonia was recently described.<sup>1</sup> Twenty similar lower-limb cases have been reported in the literature to date.<sup>2-7</sup> We wished to further characterize this rare form of adult-onset focal dystonia, determine the usefulness of electrophysiology in diagnosing it, determine whether athletes who are not runners could suffer a similar disorder and describe long-term outcomes.

### Methods

We retrospectively reviewed clinical and neurophysiologic information from adult patients seen at Mayo Clinic with task-specific focal dystonia arising after a prolonged history of repetitive lower-limb exercise. Follow-up data were gathered by telephone or mailed questionnaire.

### Results

Nineteen patients (53% men) were identified; 13 were runners and six were athletes but not runners. The median age at onset was 49.2 years (range 25 to 69 years). Correct diagnosis was delayed by a median of 2.5 years, by which time nearly 40% of the patients had undergone or been recommended for unnecessary invasive procedures for misdiagnosed conditions including piriformis syndrome, compartment syndrome, muscular dystrophy and claudication. Most patients (68%) had dystonia onset in the distal lower limb. Truncal dystonia was a novel observa-

tion in four of the patients. Strict task specificity was seen at onset in all patients. Dystonia progressed to affect walking in most patients (84%). To relieve symptoms, six patients reported using sensory tricks (voluntary actions that temporarily alleviate the dystonic posture such as lightly pressing against the abdomen to correct truncal dystonia).

In general, MRI of the brain and spine were unremarkable, as were nerve conduction studies and needle EMG. Surface EMG and gait analysis confirmed task-specific focal dystonia in 10 of the patients; these studies allowed distinction from stiff-limb syndrome in one and orthostatic myoclonus in another. Diagnosis in the other nine cases was made on clinical grounds.

At median follow up of 4.8 years (range 0.4 to 23 years) from dystonia onset and 2.1 years (range 0 to 18 years) from diagnosis, all patients were still symptomatic. Effective treatment was rare, with most patients achieving only partial return to their predystonia activity level when participating in the same (56%) or a different (25%) exercise. Beneficial treatments included botulinum toxin injections (in 3 of 5 cases), physical therapy (6/15), clonazepam (2/5), carbidopa/levodopa (3/8) and trihexyphenidyl (1/3).

### Conclusion

We describe the largest series of athlete's dystonia, a task-specific lower limb and truncal dystonia seen in runners and other athletes. Truncal dystonia, with or without lower limb involvement, was a novel observation in our patients. Age and location of onset, near universal progression to affect walking, and generally poor response to treatment were similar among our patients and patients described in previous reports. We found electrophysiology to be helpful in confirming the diagnosis

of athlete's dystonia, which should be considered when vigorous exercisers develop involuntary movements of the trunk or lower limbs that, at least initially, occur only during their preferred form of exercise. Timely diagnosis may prevent unnecessary procedures and should lead to prompt consideration of botulinum toxin injections and physical therapy. **MM**

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# Capsule Endoscopy and Left Ventricular Assist Devices

BY BRIAN HANSON, MD, RYAN KOENE, MD, SAMIT ROY, MSPH, RANJIT JOHN, MD, NADHEEM CHAUDHARY, MD, PETER ECKMAN, MD, AND JOSE VEGA PERALTA, MD, UNIVERSITY OF MINNESOTA DEPARTMENTS OF GASTROENTEROLOGY AND HEPATOLOGY, CARDIOLOGY AND CARDIOTHORACIC SURGERY

Capsule endoscopy (CE) is a well-established modality for diagnosing obscure gastrointestinal bleeding. Obscure gastrointestinal bleeding in patients with left ventricular assist devices (LVAD) is not unusual. The risk of such bleeding after LVAD implantation is 18% to 40%.<sup>1</sup> The safety and efficacy of CE in patients with LVAD are largely unknown. Researchers from Mayo Clinic described its safety in 14 patients with LVAD but did not include CE findings or clinical outcomes.<sup>2</sup> The purpose of this study was to investigate the safety and efficacy of CE in patients with LVAD.

## Methods

A retrospective chart review was performed for all patients with LVAD undergoing CE at the University of Minnesota Medical Center in Minneapolis between January 2007 and August 2014. Thirty-four CE studies performed in 24 patients were identified and reviewed for demographic, laboratory and CE study data in addition to subsequent medical and endoscopic management.

## Results

A total of 34 CE studies were performed in 24 patients. Mean age at time of the first CE was 67 years; 20 of the patients (83%)

were male. The indications for CE were obscure occult gastrointestinal bleeding in three cases, obscure overt gastrointestinal bleeding in 25 and anemia in six. Capsule endoscopy findings included active bleeding in 12 cases (35%). A potential source was visualized in six of these. When active bleeding was not seen on CE, a high-potential source (AVM, ulceration, tumor) was found in three and an intermediate-potential source (red spots, erosions) in three. Active bleeding and potential sources were found in the stomach (n=3) and small bowel (n=15). The capsule failed to leave the stomach in two cases. Mean small-bowel transit time was 3 hours 44 minutes. No cardiac device malfunction occurred and no capsules were retained. Small-bowel image capture was incomplete in three CE studies.

Medical intervention was the most common management strategy after CE. Medical management was changed after 27 of the 34 CE studies (79%). However, capsule endoscopy findings were not associated with a change in medical management ( $p=0.69$ ). Nine patients (26%) underwent endoscopic evaluation after CE. Six patients underwent enteroscopy and three had EGD. Sources of the bleeding were an AVM (four patients), Dieulafoy lesion (one patient) and an indeterminate lesion (one patient). Of those patients, five underwent endoscopic intervention.

Six-month follow up was available in all but one patient. During follow up, 10 patients re-bleed. Patients with CE finding of active bleeding or high-potential lesion incurred a higher risk of re-bleeding, transfusion and repeated endoscopy. However, this finding was not statistically significant. One patient died during follow up, but the death was not related to gastrointestinal bleeding.

## Conclusion

Ours is the largest study of CE in patients with LVAD. We found capsule endoscopy is a safe and effective test for detection of a bleeding source in patients with LVAD. Medical management of patients was changed after CE in the majority of cases, but their CE findings were not associated with this change. Active bleeding found during CE can be successfully treated endoscopically. **MM**

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# A Unique Left Ventricular Infiltrate Discovered in a 29-Year-Old, Causing Cardiac Arrest

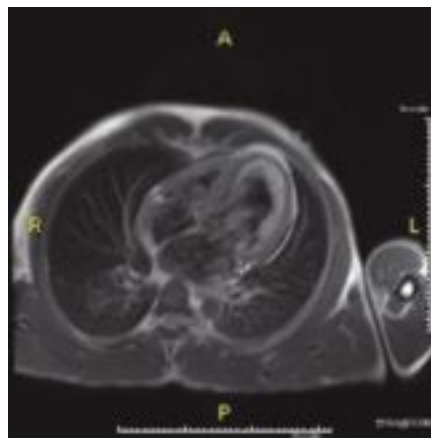
BY NICHOLAS BOYSEN, MD, UNIVERSITY OF MINNESOTA INTERNAL MEDICINE RESIDENCY PROGRAM

Infiltrative cardiomyopathies are a subset of restrictive cardiomyopathies best diagnosed through cardiac MRI and often endomyocardial biopsy. They most often include amyloidosis, sarcoidosis and hemochromatosis. Generally, infiltrative cardiomyopathies are progressive diseases that present with clinical symptoms late in their course and are systemic in nature, involving multiple organs. Adipositas cordis, a rare histopathological condition characterized by scattered infiltration of the ventricular myocardium with adipose tissue, is usually discovered on autopsy as a benign process, but it can occasionally present with ventricular arrhythmias resulting in death.<sup>1,2</sup> Its etiology is unclear, with right-sided disease attributable to five different known genetic mutations but no known mutations for left ventricular disease.<sup>2</sup> Causes of fatality secondary to adipositas cordis also include myocardial infarction and ventricular rupture.<sup>3</sup>

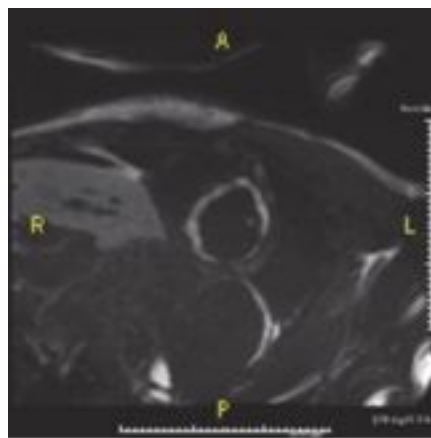
## Case

A 29-year-old male presented with sudden ventricular fibrillation cardiac arrest. He had no prior cardiac disease, a past medical history of chronic hepatitis B, pulmonary embolism and testicular lymphoma at age 7. He had undergone radical orchiectomy and treatment with chemoradiation, and had developed subsequent radiation-induced end-stage renal failure requiring kidney transplant. He was at work as a bank teller when he suddenly became unconscious, apneic and pulseless. EMS was called to the scene, and an EKG showed ventricular fibrillation arrest. He required three defibrillatory shocks to achieve ROSC and then was transported to a local hospital, where he was intubated and hypothermia protocol was initiated. After stabilization and extubation, he received a thorough cardiac workup including echocardiogram, angiogram, MRI and endomyocardial biopsy.

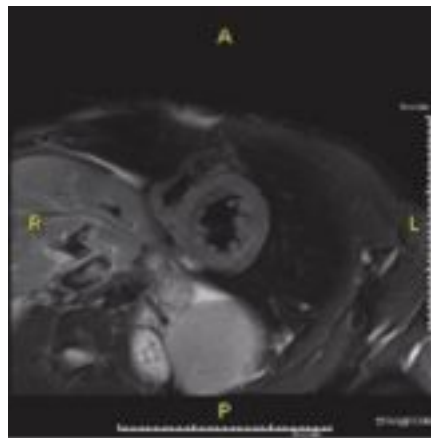
FIGURE



A. Cardiac MRI demonstrating hyperenhancement throughout the myocardium consistent with diffuse lipomatous infiltration of LV.



B. Cardiac MRI identifying lipomatous infiltrate.



C. Cardiac MRI fat suppression T2 sequence confirming diagnosis of adipositas cordis.

The echocardiogram demonstrated a left ventricular ejection fraction of 50% to 55% as well as moderate concentric left ventricular wall thickening consistent with left ventricular hypertrophy. Cardiac angiogram demonstrated no evidence of coronary artery narrowing or disease. On cardiac MRI, hyperenhancement throughout the myocardium consistent with diffuse lipomatous infiltration of the left ventricle was discovered (Figure, A,B). Fat suppression MRI sequences confirmed the diagnosis of adipositas cordis (Figure, C). Cardiac biopsy showed no H&E signs of iron or amyloid deposition. The patient remained hemodynamically stable throughout his admission without further arrhythmias. Follow-up plans for ICD placement, genetic testing and genetic counseling were scheduled at discharge from the hospital. Ultimately, he will be listed for cardiac transplant.

## Conclusion

Although extremely rare, this case reiterates the significance of proper cardiac evaluation in atypical cardiac arrest as well as the importance of integrating this condition into the infiltrative cardiomyopathy differential diagnosis. Identification of this infiltrative process allows for proper arrhythmia prophylaxis, patient counseling and a realistic prognostic outlook for a potentially fatal condition. **MM**

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# Pseudohyperkalemia in Chronic Lymphocytic Leukemia

## Longitudinal Analysis and Review of the Literature

BY LAUREN KATKISH, MD, TOM RECTOR, PHARM D, PHD, AREEF ISHANI, MD, AND PANKAJ GUPTA, MD; UNIVERSITY OF MINNESOTA DEPARTMENT OF MEDICINE; MINNEAPOLIS VA HEALTH CARE SYSTEM CENTER FOR CHRONIC DISEASE OUTCOMES RESEARCH, NEPHROLOGY SECTION AND HEMATOLOGY/ ONCOLOGY SECTION

**P**seudohyperkalemia in patients with leukocytosis caused by chronic lymphocytic leukemia (CLL) is well-documented in case studies. However, the incidence of pseudohyperkalemia and its relationship to white blood cell (WBC) count is unknown. Of concern, artifactually elevated potassium levels have triggered administration of unnecessary and potentially life-threatening potassium-lowering treatments including emergent dialysis. Either a blood collection and processing protocol to minimize or eliminate pseudohyperkalemia or a reliable method to “correct” potassium levels for the degree of leukocytosis have yet to be determined.

### Methods

We studied 310 patients diagnosed with CLL between 1997 and 2014 at the Minneapolis VA Medical Center. Patients with WBC counts  $\geq 50.0 \times 10^9/L$  underwent further scrutiny. Those with alternative causes of hyperkalemia such as recent initiation of a potentially nephrotoxic drug or recent decline in renal function were excluded. WBC counts and potassium levels yielded 1,119 data points over 270 patient-years from 57 eligible male patients. The patients ranged in age from 49 to 95 years at diagnosis and had WBC counts of 5.4 to  $282.6 \times 10^9/L$ . Longitudinal fixed-effects linear regression was used to test for a relationship between WBC counts and differences between the measured plasma potassium concentrations and the upper limit of normal (ULN) for the potassium assay.

We searched the Ovid Medline, Pubmed, CINAHL and Embase databases to identify case reports of pseudohyperkalemia and studies designed to determine its mechanism. We found a total of 39 published articles.

### Results

In our analysis of data on the VA patients, we found overall, 19% of potassium values were  $>ULN$ , and 7.3% exceeded the ULN by at least 0.5 mmol/L. For every increase of  $100.0 \times 10^9$  WBC/L, the potassium value increased by 0.5 mmol/L on average. The adjusted odds of a patient's potassium level being above the ULN increased by 1.4 (95% confidence interval, 1.2-1.5;  $p < 0.0001$ ) with every  $10.0 \times 10^9$  cells/L increase in WBC counts. When the WBC count was below  $50.0 \times 10^9$  cells/L, the median estimated percentage of a patient's potassium values being above the ULN was low (1.7%; IQR, 0.9-3.45), whereas the estimated percentage above the ULN was 8.1% (IQR 3.9-19) when the WBC count was  $\geq 100.0 \times 10^9$  cells/L. However, within individual patients, variation in their WBC counts explained only part of the variation in their potassium values.

When taken collectively, the trends in the literature were similar to those identified in our study.<sup>1-12</sup> Studies aiming to determine the mechanism of pseudohyperkalemia had contradictory findings; thus,

we concluded no mechanism has been identified and confirmed.<sup>2,4-6,8,11,13-15</sup>

### Conclusion

A considerable proportion of measured plasma potassium values are elevated in patients with CLL and high WBC counts. It is likely that the majority of these values represent pseudohyperkalemia. However, a “correction factor” cannot be created to account for pseudohyperkalemia because it is not possible to predict the potassium value based on the WBC count alone. This is likely a consequence of the erratic effect of diverse artifactual phenomena that influence potassium measurement in patients with CLL. Clinical judgment needs to be used when interpreting potassium values in such patients. We recommend that an alert be placed in the electronic medical record system regarding the potential for pseudohyperkalemia in patients with CLL and elevated WBC counts. **MM**

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## Diffuse Large B Cell Lymphoma Presenting as Transverse Myelitis

BY AIMEE MERINO, MD, PHD, DEPARTMENT OF MEDICINE RESIDENCY PROGRAM, UNIVERSITY OF MINNESOTA

**D**iffuse large B cell lymphoma is the most common type of non-Hodgkin's lymphoma, accounting for approximately 25% of cases. The diverse manifestations of this disease and frequent extranodal involvement of diverse tissues create a diagnostic challenge.

### Case

A 64-year-old man presented to the emergency department after four days of leg weakness and difficulty urinating. On exam he was found to have sensory deficits bilaterally. At that time, MRI of the spinal cord showed edema at T10 to T12, and lumbar puncture was negative for infectious agents but showed a high protein level of 67 mg/dL. The patient was believed to have an idiopathic or post-infectious transverse myelitis and was started on high-dose steroids. His weakness and urinary retention improved initially but worsened when the steroids were tapered.

Further work-up was performed, and a brain MRI showed lesions in the brainstem consistent with demyelination. A lumbar puncture was performed that showed five oligoclonal bands. Given the relapsing nature of his symptoms, MRI findings and oligoclonal bands on lumbar puncture, the patient was diagnosed with multiple sclerosis. Steroid therapy was reinitiated

and interferon beta-1a was started. Despite therapy, he continued to have bilateral leg weakness, paresthesia, worsening urinary retention and constipation. An EMG was performed on both legs and showed diffuse axonal sensorimotor polyneuropathy. His steroid dose was increased, and he eventually regained enough strength in his legs to walk using a walker.

Approximately three months after his initial presentation, the patient continued to have urinary retention, constipation and paresthesia in addition to some residual leg weakness. A repeat EMG showed diffuse, bilateral sensorimotor polyneuropathy with primarily axonal involvement. Given his initially acute presentation and his predominately axonal polyneuropathy, he was diagnosed with Guillain-Barre syndrome with spinal cord involvement. The patient was treated with IgG, plasmapheresis and high-dose steroids. After physical therapy, he was able to finally return home with self-catheterization and assistive devices.

A month after returning home, the patient returned to the emergency department with an acute return of weakness to the point of being unable to transfer from his wheelchair. His recurrence of symptoms after treatment with IgG and plasmapheresis in addition to axonal polyneuropathy on EMG prompted a diagnosis

of autoimmune inflammatory demyelinating disease. He was started on mycophenolate. Contemporaneously, there was a precipitous rise in his liver function tests with no known etiology. A liver biopsy was performed six months after his initial presentation; it showed diffuse large B cell lymphoma. His neurologic symptoms were determined to be caused by neurolymphomatosis from direct invasion of peripheral nerves and possible lymphoma in the CNS. He was treated with rituximab and dexamethasone until his liver function improved and he was able to receive R-CHOP. His clinical symptoms are improving, and he is again able to ambulate with a walker.

### Discussion

This case illustrates the protean presentation of lymphoma and the importance of maintaining a broad differential in patients with unusual symptoms. It is important to remember that lymphoma can arise in almost any tissue and does not always present with typical lymphadenopathy. Recognition of this disease is vital to instituting proper treatment. In this case, treatment with steroids was particularly problematic, as steroids can alter the histopathological characteristics of lymphoma, further complicating the diagnosis. **MM**



# Improvement in Left Ventricular Function Despite No Change in T2\* with Iron Chelation in Secondary Hemochromatosis

BY PRABHJOT SINGH NIJJAR, MD, HAREE VONGOORU, MD, ASHENAFI TAMENE, MD, UMA VALETI, MD, AND CAROLINA MASRI, MD; UNIVERSITY OF MINNESOTA, ADVANCED CARDIOVASCULAR IMAGING FELLOWSHIP PROGRAM

Myocardial T2 star (T2\*) relaxation time is a well-validated and widely used noninvasive imaging biomarker to follow the disease course in cardiac hemochromatosis.<sup>1</sup> T2\* measures decay of transverse magnetization (iron causes faster decay). Myocardial T2\* falls with increasing iron deposition, heralding cardiac toxicity and left ventricular failure. Myocardial iron overload is present when T2\* is <20 msec in the setting of reduced left ventricular ejection fraction (LVEF).<sup>1</sup> Congestive heart failure (CHF) usually occurs only when myocardial T2\* is <10 msec.

## Case

A 28-year-old white male with hypoplastic anemia managed with repeated blood transfusions since age 5 developed systemic iron overload with liver involvement and polyendocrinopathy. He was started on deferoxamine for iron chelation. An echocardiogram done at that time showed normal left ventricular function. However, CHF ensued over time, and repeat echocardiogram showed moderate biventricular failure with global hypokinesis and a restrictive filling pattern.

Cardiac magnetic resonance (CMR) imaging confirmed biventricular failure

with a LVEF of 33% and right ventricular ejection fraction (RVEF) of 35%. T2\* was reduced (8 msec) suggesting severe myocardial iron deposition, with no late gadolinium enhancement to suggest scarring or infarct. His deferoxamine regimen was intensified and deferiprone was added for iron chelation. His clinical course was complicated by multiple admissions for decompensated CHF and atrial arrhythmias. He was treated with guideline-based medications for his systolic dysfunction, warfarin for anti-coagulation and careful titration of diuretics. Prednisone and cyclosporine were continued for his immune-mediated anemia. Because of his persistently high ferritin values, the patient also underwent periodic phlebotomies.

Repeat CMR scans done after 3 and 7 months were unchanged for cardiac function and T2\* values. An echocardiogram done after the patient spent 9 months on the above regimen showed improved biventricular function. CMR done at this point revealed a dramatic improvement in his cardiac function, with LVEF of 49% and RVEF of 52%. Interestingly, there was still no change in T2\* value.

## Discussion

Development of CHF caused by myocardial iron overload in transfusion-dependent anemias heralds a poor prognosis.

Longitudinal studies in patients with secondary hemochromatosis and CHF who undergo iron chelation with deferoxamine and deferiprone have shown improvement in LVEF, and this is tracked well by improvements in T2\*.<sup>2,3</sup> To the best of our knowledge, this is the first reported case showing improvement in CHF and LVEF, despite no change in T2\*. It is possible that iron deposition acts as the initial insult, which then sets off a cascade of inflammation/injury that is independent of further changes in iron deposition. The anti-inflammatory therapy, especially cyclosporine, could have played a role in reversing cardiac dysfunction in this patient. This case highlights the need to explore other putative mechanisms of injury and therapy in cardiac hemochromatosis. **MM**

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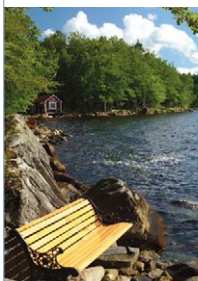
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**Send CV to: Olmsted Medical Center**

Human Resources/Clinician Recruitment  
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**email:** dcardille@olmmed.org

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[www.olmstedmedicalcenter.org](http://www.olmstedmedicalcenter.org)

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For additional information, contact **Dr. Kathy Brandli**, President, at [kbrandli@gatewayclinic.com](mailto:kbrandli@gatewayclinic.com) or **Eric Nielsen**, Administrator, at [enielsen@gatewayclinic.com](mailto:enielsen@gatewayclinic.com) or 218.485.2000  
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**Family Medicine**

St. Cloud/Sartell, MN

We are actively recruiting exceptional full-time BE/BC Family Medicine physicians to join our primary care team at the HealthPartners Central Minnesota Clinics - Sartell. This is an outpatient clinical position. Previous electronic medical record experience is helpful, but not required. We use the Epic medical record system in all of our clinics and admitting hospitals.

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## If the time came

BY MICHAEL SHREVE, MD

If my memories were leaving  
Not just new ones not sticking  
If old ones were going  
Never to come back.  
If I knew this was happening  
Because my time had been long  
Places lived  
Faces known  
Books read  
Were spilling away from me  
As soon as I knew I could never get them back  
Before I left with them  
And was completely gone,  
I would grab your hand



HONORABLE  
MENTION

*2015 Writing Contest*



Michael Shreve is a pediatric pulmonologist with Children's Respiratory and Critical Care Specialists.

### On what inspired this poem:

We recently moved my 90-year-old dad to assisted living because of dementia. He was hospitalized briefly. When he would try to answer the doctors' and nurses' questions, he would often say, "I can't remember because of my dementia." He was so matter-of-fact about it. If I were in that situation, I don't think I would be that way. I would have more trouble accepting it. This poem is to my wife, in case that time comes.

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