THE JOURNAL OF THE MINNESOTA MEDICAL ASSOCIATION

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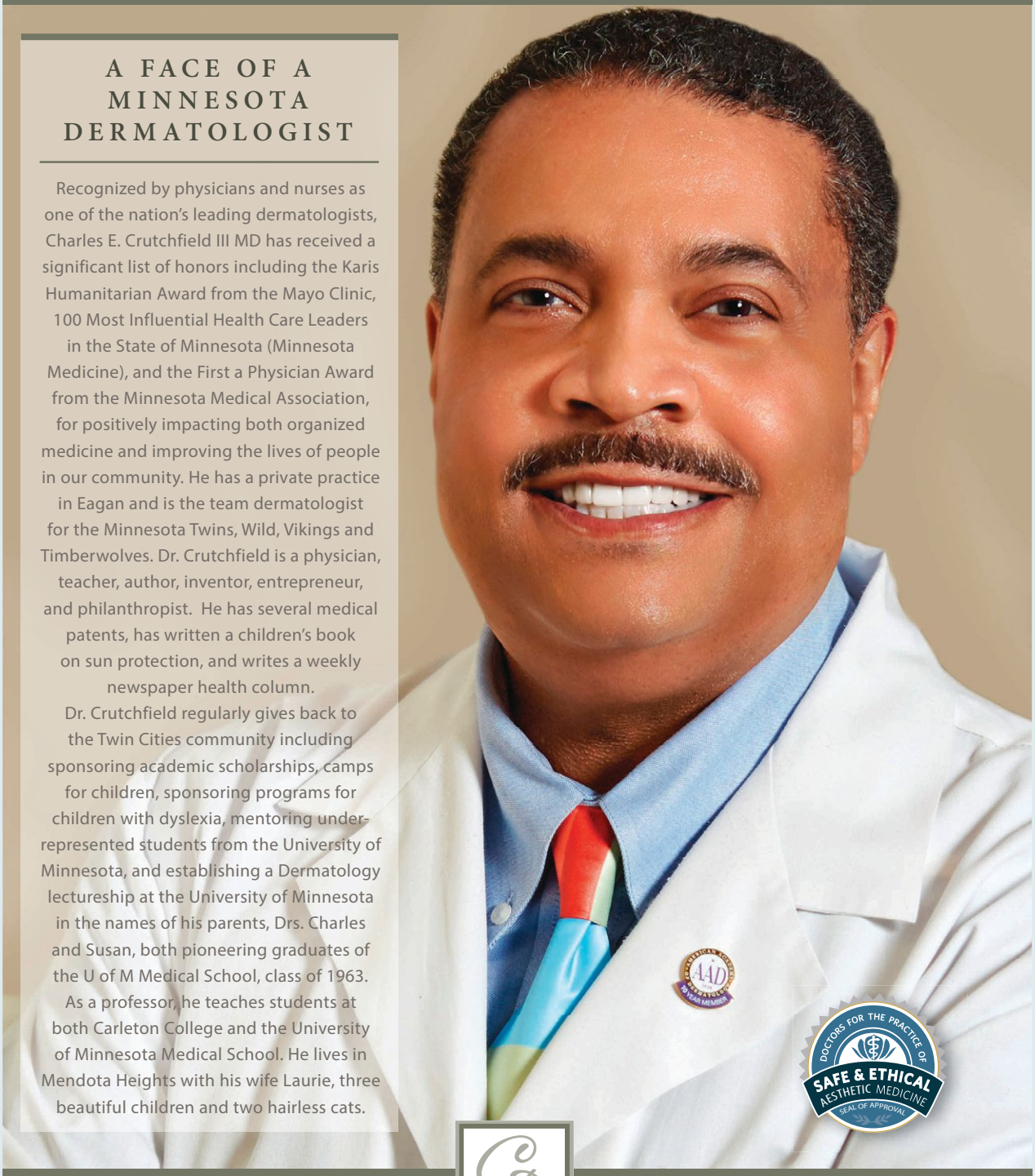
A FACE OF A MINNESOTA DERMATOLOGIST

Recognized by physicians and nurses as one of the nation's leading dermatologists, Charles E. Crutchfield III MD has received a significant list of honors including the Karis Humanitarian Award from the Mayo Clinic, 100 Most Influential Health Care Leaders in the State of Minnesota (Minnesota Medicine), and the First a Physician Award from the Minnesota Medical Association, for positively impacting both organized medicine and improving the lives of people in our community. He has a private practice in Eagan and is the team dermatologist for the Minnesota Twins, Wild, Vikings and Timberwolves. Dr. Crutchfield is a physician, teacher, author, inventor, entrepreneur, and philanthropist. He has several medical patents, has written a children's book on sun protection, and writes a weekly newspaper health column.

Dr. Crutchfield regularly gives back to the Twin Cities community including sponsoring academic scholarships, camps for children, sponsoring programs for children with dyslexia, mentoring under-represented students from the University of Minnesota, and establishing a Dermatology lectureship at the University of Minnesota in the names of his parents, Drs. Charles and Susan, both pioneering graduates of the U of M Medical School, class of 1963.

As a professor, he teaches students at both Carleton College and the University of Minnesota Medical School. He lives in Mendota Heights with his wife Laurie, three beautiful children and two hairless cats.



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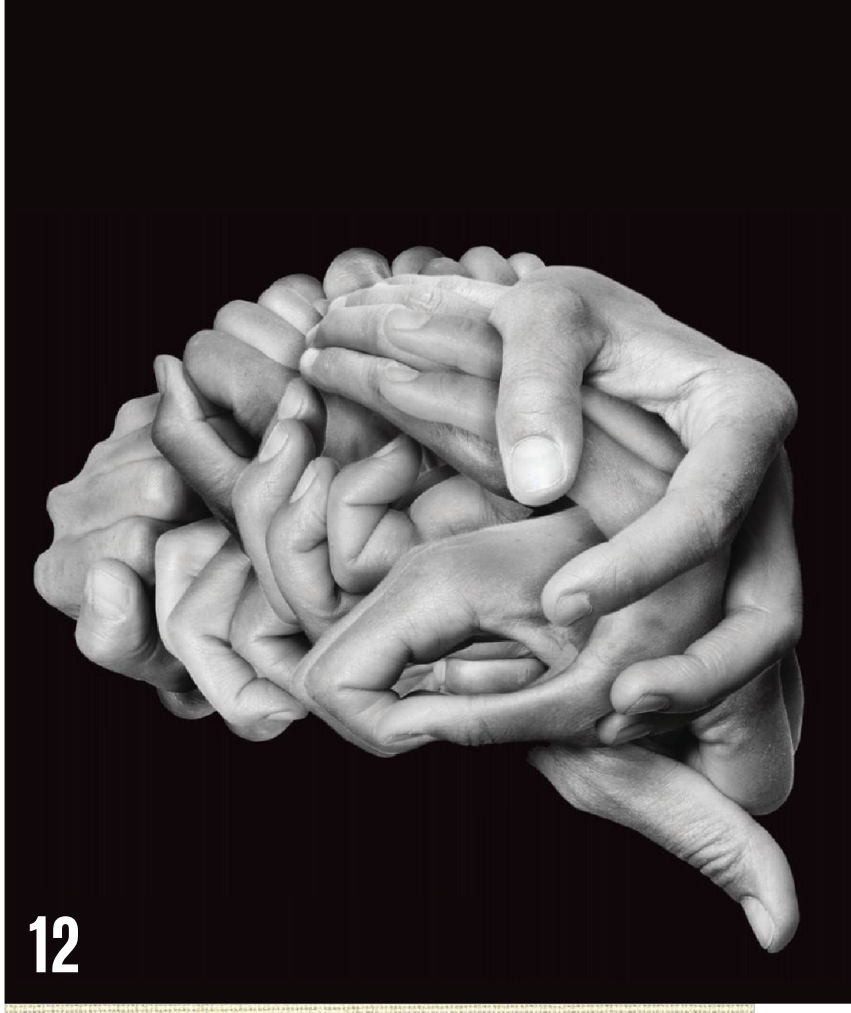

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PHOTO BY SCOTT WALKER

What's in a name?

It's a way to immortality—or to frustrating medical students

My cousin Peter Schloerb is a professor of astronomy at the University of Massachusetts Amherst. Aside from admiring Peter's intelligence, the 106 cited articles in his curriculum vitae and his pivotal role in building a gigantic radio telescope in the mountains outside of Mexico City, I am jealous that he has an asteroid named after him. Located in the asteroid belt, the eponymous 9273-Schloerb orbits the sun in 1,380 days, perpetuating a piece of my cousin's immortality.

Medicine, like astronomy, is rife with eponyms, much to the chagrin of medical students attempting to master names with some anatomical or physiological basis only to have some obscure 19th century pathologist pop up and complicate their education. I remember thinking in medical school, "Why do we need two names for one entity, especially when one helps describe or locate the entity and the other is just a historical oddity?" In the absence of an anatomical Google Maps, finding the location of Stensen's duct would be a veritable blind treasure hunt. The name parotid gland duct sends the seeker quickly to the right place. Similarly, Stensen's duct's neighbor, Wharton's duct, might linger in obscurity if not for its anatomical correlate, submandibular gland duct.

Some eponym donors, like Wharton, are famous enough to have two structures named after them (Wharton's jelly of the umbilical cord is his other claim to fame). The record contributor of eponyms is Sir Percivall Pott of Pott disease (spinal tuberculosis) notoriety, with 11 entities that carry his name. Following close behind are Sir Jonathan Hutchinson (Hutchinson pupil) and Rudolf Virchow (Virchow's node), each with 10 namesakes. The competition for historical fame in medical names is hot and heavy.

Yet despite the confusion they sometimes engender, eponyms are part of the language of medicine that we celebrate every year with our Arts issue. They lend color and historical gravitas to that language. Each name carries a rich biography. Nicolas Steno—Niels Steensen in Danish—was a Danish anatomist, born a Lutheran, converted to Catholicism, became a bishop and, in addition to discovering his duct, he founded the science of stratigraphy in the study of geology. The English physician Thomas Wharton practiced at St. Thomas' Hospital in London for most of his career and survived the plague of 1655. Even ducts can tell stories.

Eponyms lend color and historical gravitas to the language of medicine.

Once learned, eponyms tend to stick in the brain like superglue and resurrect memories of the poignant intensity of learning in medical school. I sometimes think we could use a few eponyms for some of the new information coming out of genetics. As new genes roll out of gene laboratories they carry totally forgettable insignias like BRCA and HNPCC. We need a few easily-remembered eponyms, perhaps named after Watson, Crick or Venter.

Convinced that eponyms are indeed a type of immortality, I went looking for a Meyer eponym. The best I could do was Robert Meyer, a 19th century German physician at a women's clinic in Berlin, who lent his name to the Weigert-Meyer law, which states that "when duplicated ureters insert separately into the bladder, the laterocranial ostium corresponds to the caudal renal pelvis and the medio caudal ostium the cranial renal pelvis." Hardly the stuff of immortality. I'll keep looking and I'll keep admiring cousin Peter for his distinction—even if it is only known by fellow astronomers. **MM**

Minnesota Medicine Editor-in-Chief Charles R. Meyer can be reached at charles.073@gmail.com.

'You should write a book'

BY CARMEN PEOTA

PHOTO BY MIKE KRIVIT

Harley Dresner's book, *Mishegas: A Concrete Tale of Family Quicksand*, was published by WriteLife Publishing in 2017. Read more about Harley Dresner at: http://writelife.com/authors/harley-dresner-md/

People told Harley Dresner, MD, to write down his humorous stories. So he did.

For years, Dresner, a facial plastic surgeon, had talked about the funny antics of his eccentric parents and uncle. To friends and colleagues in Minnesota, the New Yorkers seemed like characters right of the TV show "Seinfeld." As Dresner portrayed them, his hypochondriacal mother, fast-talking father and hot-headed uncle could inflate the smallest problems into full-scale disasters. "People would get a real big kick out of me telling these stories," says Dresner, who was raised on Long Island and moved to Minnesota in 2001 for his otolaryngology residency. "They kept saying, 'You should write a book.'"

For a long time, Dresner ignored them. He thought many people had funny stories about their odd relatives. And although he knew others thought he was funny, he wondered if his humor would come through on paper. Was it his inflection, emphasis and pauses that made his stories funny?

When his father's health worsened in 2014, Dresner's thinking changed. He became concerned that his young children wouldn't have many memories of their grandfather. "I wanted them to have these stories preserved so they could always have that picture of who he was," he says. "I just figured I'd write a collection of stories and I'd pass them along to my kids."

Three-year gestation

Dresner set to work, finding snippets of time for writing in his already-too-busy days—he's a facial plastic surgeon at HealthPartners and a faculty member in the Department of Otolaryngology at the University of Minnesota. He'd think of an idea on his drive to work and jot it down on scratch paper when he got there. Between surgical cases, he'd grab his laptop and write for 15 minutes. He'd write on planes on his way to medical conferences. He would write for a few minutes at home after eating dinner, doing paperwork and tucking the kids into bed. "Wherever I could steal some time, I'd find an opportunity to write," he says.

After a year, he realized he had amassed a collection of anecdotes that was about 60,000 words long. "That's when I started considering converting it into a book," he says. He showed the stories to his wife, dermatologist Elyse Scheuer, MD, who thought they were "pretty good" and to

friends, who agreed and recommended he find a professional editor.

He found one through the Loft, the Minneapolis-based literary center, and for the next nine months worked on "a major editorial overhaul," organizing the book around a weekend trip to Las Vegas to celebrate his mother's 70th birthday, and cutting 20,000 words and adding 40,000 more.

He put together a list of publishers that he thought might consider his work and researched what each required. One wanted a one-page query letter, another a 20-page synopsis, while others asked for a description of the main characters or a whole marketing plan. "So you have to put these different components together and submit them to the publishing houses, and then you wait," he says, estimating that he sent materials to 45 different companies. Some sent rejection letters within 24 hours. Others still haven't responded. But WriteLife Publishing said "yes." WriteLife Publishing is a cross between a self-publishing company and a traditional publishing house.

Dresner worked with a second editor on the manuscript. Finally, in 2017, the 261-page *Mishegas: A Concrete Tale of Family Quicksand* was born.

Creative complement

The book is the humorist's not-always-flattering portrait of people who haven't made life easy for Dresner or themselves. "If you say someone is misheguna—or has a lot of mishegas, you understand that they're going to be hard to deal with, they're going to give you a hard time, they're going to say things that are whacky, they're going to do things and behave in ways that are going to make you shake your head or be frustrated," Dresner explains.

The book is also the author's coming to terms with those he both loves and finds exasperating. "It was a bit of a cathartic experience," he admits. In the epilogue, he writes: "Mishegas is a paradox. It compels me to love those absurdities that drive me to my wits' end."

Still, Dresner says he enjoyed working on the book. "I even enjoyed the parts that were not supposed to be enjoyable, which were working with my two different editors," he says. That's perhaps not surprising, as he's always liked working with words and even likes preparing scientific manuscripts for publication.

He sees writing as complementary, rather than a counterbalance, to what he does as a surgeon, noting that those who go into facial plastic surgery tend to have an artistic bent. "This book is another expression of my overall creativity or artistry," he says.

While Dresner hopes to write another book, with *Mishegas* he has achieved his goal: "I didn't want my stories to get lost. I got a measure of satisfaction knowing that once they were published, the stories will be preserved indefinitely." **MM**

Carmen Peota is a Twin Cities freelance writer.

Learning to be advocates

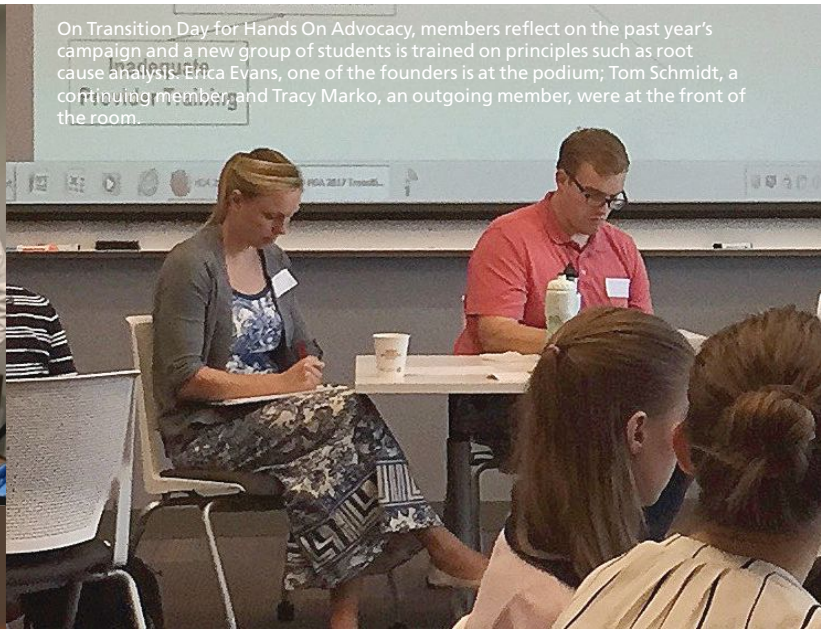
BY LINDA PICONE

Hands On Advocacy members presented their vaccination campaign at the MMA annual conference in 2017.

Medical students have long hours, lots of studying and little sleep—yet an increasing number still want to do more.

Erica Evans and Elizabeth Fairbairn each did something other than continuing their schooling right away when they graduated from college. Fairbairn's post-college vocation was as a community organizer involved in policy change and advocacy; Evans worked in clinical research and for a medical start-up

Hands On Advocacy members met with a number of state legislators, including Sen. Tom Bakk, minority leader of the Minnesota Senate, during 2018 MMA Day at the Capitol.



On Transition Day for Hands On Advocacy, members reflect on the past year's campaign and a new group of students is trained on principles such as root cause analysis. Erica Evans, one of the founders is at the podium; Tom Schmidt, a continuing member, and Tracy Marko, an outgoing member, were at the front of the room.

in research, organization and project management. At the University of Minnesota Medical School, both were itching to get involved in more than classes and clinicals and books.

The two met at a Day at the Capitol sponsored by the Minnesota Medical Association (MMA); both were active in the Student Section of MMA. The Student Section of the Minnesota Medical Association (MMA) offered opportunities to learn about issues, but the two wanted to take it a step further. "We (MMA) had been advocating on the issue of prior authorization," says Evans. "It's a very important issue, but not something students are heavily exposed to. We started talking about how fun it would be to advocate for something that got us excited."

The two conducted a survey of 225 medical students in Minnesota in 2016 to see if there were others who were interested in becoming advocates for issues they care about. More than 75 percent of those surveyed said they wanted to advocate on key public health issues—but didn't feel prepared to do that.

So Evans and Fairbairn started "the vaccine project." "Our goal was to advocate for vaccination," says Evans. "But as we got going, we realized it didn't just have to be about vaccines. We kind of morphed into Hands On Advocacy."

Some legislators, like Sen. Chris Eaton (DFL-Brooklyn Center) and Sen. Dave Baker (R-Willmar), have had personal experience with the opioid crisis and were welcoming to Hands On Advocacy members.

Hands On Advocacy is a student-led, experiential program for medical students across the state that helps them learn more about a public health issue, become involved in both grassroots and legislative advocacy and get engaged with students, physicians and the community. MMA's Student Section supports Hands On Advocacy with a small amount of funding and, more important, mentors and guidance.

About 20 students from across the state have been involved in each of the first two years of Hands On Advocacy. Most (70 to 75 percent) are from the University of Minnesota Medical School in the Twin Cities, about 20 percent are from the Medical School at the University of Minnesota-Duluth and one or two each year have been from the Mayo Clinic School of Medicine.

"I personally got involved because there are so many problems that can't be fixed with medicine or surgery or care provided in the hospital," says Evans. "A lot of public health issues can only be solved with advocacy."

Tracy Marko got involved in the second year of Hands On Advocacy because she was interested in the opioid epidemic, the topic for 2017-2018. She found learning to advocate with state legislators—and then actually working with them—to be personally powerful. "With the escalating number of opioid deaths nationwide,

Hands On Advocacy members talked with Sen. Chris Eaton (DFL-Brooklyn Center) and Sen. Dave Baker (R-Willmar), both of whom lost children to the opioid epidemic and who were authors of bills addressing the opioid crisis.

this is a personal topic for many people, including legislative members," she says. "At a hearing for a bill related to funding for the opioid epidemic, several representatives spoke up and said 'I have a family member who has struggled with an opioid addiction.' That really gave me an insight into how personable senators and representatives are, and how much they want to hear from you."

Tom Schmidt had worked at the Food and Drug Administration, where tuberculosis vaccines were being developed, so vaccination was an important topic to him and he got involved with Hands On Advocacy in its first year, focusing on vaccinations. "As the year progressed, I got more involved in advocacy," he says. He became a project leader in the second year because he wanted to advocate about the opioid crisis. "These are the people who are going to be my patients," he says. "Advocating for them and the services they need will help change the course of health care and our country someday."

For Fairbairn, being able not only to be an advocate herself but to share her interest and skills with others was powerful. "To watch my fellow classmates and future colleagues make change is just inspiring," she says. She says she thinks there is increased interest in advocacy among medical students, and maybe Hands On Advocacy has had a role in that, but it's part of the "political milieu" of today.

In its work on the opioid epidemic, medical students in Hands On Advocacy went to high schools and talked to students, met with state legislators one and two at a time and had meetings with key staff. "Another part of the effort was looking at medical school education, seeing what we really need to learn about," Marko says.

But there's much more work to be done. "Our work this year has only scratched the surface," says Schmidt. "Nothing has really been passed [on opioids] at the state level so far."

Being equipped with background information and education, and then being mentored by physicians and by staff from the MMA helped the medical students know how to talk to—and relate to—legislators.

"We can't put *them* on a pedestal and think, 'I'm just one person, how can I make a difference?' it's hard," says Marko. "Physicians, including medical students, have an area of expertise and work directly with patients. It is important for us to share our experiences with our senators and representatives. Meeting with legislative members through the opioid campaign has given me a lot of confidence. I am one person, but even as a medical student, my insight was valued."

She has found that legislators don't feel that medical students are imposing on them and their time—they appreciate hearing from them.

Although one of the original founders of Hands On Advocacy has graduated and is leaving the area, and one of the project leads of the second-year campaign on opioids also has graduated, the program is designed to have continuity. Each year, two new project leads are selected, one from the current group of Hands On Advocacy participants and one from the student body at large. The new project leads will recruit a cohort of 20 students and advocate for the next public health topic.

Evans (formerly Erica Sanders) is now Evans, MD, starting a residency in pediatrics at the University of California-San Francisco. Fairbairn just started her fourth year at the University of Minnesota Medical School. Although she remains involved with Hands On Advocacy, she's turned over leadership to others. Schmidt is just starting his third year at University of Minnesota Medical School, so he'll be around for another couple of years.

Marko, who just finished at the University of Minnesota Medical School (she's now Marko, MD), is starting a residency in emergency medicine at Regions Hospital in St. Paul. "I'll be close to home—and the Capitol," she says. "My efforts as an advocate are just beginning." **MM**

If you want to become involved

Hands On Advocacy (http://handsonadvocacy.wixsite.com/home) is a student-led, experiential program for medical students across the state that helps them learn more about a public health issue, become involved in advocacy with legislators and get engaged with students, physicians and the community. MMA's Student Section supports Hands On Advocacy with a small amount of funding and, more important, mentors and guidance.

The program has three components:

- Advocacy. Planning, strategizing and conducting a campaign on a chosen public health issue.
- Education. Monthly lectures on topics ranging from more information about a public health issue to how to talk to a target audience.
- Mentorship. Leaders in advocacy from the MMA and the University of Minnesota School of Public Health work with the students.

For more information, go to the website or contact minnesotahoa@gmail.com.

EDITOR'S NOTE

Life in Medicine is a new regular feature in *Minnesota Medicine*, focusing on what it's like to be a physician in Minnesota today. If you know a physician who is particularly interesting, or if you have something to say about your life as a physician, or if there's a lifestyle issue you and others face that's complicated because you're a physician (what do two-physician households do for childcare when both are on call? for example), contact Linda Picone, editor of *Minnesota Medicine*, at 612-362-3758 or lpicone@mnmed.org with your ideas or your personal essays.

BACKBONE OF THE ARTS

Physicians and health care institutions play a critical role in supporting Minnesota's rich arts culture

BY SUZY FRISCH

CIRCUS JUVENTAS TEACHES CIRCUS ARTS TO MORE THAN 2,500 YOUTH A YEAR, MANY OF THEM ADVANCED STUDENTS WHO PRACTICE AT ITS SAINT PAUL BIG TOP ABOUT FOUR TIMES A WEEK.

Though Circus Juventas is the largest youth circus in the world, it's still a relatively small nonprofit compared to other Twin Cities institutions.

When staff from Tria Orthopaedic Center approached Circus Juventas in 2014 about providing medical care to its students, co-founders Dan and Betty Butler thought it would be too costly. But Tria wasn't expecting payment. Instead, it wanted to team with HealthPartners in sponsoring the circus with in-kind sports medicine services.

At first, that support included having Tria or HealthPartners staff available during practices or rehearsals two to three times a week. Now physicians, athletic trainers or physical therapists are on hand almost daily to prevent, assess, manage and heal injuries. They also put on quarterly injury-prevention and nutrition workshops.

Combined, it makes a huge difference for participants and their families, says Dan Butler, executive director. Such care keeps everyone healthy as Circus Juventas expands its reach and prominence, performing at the Smithsonian Folklife Festival in Washington, D.C. in 2017 and Super Bowl's Taste of the NFL in St. Paul earlier this year.

There are other benefits for Circus Juventas. "It put us in a different category once a respected medical institution was our partner in health and wellness," Butler says. "We've had an incredible experience with them."

Across the state, physicians, health organizations and other medical providers support the arts community in Minnesota. They give foundational backing to arts entities big and small by serving on boards, sponsoring organizations, donating, volunteering and attending events.

Many physicians feel connected to the arts and want to give back because of their own arts backgrounds, says Gary Christenson, MD, chief medical officer of Boynton Health, the student health service at University of Minnesota, and an arts-in-medicine advocate.

"Medical school and early career are time-intensive periods where you often give up a lot of things you used to do," Christenson says. "Once people have the opportunity, they reconnect with interests they had before. They might not have time to *do* theater, but they can *support* local theater."

Getting engaged with the arts also can prevent or alleviate burnout. "It gets doctors out of the medical mindset and involved with making different decisions," says Christenson, a psychiatrist. "By supporting the arts, you are expanding your own knowledge base and appreciation for it."

Music organizations like the Minnesota Orchestra and Saint Paul Chamber Orchestra (SPCO) attract a number of physician board members. Many are musicians who bring the same dedication and intensity to mastering their medical specialty that they once devoted to music. They may start as patrons and then get more involved over time.

Arts organizations seek a wide variety of backgrounds and viewpoints, including physicians, to guide their decision-making. Physicians happen to make excellent board members, says Kevin Smith, president and CEO of the Minnesota Orchestra, which has four physicians on its board.

"They are hugely intellectual and hugely inquisitive, and they are extremely accomplished, thoughtful people," Smith says. "Attorneys are great, but physicians are just a lot more fun. They are looking for possibilities and attorneys are looking for risks."

SPCO draws support from a wide swath of the health care industry, including physicians, nurses, medical researchers, medical device engineers and executives. Many of its investors are big players in health care, including Mayo Clinic, Medtronic and UnitedHealth.

This kind of support stems from health professionals' overall focus on the well-being of individuals and the community. "This encompasses a belief in all aspects of a healthy community, including arts access for all," says Katelin Richter Davis, SPCO assistant director of development for individual giving.

SPCO has long benefited from the support and advice of health care providers. They champion its objective to reach out to all members of the community, regardless of age, geography, physical ability or financial status. To that end, SPCO created its Concert Library, which offers free live streaming and on-demand videos to all.

"Medical professionals on our board and our governing members have been key in identifying community settings where this new platform can provide value for individuals who may be interested, but not physically able to attend a concert," Davis says. That may include nursing homes, prisons or hospitals.

The Museum of Russian Art in Minneapolis finds that its community of leaders, patrons and supporters draws generously from

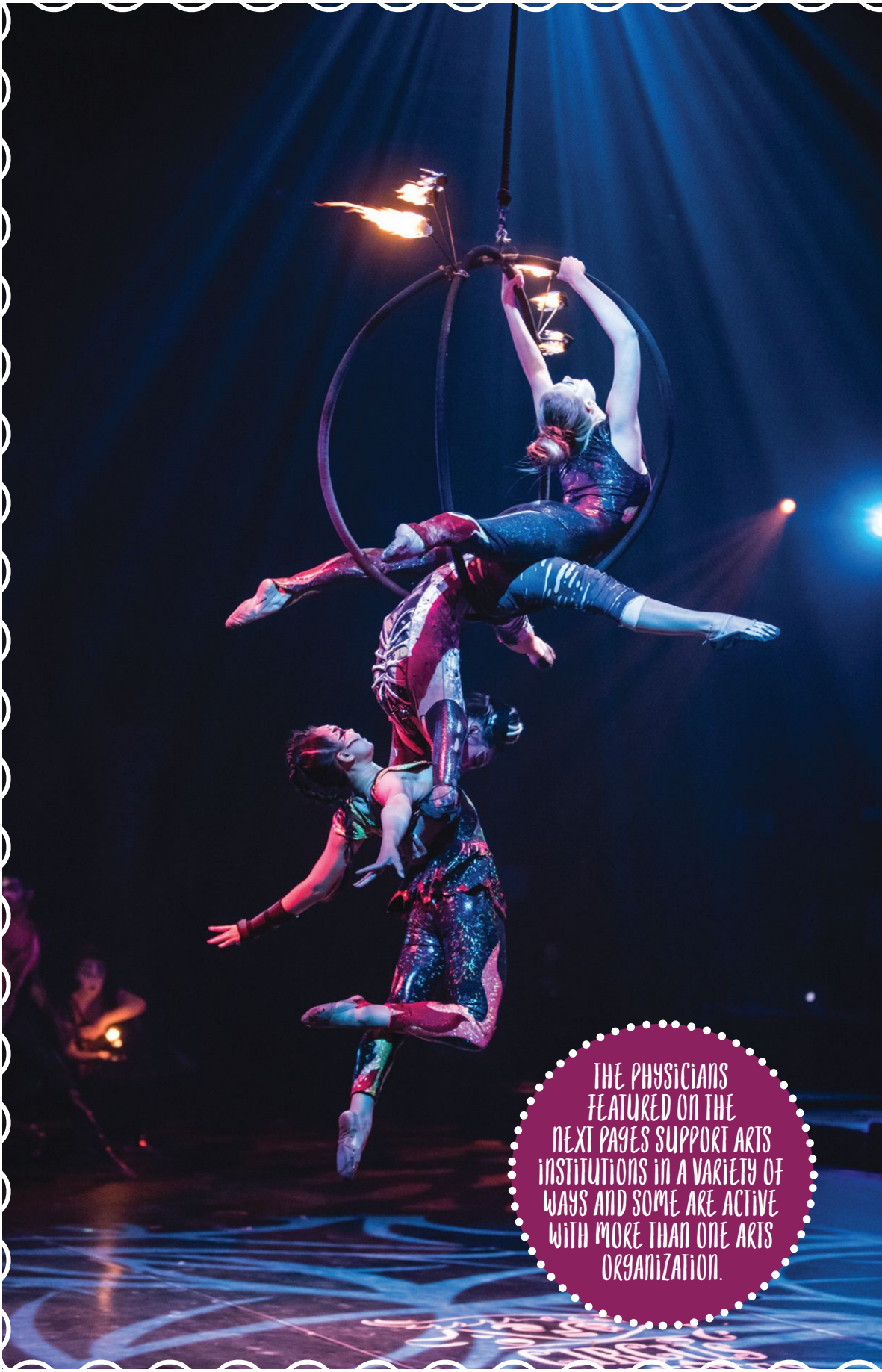
the medical community. too. Vladimir von Tsurikov, PhD, president and director, says many health care professionals are attracted to its exhibits and varied programming, including plays, concerts and speakers.

"Art has an important role to play in any healing process," says von Tsurikov. "There is an alignment of some of our activities when it comes to that mission. I often think of the famous Russian writer Dostoevsky who said, 'Beauty will save the world.' Arts and cultural institutions contribute that beauty and a more holistic approach to healing."

Whether involvement in the arts helps physicians find balance, heal patients or contribute to a vibrant community, physicians make their presence known among the state's many cultural institutions. **MM**

Suzy Frisch is a Twin Cities freelance writer

PHOTO BY DAN NORMAN FOR CIRCUS JUVENTAS



THE PHYSICIANS FEATURED ON THE NEXT PAGES SUPPORT ARTS INSTITUTIONS IN A VARIETY OF WAYS AND SOME ARE ACTIVE WITH MORE THAN ONE ARTS ORGANIZATION.

Tria Orthopaedic Center and HealthPartners provide in-kind sports medicine services to Circus Juventas, which makes an important difference for participants and their families. Physicians from Tria Orthopaedic Center and HealthPartners will be on hand for the Circus Juventas (http://circusjuventas.org) summer show, STEAM, July 27–August 12.

PHOTO BY RICH RYAN PHOTOGRAPHY

Afshan Anjum, MD, child psychiatrist
program director of the child and adolescent psychiatry fellowship, University of Minnesota

BOARD MEMBER OF PANGEA WORLD THEATER IN MINNEAPOLIS

At first, productions and events at Pangea World Theater spoke to Afshan Anjum, MD. She connected with its thought-provoking takes on issues central to her life and work as a child psychiatrist: barriers to health care, domestic violence and immigration.

The more time Anjum and her family spent at Pangea, the more she wanted to get involved. When the theater's leaders asked her to join the board in 2014, it seemed a natural extension of her decade-long relationship with Pangea. Anjum believes firmly in its mission to celebrate cultural differences and promote human rights and she wanted to help achieve those goals.

"Their work became very relevant to me," says Anjum, whose four children also volunteered at the theater. "As a family, we are involved as advocates for human rights, and Pangea was showcasing these issues. It seemed like a safe place to have difficult conversations about issues that were of concern to me as a child psychiatrist."

As a board member, Anjum shares her experiences in caring for children and adolescents contending with depression, anxiety or trauma. Ultimately, this informs some of Pangea's productions. Being on a board made up of 60 percent women and people of color also offers Anjum a cathartic forum for releasing tension from her job.

"We have built a community where I can reach out to people, where I know people will understand the stress," Anjum says. "This is a place where we can regroup and focus on the goals of equity and fairness and understand how they relate to our common humanity. That is fulfilling and enriching for me."

It's also a place where Anjum takes her mind off any stress, thanks to Pangea's lighthearted or inspiring productions, such as a recent celebration of Bollywood. Anjum may encourage patients and their families to attend a Pangea performance as a kind of therapy. This often opens doors to conversations about topics such as sexual violence or cultural issues that she might not have broached otherwise.

She also is pleased that through her expertise, accurate portrayals of mental health matters find their way into Pangea's work, aiming to raise awareness or weigh solutions. "Being on the board nicely fits and supports the work I do," Anjum says. "It has been mutually helpful being here."

Oleg Froymovich, MD

otolaryngologist and sleep medicine physician at Fairview Clinics and Minneapolis VA Medical Center

THE ARTISTS' PHYSICIAN

When the show must go on but one of the performers is ailing, many arts venues know to call Oleg Froymovich, MD. Talent managers and others have Froymovich on speed dial because he's willing to treat artists with voice troubles at any hour of the day—wherever they might be.

"Your hours aren't 8 to 5 when you're a performer; they need some flexibility," he says. "I'm able and willing to do that; that's why I got into medicine." He treats performers 12-14 times a year at different venues, including the Guthrie Theater, Ordway Center and Target Center.

In some situations, Froymovich prescribes steroids or antibiotics. At other times, he refers patients to an otolaryngologist closer to their home. He's not shy about delivering bad news when an artist needs to take time off. Knowing he helps performers continue doing what they love at a high level is extremely gratifying, Froymovich says.

Once, the lead singer for a famous British group invited Froymovich to the concert and then thanked him from the stage. "That meant more than any money in the world," he says. "It was a great experience and a great feeling." Even better, he says, was seeing the singer at his clinic later and giving him advice about how to take good care of his voice.

PHOTO BY RICH RYAN PHOTOGRAPHY

Froymovich also volunteers with Voice Care Network at St. John's University in Collegeville, which brings together voice educators, voice scientists and physicians and musicians who want to learn and teach healthy voice practices.

"I want to give back to the community. When you give back, you give back to the areas that appeal the most to you," he says. "The arts are one that I feel is part of being involved in the fabric of human society. I love my work, but the arts relax your mind and soul."

PHOTO BY RICH RYAN PHOTOGRAPHY

Ellen Bendel-Stenzel, MD, neonatologist

Minnesota Neonatal Physicians, practicing at Children's Minnesota in Minneapolis

BOARD MEMBER OF CHILDREN'S THEATRE COMPANY IN MINNEAPOLIS

Ellen Bendel-Stenzel, MD, regularly sees the power of the arts to heal and change lives. She knows that the arts make a daily difference, whether it's bringing relief to a stressed family at Children's Minnesota hospital or helping low-income children learn by giving them a voice.

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Ellen Bendel-Stenzel

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That's what her work as a neonatologist is all about and Bendel-Stenzel extends that effort by serving on the Children's Theatre Company (CTC) board. "I would argue that in pediatrics, anything that promotes imaginative exploration and positive development is medicine," she says. "As a board member, I come with the perspective of promoting children and their well-being. I tell them about the positive impact I see from exposure to art activities every day at the hospital."

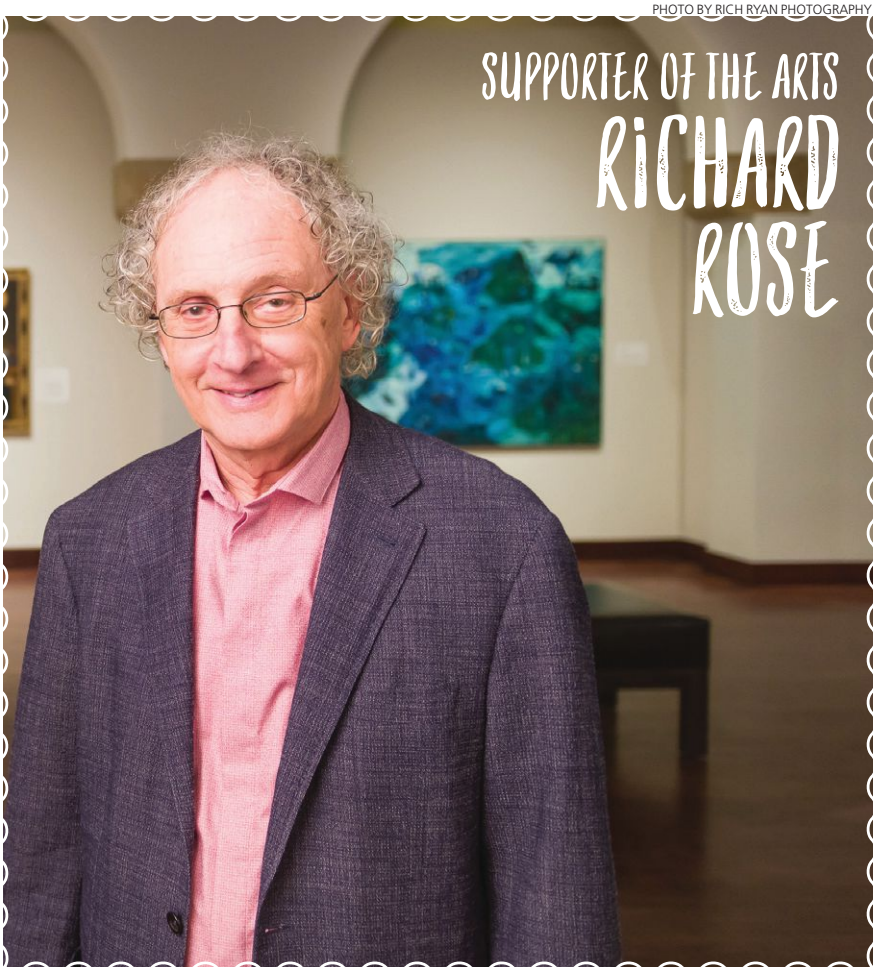
She grew up with parents who were fully invested in their passions—her dad as a perinatologist and her mom as a Children's Theatre board member and arts volunteer. Eventually, Bendel-Stenzel followed in both their footsteps. She's in her second CTC board term.

Bendel-Stenzel says she is proud to be involved with a theater that reaches out to people like her patient families, and she does what she can to forge ties between Children's Minnesota and the theater. She points to the hospital's Healing Arts program, which brings CTC cast members and other performers to visit patients and put on shows in the hospital's in-house studio.

There's also the theater's Neighborhood Bridges program, which teaches storytelling and drama to 600 Twin Cities elementary students at schools with limited arts funding. "These programs make me so proud to be on the board," she says. "It's easy to donate your time and money to something you feel so passionately about."

Bendel-Stenzel and her family enjoy local arts activities together, as a respite from her always-on life as a neonatologist. "When I'm not working, I need a personal escape, and the escape I find is in the arts community," she says. "That I'm able to bridge these two loves together is very healthy and, to be honest, it keeps me sane. Because I see the benefit of the arts in my life, it's so easy to support it so that others can enjoy it as well."

PHOTO BY RICH RYAN PHOTOGRAPHY



Richard Rose, MD, internal medicine
HealthPartners Como Clinic in St. Paul

SUPPORTER OF THE MUSEUM OF RUSSIAN ART, PENUMBRA THEATRE AND GRAYWOLF PRESS, AND FACILITATOR OF LIFELINE POETRY NIGHTS AT THE COMO HEALTH CLUB

Whether he's supporting his favorite Twin Cities arts institutions or facilitating poetry discussions at his clinic, Richard Rose, MD, uses the arts to change his perspective, think deeply about human suffering and explore the world.

Rose backs smaller gems in the Minnesota art scene: Penumbra Theatre in Saint Paul and The Museum of Russian Art and Graywolf Press in Minneapolis. Rose says he supports organizations when he feels a strong connection to their mission and events. "I'm of the feeling that the arts, music, painting, sculpture and especially literature and poetry, inform us the most about human existence," he says. Poetry, for example, gives insight into human suffering.

Rose cites recent events that influenced him, including a Chekhov reading at The Museum of Russian Art and the *My America* night at Penumbra. He

says the discussion between a teenager with disabilities, a Native American woman and an African-American mother educated him about different viewpoints.

Rose takes these experiences—and often poems by Graywolf Press writers—and brings them to the Como Health Club Lifeline poetry group. Since 2015, he has facilitated its discussions every other month. Rose says he loves digging into a complex poem and watching how it pulls people together; this also happens to him after seeing awe-inspiring paintings or challenging plays.

"We're all benefitting from it in that we inform each other," says Rose. From Shakespeare to Emily Dickinson and Elizabeth Bishop, "these poems touch on a life lived—all the registers of the human experience. I think it adds something to patients' lives."

PHOTO BY RICH RYAN PHOTOGRAPHY

Bonita Hill, MD, family medicine
recently retired from Lakeview Clinic in Chaska

BOARD MEMBER OF NORTHERN CLAY CENTER IN MINNEAPOLIS

While still in high school, as Bonita Hill, MD, was deciding her life's path, she debated between art and medicine. She adored both, but medicine won out. Still, she maintained a love of visual art and found a way to weave it into her life.

During medical school and residency and while establishing her career as a family medicine physician, Hill put art on hold. She slowly brought it back in 1997, when she reduced her work hours by a quarter to balance work and family life. First, Hill started painting again. Then she selected art for Lakeview Clinic's locations in Chaska and Waconia.

"Making art really nurtures your spirit," says Hill, who retired in late 2016. "I knew it was the best medicine for me and I wanted to bring it to other people, too. It's an essential part of being a human being."

Hill joined the Society for Arts in Healthcare (now the National Organization for Arts in Health) and eventually created a program called Art Rounds at the Weisman Museum—a vehicle for training University of Minnesota medical students.

Hill gained more confidence in her leadership, advocacy and desire to bring art to patients and providers, which prompted her to secure grant funding that led to a daily arts program at Ridgeview Medical Center's geriatric mental health unit, as well as an ongoing art show in a main corridor of the Medical Center, featuring art created by Carver County artists.

Hearing that the Northern Clay Center in Minneapolis was seeking a board member, Hill raised her hand in 2011. She says she likes the "bold vision" of the organization that includes accessibility to a diverse community and "creation of experiences that are potentially joyful and even transformative to individuals and the community."

(continued on next page)

Bonita Hill *(continued from previous page)*

She has served on committees for strategic planning and the organization's 25th anniversary, and tackled projects like researching appliances for the Center's new breakroom. "It's been a great experience," Hill says. "Little by little, I realized how I can contribute. I like project work and getting things done—that's true of most physicians."

PHOTO BY RICH RYAN PHOTOGRAPHY

Ralph Chu, MD, ophthalmologist and eye surgeon
Chu Vision Institute in Bloomington

BOARD MEMBER OF THE MINNESOTA ORCHESTRA AND WALKER ART CENTER IN MINNEAPOLIS

Ralph Chu, MD, serves on the Minnesota Orchestra and Walker Art Center boards in order to stay connected to his passion for the arts and to maintain a balance between the art and science of medicine.

An accomplished violinist, Chu adores playing and listening to classical music. He says he believes that being a musician taught him sensitivity, empathy and understanding, as well as the power of silence, all traits he taps into when treating patients.

"Music helps me understand and cope with a lot of the uncertainty that we face in medicine," says Chu, who focuses on cataract, refractive and corneal surgery. "Being able to feel and be sensitive to the nuances of another human being—music has brought that to my life. I use that every day as a doctor."

Chu started getting engaged with arts leadership as a Children's Theatre Company board member. Impressed by its entertaining and eye-opening shows for all ages, Chu wanted to contribute to supporting the theater. In 2015, after completing his time on the Children's Theatre Company board, Chu joined the Minnesota Orchestra board, where he was increasingly involved as a subscriber and supporter.

Overall, Chu strives to help keep key Twin Cities' assets vital. "The arts make us a world-class city and help attract business talent and artistic talent, they change the dynamic in the community and they change the conversation about diversity and conflicts happening around the world," he says. "If you believe in these broader principles and their missions, becoming involved with them becomes very easy."

A solo practitioner, Chu enjoys sharing his experiences in management, marketing, medicine— and music—with organizations while gaining the opportunity to learn from other Minnesota business and civic leaders. He's driven by a lifelong commitment to music, starting as a 5-year-old who eventually toured worldwide with his orchestra and once performed for the Pope.

"It's refreshing to remember that a lot of what we do as physicians is an art, like connecting and communicating with patients," he adds. "It helps me remember the joy of practicing medicine."

ARTFUL WORDS

Winners of the 2018 Writing Contest

Physicians who take the time to put into words their thoughts, feelings and observations about the practice of medicine are more common than one might expect, given the demands on their time and emotions every day. We're impressed by their efforts to capture the essence of their work and interactions with patients in writing.

The first-place winners of this year's Minnesota Medicine Writing Contest wrote poetry and an essay about some of the most important moments in a patient's—and their own—lives, and their words stick with the reader for a long time.

Out of 28 entries by 24 physicians and physicians-in-training, the judges selected a winner in each category—student, resident and active or retired physician. They also noted several other entries of particular quality. One of those, the essay "Air Hungers" by medical student Colleen Bell, is on page 48 in this issue.

Thanks to the judges: Charles R. Meyer, MD; Dan Hauser, MMA director of communications; and James Silas Rogers, director of the Center for Irish Studies at the University of St. Thomas and editor of *New Hibernia Review*.

2018 WRITING CONTEST SELECTIONS

Physician category

WINNER "Birth" by Radhika Thompson, MD, Park Nicollet

OF NOTE "The Whistling Gene" by Charles Branford, MD, Stillwater Medical Group, and "Descendants of Medicine Men" by Marilyn Aschoff Mellor, MD, retired

Resident category

WINNER "Here, We Take All Souls" by Lisa Friedman, MD, University of Minnesota

Student category

WINNER "One Last Lullaby" by Rachel Busko, University of Minnesota

OF NOTE "Time to Be Me" by Robert Mills III, University of Minnesota, and "Air Hungers" by Colleen Bell, University of Minnesota

RADHIKA THOMPSON

PHYSICIAN WINNER

BIRTH

By Radhika Thompson, MD

A birth delivers

One button nose, two almond eyes, three rebellious chromosomes at twenty-one.

Unwrapped, joy sees disappointment, fear, regret.

Underneath, there is blood, heartbeats, a soul.

There is no return address, love nonrefundable.

The afterbirth accepts the gift.

For nine months, she felt the baby growing and stretching her abdomen. When the baby moved, it felt like an underwater creature playing kickball in her womb. She rubbed cocoa butter on the taut skin on her stomach to prevent stretch marks and to soothe the baby's hiccups. She walked two blocks to the 9 a.m. prenatal yoga class, then four blocks to the 11 a.m. Lamaze class, twice a week, to keep herself healthy and prepared. She ate low-mercury-content fish like Tilapia once a month but took her fish oil supplements and prenatal vitamins daily.

"To prevent iron deficiency and neural tube defects," the midwife had told her.

She complied with all the routine recommendations of the midwife dutifully—the quad screen, the glucose challenge—but declined the early

chromosome testing because it would make no difference to her. At the 20-week ultrasound, she saw tiny white grainy arms and legs waving like a squished spider and heard muffled heartbeats galloping like a race horse. The ultrasound technician and the radiologist who followed both gave her a thumbs up, which was confirmed by an official letter with the detailed results in the mail a week later. She decided to save the letter, along with the grainy ultrasound photos, the first mementos of the baby.

By the time she felt the first contractions, which felt like she was about to have her period, four weeks early, she was ready to see her hiccupping, kickball-playing, galloping, spidery underwater creature. After laboring for 10 hours, she bore down, pushing out the slimy, slit-eyed head. She felt relief when the rest of the creature slithered out of her. The nurses cooed, it's a girl! There was a flurry of cutting the umbilical cord, feeling the feathery light weight of the bluish baby on her stomach for a second, hearing a gurgling cry, and the blue creature being whisked away to be placed under the red glow of the warmer.

"She needs just a bit of oxygen," the nurse told her. That sounded like needing a bit of life to her.

She waited for her placenta to be delivered. She heard murmurs from the warmers.

"How's my baby?" she asked.

No answer at first. The midwife sutured her torn vagina in silence. She heard the clock ticking.

"Congratulations, mama. You did great!" one of the nurses finally responded.

In that moment she exhaled. Her bones relaxed into her triumph. Her head swam. Her fingers tingled. Her womb contracted and again she felt pain.

The nurses quietly cleared away the bloodied aftermath: the midwife's gown, the pile of gauze, the instruments, and the sheets. When the creature was placed on the skin of her chest, she was somewhat surprised that it was a human baby, now pink with one head, two eyes, two ears, a mouth, two arms, one torso and two legs. She smiled at her work, a painter after finishing her masterpiece. She felt the solid heavy weight of the baby, almost crushing her, leaving her slightly breathless.

When her husband rushed into the delivery room, after weaving through 45 minutes of rush-hour traffic, he saw his smiling, satisfied wife breastfeeding his satisfied newborn baby and he was satisfied. He kissed his wife with tears of relief.

"Is it a boy or girl?" he asked.

"A girl," she said

"Wow. She's beautiful!" he said touching her head, a thick thatch of black hair patched with vernix and dried blood.

Then the baby unlatched and he saw her face. A face he thought he had seen before but how could he have? He looked at his wife; it was not his wife's face. He saw his own face reflected in the window pane. It wasn't his face. But he had seen the face before. Still, he saw a face that was incontrovertibly his daughter's face and in that knowledge she looked beautiful.

"Is she done?" he asked

"No, she's not able to get a good latch," the wife said

His daughter thrust her tongue out at him and he laughed. The nurse came in to check on how the nursing was progressing and suggested a lactation consult in the morning. She informed them that the pediatric hospitalist would be coming by to examine the baby shortly.

The nurse noted the baby's Apgar scores, weighed the baby, and measured her length and head circumference, all the while announcing the numbers to the parents. All healthy robust numbers. The wife and husband felt like Olympic athletes waiting for the judges' scores after their turn, their elation growing as each of the numbers pops up on the screen. Almost perfect scores.

The pediatrician made her rounds about an hour after the birth. When the pediatrician walked in the door, the parents smiled their widest smiles, basking in the expectation of more perfect announcements. The pediatrician introduced herself with a purse-lipped half smile, a lukewarm "congratulations" and a less-than-perfect reception of their elation, or so they thought. The expression on her face told them either that this was her personality or that there might have been an error in the computations, a miscalculation of the scores. They were unclear if the mistake was in the judge's scoring or their own interpretation. They did not see the veiled pain in the pediatrician's face of the news she had come to bear.

The doctor took the baby from the wife, placed her under the warmer, unwrapped and undressed her and examined the baby carefully, in silence. Their smiles slowly dissipated as they waited. They had an uneasy feeling she had information they were not privy to but knew they would be privy to soon and so they did not ask any questions, delaying the inevitable just a few minutes longer, their fading expectations lingering around the room as distant hope. She finished her exam, wrapped the baby back in the sleep sack, handed her to the wife and sat down on a swivel stool next to the bed. The wife and husband looked only at the pediatrician, waiting for her words to appear in the air and, when they finally appeared, they pricked the last bubble of hope.

"Your baby is doing well but I'm concerned about a few features I noted on exam." The pediatrician paused. "I noticed single creases going across on both the palms." Both the husband and wife looked at their own palms, noticing they had double creases going across. "I also noticed her eyes are slanted and she thrusts her tongue."

"Oh no …" the wife said.

"What are you thinking?" the pediatrician asked.

"Something like Down's?" the wife said.

"I am concerned about Down's. You know about Down syndrome then?" the pediatrician said. A bell rang, or more like a horn blared, in the husband's head. That's where he had seen that face before. On his cousin twice removed. He held his head in his hands.

"Yes …," the husband said, the freight train now approaching fast in his head. Soon it would pull into the station.

The wife dropped her jaw. She shook her head. She had only heard of Down's before and not in such close proximity to herself.

"Ok. I do think your daughter has the features consistent with Down syndrome, but we will need to confirm with chromosomal analysis," the pediatrician announced.

Just like that. Like she was announcing today's date. It is Wednesday, May 23rd. To her, it was just a date. To them, it was every date after today, every month after this month, and every year after this year for a lifetime. The burden of those years suddenly fell upon them on this day in May and they had no container for the words the pediatrician had unleashed into their consciousness. So they wept. Tears of fear tumbling down their cheeks, desperately trying to wash away those words, onto their baby's face and only then did their attention shift down to their calm baby's face, her eyes roving, her tongue thrusting, her body lying lax in her mother's arms.

The husband asked many questions and the wife listened, stroking her baby's head. Sometimes the wife asked questions and the husband was relieved to listen, but there was no getting around the fact that their life would not be the fantasy they had built, there would be no scaling the heights of possibility, no Olympic gold medals or Nobel prizes, no playing in a symphony orchestra or competing in a spelling bee, maybe not having a boyfriend or girlfriend or falling in love, maybe not even being loved at all.

After about an hour, the pediatrician left the room. An hour after that, the nurse paged the pediatrician. The husband had some more questions. The pediatrician returned to their room but the husband wanted to speak in private.

"I'm worried about my wife," he said when they sat down on a couch in an empty delivery room, which would at some point in the night fill with another couple's deep expectations.

"I don't think she can handle this. It's just so shocking for her."

"I can understand that. It is a shock. We can have the hospital chaplain talk to her and both of you if that would be helpful," she said.

"Yes, yes. That would be helpful. Yes," he said. "Thank you."

"We will also have the social worker talk to you about preparing for discharge with connections to support groups," she said.

"Is there any way to tell what level of disability we are talking about here?" he asked.

"Unfortunately, no. There can be some variability in disability which can be affected by the level of therapy they receive but there is always some level of cognitive disability …"

"Okay. But can you tell me what that level of brain disability will be for my daughter?"

"Unfortunately …"

"Of course not, how can you tell me that? You are not God. Oh God. Only God can help us now."

He got up to leave and then hesitated at the door.

"Could we have prevented this? I mean did we do something wrong?" he asked.

"No, sir. You did not do anything wrong and no one could have prevented this birth," she said with conviction.

"When will the chromosome test come back?"

"Well, the FISH test takes about two to three days. The chromosomes about a week or so."

"Oh God. Can you come talk to my wife again please?" he asked.

"Sure," said the pediatrician as she followed the husband into the room.

The mother was smiling, cradling her baby, the baby suckling at her breast. This time, when the husband walked into the room and saw his wife breastfeeding his baby, it wasn't satisfying or relieving but strangely incongruous. The wife looked up, saw her husband's quizzical look, and said,

"Look honey, she figured out how to breastfeed. Isn't she just beautiful?"

The father slowly walked over, touched his daughter's head, and wept.

"Yes, she is beautiful," he said.

The pediatrician left the room without another word. She went into the call room and cried with relief and gratitude for her own 10-year-old, healthy son. Before the end of her busy shift, which saw a 24-week newborn transferred to the local Children's Hospital NICU, a term baby born addicted to methadone, a healthy newborn with its paternity in question, a 32-week preemie and a term newborn with chorioamnionitis, the pediatrician stopped by the parents' room again. They were sleeping, all three of them, resting for the long journey ahead of them, a road they did not choose, a road she had set them on. She had been present for the most monumental moment in their lives but would likely never cross paths with them again. She stood in the room for a moment longer, then left and closed the door. **MM**

Radhika Thompson, MD, is a pediatric hospitalist with Park Nicollet in St. Louis Park.

ABOUT THIS ESSAY "I initially started to write this piece after hearing about a family friend who learned her newborn has Down syndrome. In the course of finalizing the piece, I had my own experience having to examine a newborn with previously unknown Trisomy 21 and having to tell the family the diagnosis for the first time. This experience had a profound impact on my understanding of empathy in medicine. I wanted to capture that aching disappointment and fear the family must have felt and how their feelings affected me, how in medicine, it is not just about exchanging information but also an exchange of connection."

JUDGES' COMMENT "This is an ambitious telling of what is admittedly a familiar story, the birth of a handicapped child. The author has a gift for writing plausible dialogue, and is skilled at recording the small details that give believability to the scene. The piece ends not with heavy-handed moralizing, but with a deft acknowledgment of how contingency and arbitrariness are always part of the medical milieu—and, by implication, always part of birth and life as well."

LISA FRIEDMAN

RESIDENT WINNER

HERE, WE TAKE ALL SOULS

By Lisa Friedman

Here, we take all souls.

The father who rode too fast,
Who hasn't seen his kids
In twenty years.
Now they won't take his calls
And so he rides faster and
Faster yet
To outpace his past
Until reality came crashing down
His eyes peering down at a foot
Heel up
Toes
Towards the floor
"Doc, Am I going to live?"
He sputters between screams.

Next door,
A child whimpers
Holds her wrist where it
bows
    awkwardly
away from the straight line
of anatomical dictation.
She cries as she is examined
She cannot be
cajoled
coaxed
consoled
into wiggling a finger
thumbs up
an ok sign
all would be lies.
When she missed the rung
on the monkey bars
Came tumbling to earth
All she felt was gravity.
She lost her magic cloak.
Never to be found again.

Across the hall lay
Mom
Grandma
Aunt
Sister
Wife—well, Widow now, she says
Six months
She says
"Healthiest eighty-nine-year-old you ever met!"
She says
Watering the garden she
fell
like timber to the earth.
Always lived alone
Wouldn't burden no one
Now she's fallen.
Aunt Dorothy had broken her hip
She says
Six months later she was dead
She says
"Is it bad, Doctor?"

Here, we take all souls.

The young and the old
the brave and the haunted
the bold and the unassuming
And render all
speechless
helpless
powerless.

Slowly, we begin the work
Of putting the pieces
Back together.

Lisa Friedman, MD, is a second-year orthopaedic resident at the University of Minnesota.

ABOUT THIS POEM "I wrote this poem because I was struck by the dichotomy in being a surgeon between the drive to respect the individual and the necessity to focus on the injured part. Too often, we refer to patients as their injury, such as 'that tibia fracture in the ED' or 'I'm doing three knees today.' Some of that dehumanizing is necessary. For example, we only drape out the injured extremity that we are working on in surgery. Our focus needs only to be on executing our surgical plan in those hours. I love working in a trauma hospital because I get to help people from a broad swatch of the population. Bad luck does not discriminate. A serious trauma can change a person's life, and as orthopaedic surgeons, it is our job, with plates and screws, to literally start the process of putting the pieces back together. Yet the time the patient is in surgery and rendered powerless is time he will not remember. At the completion of surgery, the healing process has just begun, and it is a process that involves more than just bony remodeling. It is important for us as surgeons to try to understand our patients and meet them without judgment. A bad trauma can be a blow to a patient's world and sense of self. As surgeons, we have an opportunity to serve our patients, not only as gifted technicians, but as humanistic physicians, willing to listen and to heal."

JUDGES' COMMENT "A nice collage of the action in the ER, where they really *do* take all souls."

RACHEL BUSKO

STUDENT WINNER

ONE LAST LULLABY

By Rachel Busko

When I first walked
Into your room,
You were still,
But I knew it wasn't the stillness of sleep
But that of pain and perhaps apprehension
Of what was to come.

We said nothing to one another,
I merely sat next to you
Nervous, uneasy,
Unsure what I could possibly do
To help you and ease your suffering.

You continued to struggle,
Each breath a fight to stay above the waters of
That last sleep.
My every human instinct
Crying out that this wasn't fair.

I watched you,
Wanting more than anything to help,
But could think of nothing
Except how eerily your skin glowed
And how very thin you were.

I searched my mind
For any form of comfort I could give
And nervously I started to hum
The first notes I could think of,
A lullaby from long ago.

You stilled,
Perhaps at first startled by the sound,
Then your hand crept out
From within the covers
And grasped my own.

I sang all the lullabies I knew,
Regardless of how well I remembered
All the words.
Then I hummed any bit of
Melody that came to mind.

For some time,
We sat there in the dark
Holding hands.
Two strangers, linked so intimately
For just a small moment.

Your body relaxed,
You let go of my hand
And you slipped into sleep.
I sang for a while
And then sat in silence.

I left the room
Without goodbye.
While you slept,
I hope you found peace
And respite from your pain.

You left the world
Not long after.
I pray my one last lullaby
Helped to make your journey
A touch less painful.

Death is not the end,
They say,
Whomever "they" are,
But it is a course
We must travel alone.

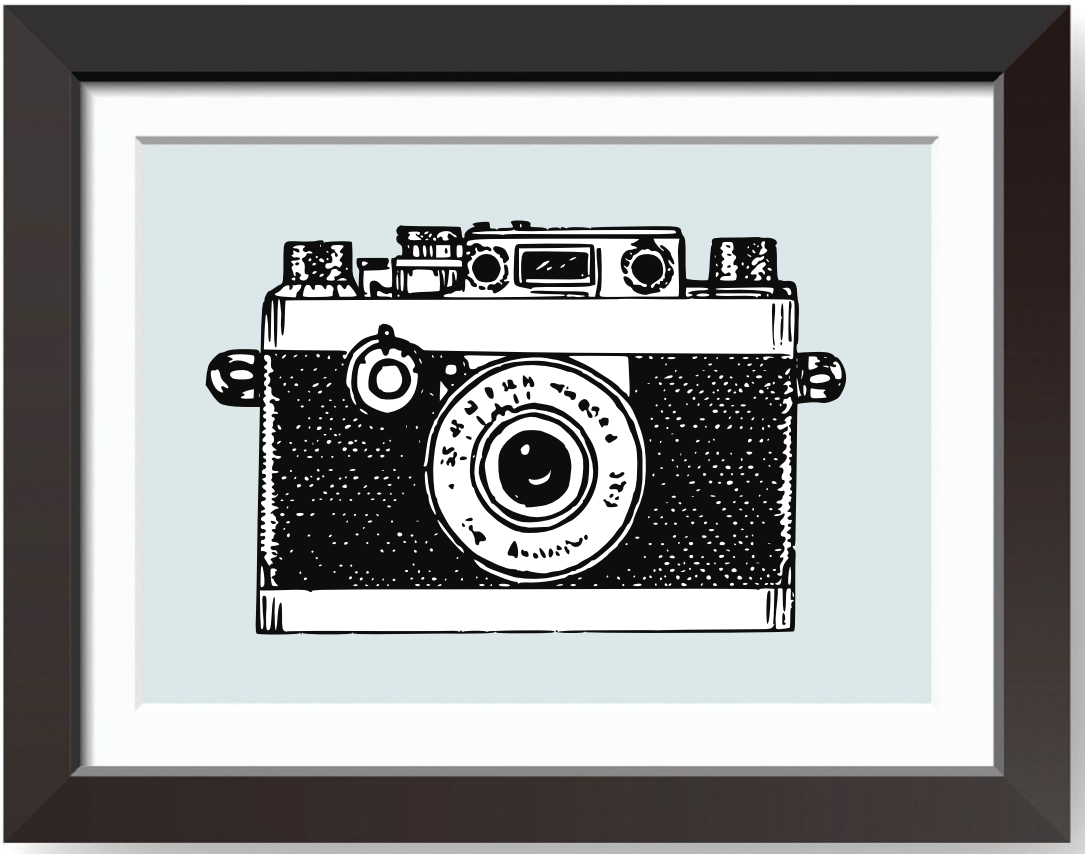
Yet every time
I hold the hand of someone
Moving to the next step of their progression,
I remember you
And what you taught me.

For without words or gestures,
Only with that small point of contact,
Our hands touching,
You showed me
Compassion goes both ways.

Rachel Busko is a fourth-year student at the University of Minnesota Medical School.

ABOUT THIS POEM: "Poetry is just one of my creative outlets. I have been writing poetry since I was quite small; the rhythmic structure feels quite familiar and comfortable to my musical mind. It is my way of delving into the human aspects of medicine that we so often overlook or put in the back of our mind 'to deal with later': the patients that stay with us, small acts of compassion, the little things that can mean so much. The patient for whom I wrote this poem daily reminds me that patients may not remember the soft words I say, the arcane things that we speak to convey our poor grasp of the unfathomable, but they will remember if I was kind, thoughtful and took the time to be present with them. Music is my most often utilized creative force: I am a singer, instrumentalist and composer. In fact, in a unique intersection of my creative forces, my most recent composition was a set of poems that I both wrote, set to music, and performed for a recital."

JUDGES' COMMENT "A touching encounter with a patient, artfully told through poetry."



WITH A PRACTICED EYE

Winners of the 2018 Photography Contest

Minnesota Medicine's annual photography contest is always both popular and competitive. Physicians and physicians-in-training must look and focus closely at what's before them every day, whether that's a patient with a complicated case or data from the research they're engaged in or a report on a new medical technique or protocol.

So perhaps it's no wonder that they enjoy turning their eyes to the camera lens, and so often do so successfully.

This year, 37 physicians, residents and students entered 64 photographs that showed everything from a close-up of a fly to gorgeous mountain views to familiar Twin Cities sights. The array of photographs shows that this year's entrants like to travel, they love the outdoors—and they like animals.

Our judges—Minnesota Medicine art director Kathryn Forss and professional photographer Mike Krivit—looked for technical skills, balance, subject matter and, above all, impact in the photographs entered.

Three winners from each group are published here, with an explanation from the top three in each group as to why and when they took the winning photograph and the judges' comments on the first-place winner.

PHYSICIAN WINNERS

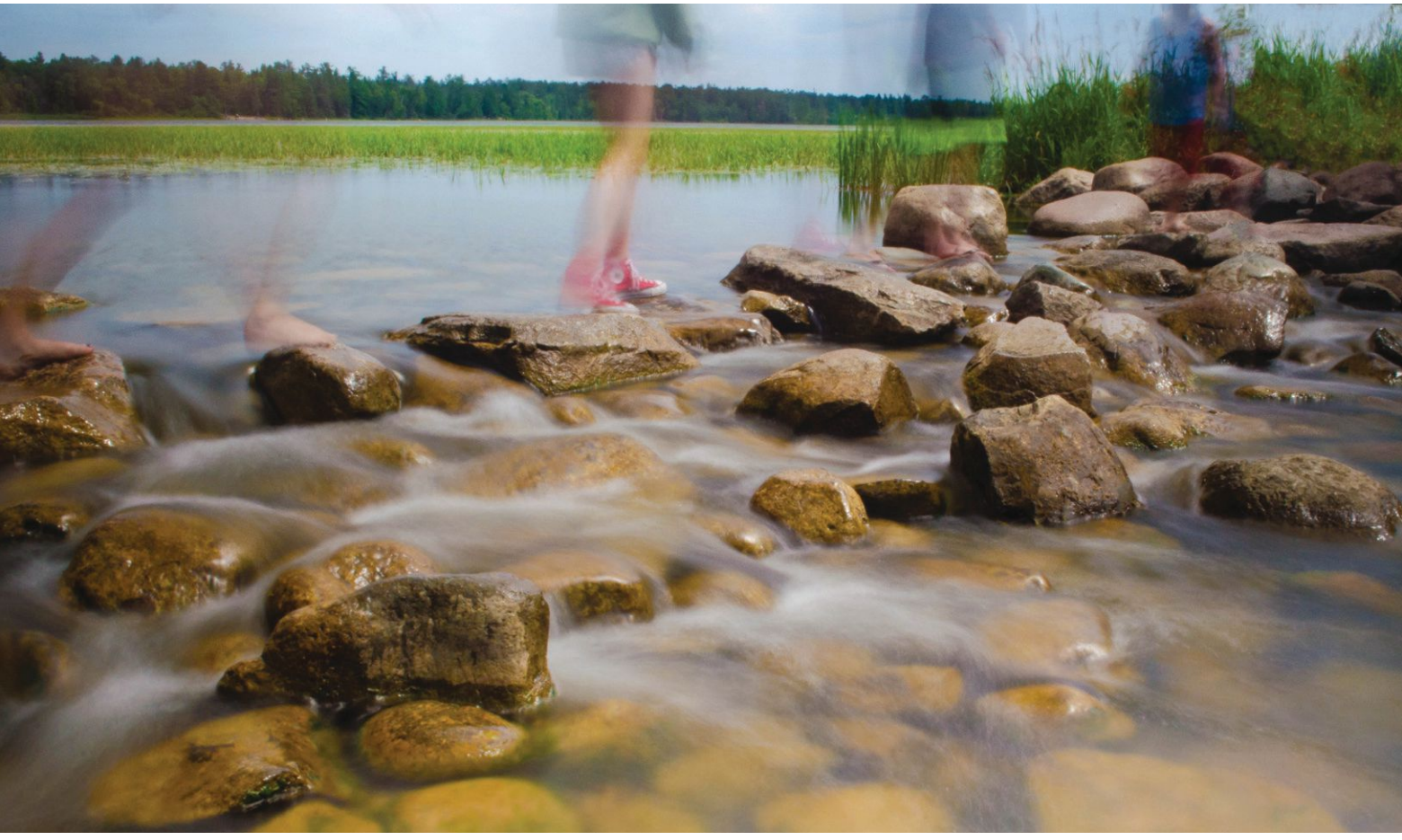
First place

TRAVERSING THE MIGHTY MISSISSIPPI

Ryan Kroschel, MD
family medicine physician
FirstLight Health Systems Clinic, Mora

"In taking photos, I'm a sucker for classic landmarks, but also for a beautiful nature scene. One special place in the heart of northern Minnesota is both of these things: the headwaters of the Mississippi River. In the middle of summer, this can hardly be a serene place, so I decided to embrace its popularity with this shot. Many of those walking across the source of the river this day felt as mighty as the river itself."

JUDGES' COMMENTS "This is an interesting image, and it's well and thoughtfully captured. Many photographers use a long exposure technique with moving water to achieve this soft effect, but the inclusion of just the legs of folks crossing the river added much more interest to the scene. This image is skillfully shot, and tells an interesting story."



PHYSICIAN WINNER

Second place

LILAC BREASTED ROLLER

Lynn Cornell, MD, renal pathologist

Mayo Clinic, Rochester

"The lilac breasted roller is the most beautiful bird in Africa! It reveals its stunning blue wings when flying. I was lucky to capture this bird while it was just taking off (photo taken from a moving vehicle!)."

PHYSICIAN WINNER

Third place

SHADOW BOXING

David Boran, MD, family medicine physician

Essentia Health, Crosslake

"The photo was from a trip to Cuba in 2013 with the Santa Fe Photographic Workshops. We were visiting an outdoor boxing gym, and the boxer in the photo was shadow and mirror boxing by himself. He nodded his consent for me to take several shots and just kept working out. His speed and intensity were amazing."

RESIDENT WINNER

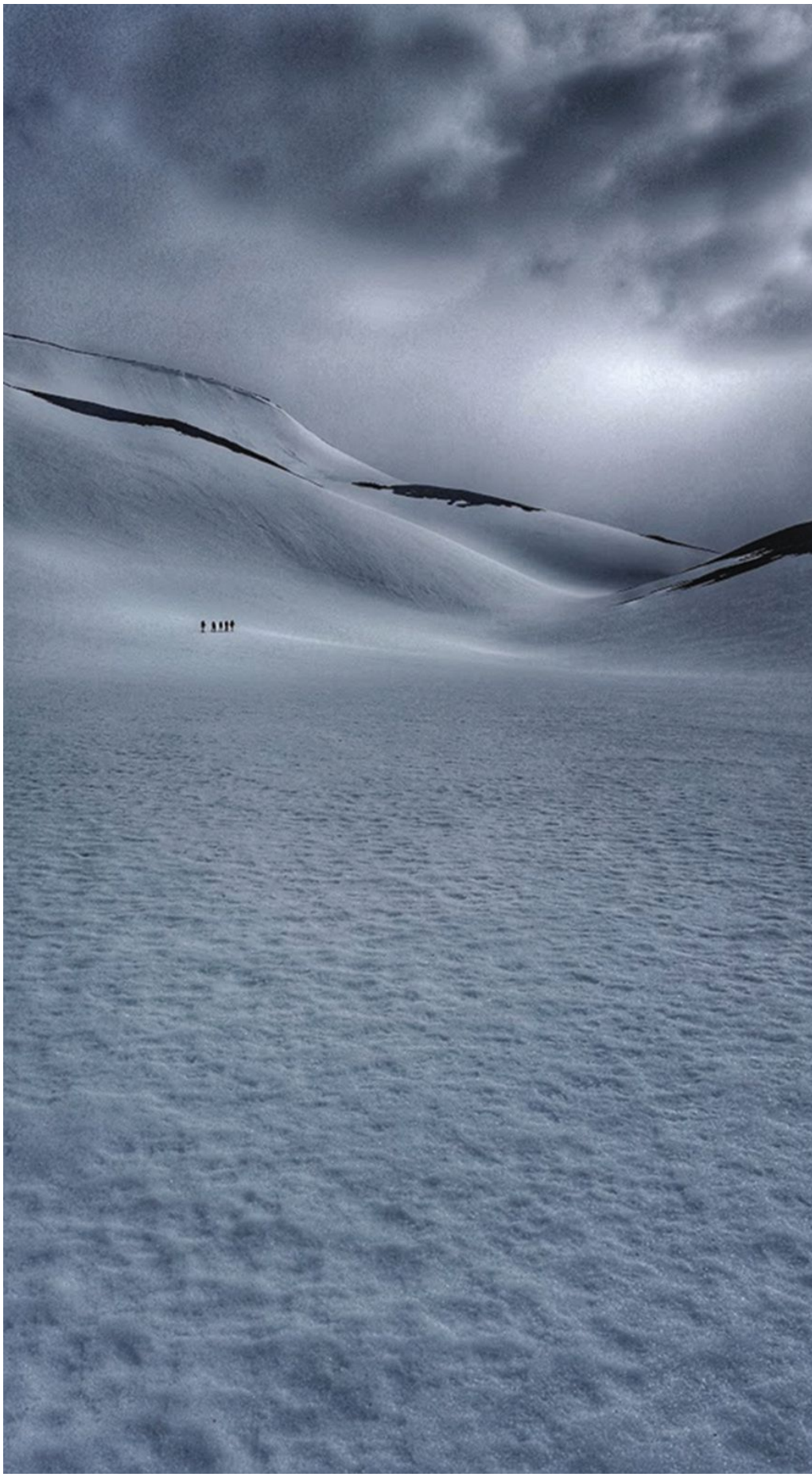
First place

FOLLOW THE LEADER

Molly Hubbard, MD, neurosurgery resident
University of Minnesota Medical School

"We were on a six-day backcountry ski trip through Iceland, and I had been thinking a lot about coming back from vacation and all the 'big important' things going on. When I looked up, I saw half of the group in the distance and was struck by the enormity of the landscape around us."

JUDGES' COMMENTS "This image was our favorite among all categories. Its quiet color scheme and perfect composition draw the eye, provoke emotion and generate interest. The inclusion of the hiking group was the final touch to make this image the clear winner."



The Art of Medicine

RESIDENT WINNER

Second place

SERENITY AND SUNRISE

Arun Mallapareddi, MD, MPH, family medicine resident
Hennepin Healthcare

"Taking a stroll watching the sunrise on a warm day feels like paradise. This was clicked on a morning walk in a park near our home that is usually bustling with a crowd, but was quiet and serene at this early hour. Listening to the melody of birds chirping and leaves rustling in the wind made this walk a memorable one. This picture brings back that warmth and serenity to my mind every time I look at it."

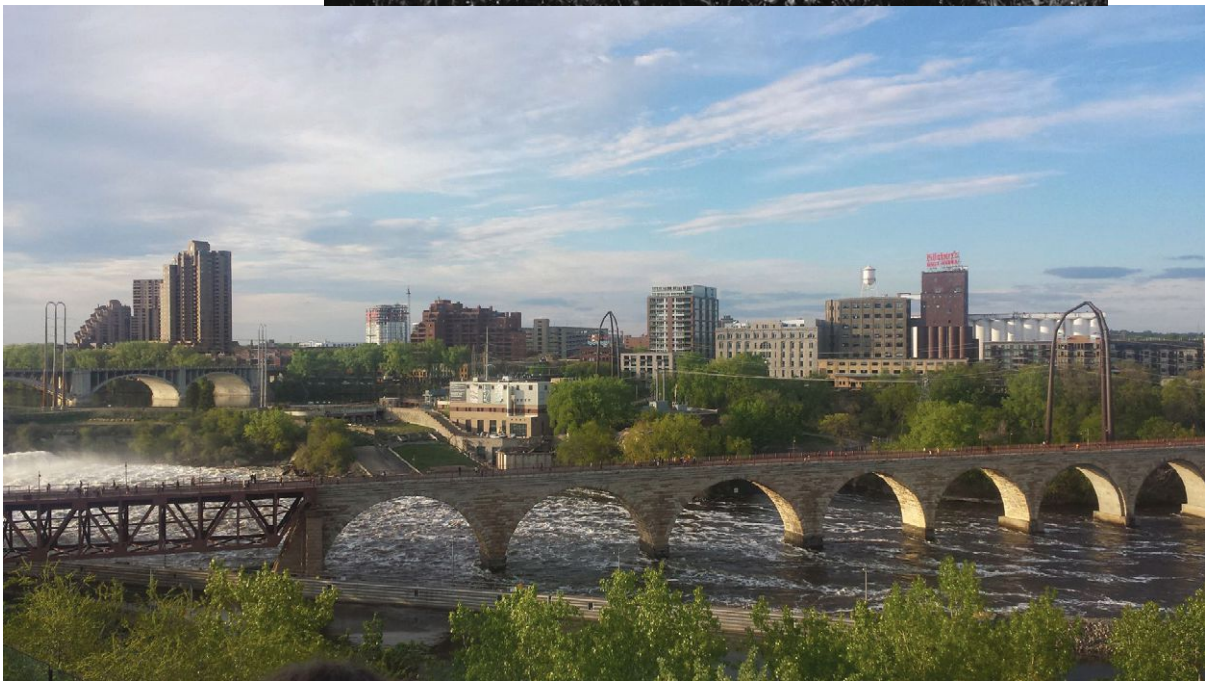
RESIDENT WINNER

Third place

MISSISSIPPI MIST

Tanisha Hutchinson, MD, otolaryngology resident
University of Minnesota Medical School

"Minnesota springs carry the excitement of the beautiful summer to come, and the relief of the snow that has melted away. 'Mississippi Mist' was taken on a walk over the Stone Arch Bridge during a warm day in May."



STUDENT WINNER

First place

JADE REUSS

Yvonne Bui
Mayo Clinic School of Medicine

"As my parents and I reached the top of the Musegg Wall in Lucerne, Switzerland, I was amazed at the sight of a grand river that pierced through the center of the town. Unlike the gray waters I was used to seeing back home, the waters before me gleamed with vibrant color. During my last trip before starting medical school, I wanted to show my parents beautiful sights and new experiences. This photograph captures how an everyday town and river for some can contain wonder and awe for others."

JUDGES' COMMENTS "This photograph has a strong composition and focal point (dominant area of visual interest), and the photographer chose her vantage point well. It is an interesting and engaging image, and we are delighted to award it our top prize."

STUDENT WINNER

Second place

PETRIFIED EMBERS

Arthur Nguyen

University of Minnesota Medical School

"Visiting America's national parks for the first time, I was captivated by their unique beauty caught in the golden hour. 'Petrified Embers' shows the untouched dreamscape where everything seems eternal."

STUDENT WINNER

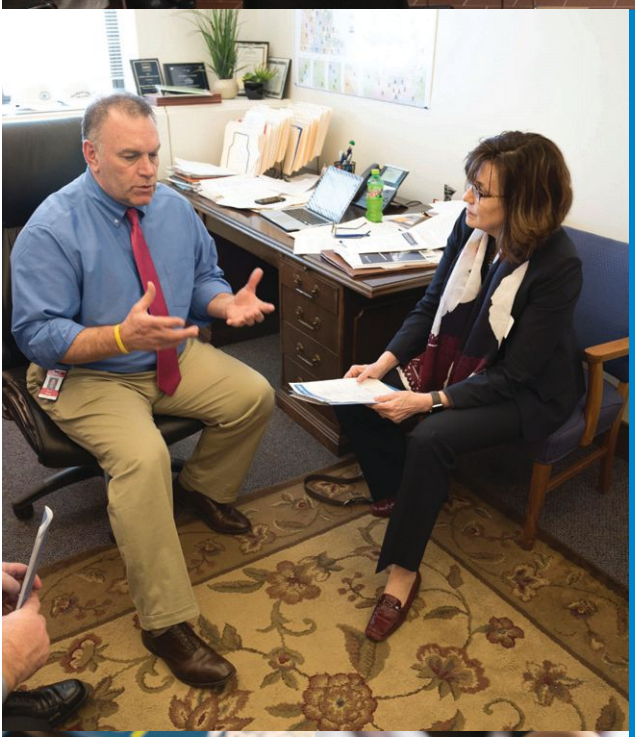
Third place

A MOMENT IN TIME

Mishy Roy

University of Minnesota Medical School

"What fascinated me is the man standing so close to the clock, as if attempting to hold on to the ticking hands and never let go. On closer look at his camera screen, I realized that he's not looking at the clock at all. He's simply capturing the beauty outside of it!"



2018 Legislative session in review

Some are describing the 2018 session as one of the least productive sessions in Minnesota history. It began with animosity between legislative leaders and Gov. Mark Dayton, and only got worse as the 13-week session progressed.

As the end of session approached, the Legislature rushed to combine several bills into a single omnibus package. Dayton had warned that he wanted to see single-item bills and that he'd veto any large proposals. And that's what he did two days after the session ended, thus nullifying much of the work that took place at the Capitol.

"This session turned out to be quite disappointing," says Dave Renner, MMA's director of state and federal legislation. "We had a chance to address the opioid epidemic, patient access to needed medication, and administrative burdens associated with the state's onerous medical records law, and it ended with none of that getting done."

Following is a review of the 2018 session, including reports on MMA priorities as well as other health care-related legislation.

The MMA's Priority issues at the Legislature

Step Therapy *PASSED*

The MMA supported legislation to ensure patients have access to needed medication in a timely manner. This included continuing efforts to pass medication prior authorization reforms, supporting legislation that limits the use of step therapy, limiting the number of formulary changes during a patient's contract year and opposing limits on practitioners' and pharmacists' ability to ensure patients get the most cost-effective therapies available.

RESULT: One bright spot from the session included the passage of step therapy reform. The new law limits pharmacy benefit managers' (PBMs) and health plans' use of step therapy or "fail first" requirements. When a patient is on a stable therapy, has tried the recommended drug once, or there are clinical reasons not to use the recommended drug, prescribers now have enhanced authority to override step requirements.

Opioid Crisis *STALLED*

The MMA worked to reduce the harm of opioid use by supporting investments in patient and prescriber education programs, expanded addiction treatment programs, and the embedding of the Prescription Monitoring Program (PMP) into EHRs.

RESULT: Despite bipartisan support to address the opioid epidemic, efforts to pass legislation failed. The opioid stewardship bill, which would have assessed a fee on opioid manufacturers, faced stiff opposition by House leaders, PhRMA, the Minnesota Chamber of Commerce and other stakeholders. The assessment would have funded the MMA-defined goals for addiction treatment programs, integration of the state's PMP into the medical record, increased education for prescribers and patients, and would have also placed limits on opioid prescribing.

Other Health care-related legislative issues

APCD Extension

The All-Payer Claims Database (APCD) is a collection of claims information from all payers used by the Minnesota Department of Health for health policy research. This law extends the use of the APCD for research until 2023.

LEGISLATIVE ACTION: Passed

MMA POSITION: Support

Distracted Driving

With growing concern about the number of accidents and deaths caused by distracted drivers using mobile devices, this bill would have prohibited the use of hand-held phones while driving. It would have allowed the use of hands-free devices.

LEGISLATIVE ACTION: Stalled

MMA POSITION: Support

Fetal Ultrasound

This bill would have stated in law that a physician must make ultrasound images available to the patient prior to an abortion. The MMA opposed this bill as an interference in the patient-physician relationship.

LEGISLATIVE ACTION: Passed but vetoed by governor

MMA POSITION: Oppose

Gun Violence

Efforts to address gun violence received a lot of public attention but nothing resulted. Bills to implement universal background checks for all purchases, to provide authority for law enforcement to remove a gun if a person is a danger to self or others, and to increase authority to do research on gun-related injuries and death were not allowed to come to a vote.

LEGISLATIVE ACTION: Stalled

MMA POSITION: Support

Health Care Price Transparency

In attempt to empower health-care consumers, this law provides more cost information to consumers prior to receiving health services. It requires primary care clinics to post information for their top 25 services, including charges, average payments from commercial payers and payments from Medicare and Medical Assistance. It also sets a 10-day timeframe for providers to generate the good-faith payment estimate, if requested, that is required under current law and requires disclosure of any facility fees that may be charged.

LEGISLATIVE ACTION: Passed

MMA POSITION: Neutral

Medicaid Work Requirements

This legislation would have implemented a work requirement for "able bodied" Minnesotans to qualify for Medical Assistance coverage. This would have created a burden for many who need MA coverage and would have increased administrative costs for counties, clinics, and hospitals to verify the work requirement.

LEGISLATIVE ACTION: Stalled
MMA POSITION: Oppose

Mental Health Crisis Facilities

To address the significant need for mental health services, the MMA supported a successful effort to invest new resources into the creation of regional mental health crisis facilities. The law makes available to municipalities, housing authorities, publicly owned hospitals and other groups $30 million to establish behavioral health crisis facilities. In addition, the law includes funding for a new 16-bed intensive mental health crisis residential treatment center in Scott County.

LEGISLATIVE ACTION: Passed
MMA POSITION: Support

MinnesotaCare Buy-in

To ensure all Minnesotans have options for obtaining health coverage, this legislation would have allowed individuals to purchase coverage from MinnesotaCare, regardless of income.

LEGISLATIVE ACTION: Stalled
MMA POSITION: Support with conditions

Minnesota Health Records Act

Minnesota is one of only two states that has a privacy standard different than HIPAA. Managing Minnesota's unique law results in increased administrative burdens and challenges care coordination. The bill would have aligned Minnesota law with HIPAA for issues related to treatment, payment and administration.

LEGISLATIVE ACTION: Stalled
MMA POSITION: Support

Physician Compact Background Checks

Minnesota passed the compact three years ago but needs legislation to clarify criminal background check requirements to make the compact fully functional. This change is needed because of a restrictive ruling of Minnesota law by the FBI, which performs the background checks.

LEGISLATIVE ACTION: Stalled
MMA POSITION: Support

Provider Tax

The provider tax is scheduled to be repealed at the end of 2019. The MMA does not support the provider tax as the way to fund Minnesota's health care programs.

LEGISLATIVE ACTION: Untouched
MMA POSITION: Support replacement of the provider tax to fund health care safety net programs

Tobacco 21

As more local communities raise the age to purchase tobacco products to 21 years, bipartisan legislation was introduced to make T21 statewide. It did not receive a hearing this year.

LEGISLATIVE ACTION: Stalled
MMA POSITION: Support

News Briefs

Work group to examine roles of CMSs

Nine MMA members have volunteered to sit on a work group that will examine the relationship between the MMA and its component medical societies (CMS).

The group, which is made up of representatives from the Board of Trustees and CMS/trustee districts, is scheduled to begin meeting in August and will work through the end of the year. The group will develop recommendations for consideration by the MMA Board of Trustees and the boards of component medical societies. If any recommendations require changes to MMA bylaws, such changes would need to be approved by MMA membership.

The purpose of the work group is to: examine the current organizational structure of the MMA and component medical societies; evaluate options to improve the organizational structure that will best meet the needs of Minnesota physicians; and clarify organizational roles and relationships.

The work group will include:

- Ryan Greiner, MD – Twin Cities Medical Society (TCMS) appointee
- Kathryn Lombardo, MD – Zumbro Valley Medical Society (ZVMS) appointee
- Patrick Zook, MD – Stearns Benton Medical Society (SBMS) appointee
- Paul Sanford, MD – Northeast Trustee District (and previously engaged with the former Lake Superior Medical Society)
- Cindy Firkins Smith, MD – Prairie Medical Society/Southwest Trustee
- Marilyn Peitso, MD – Board member from SBMS
- Edwin Bogonko, MD – Board member from TCMS
- Doug Wood, MD – Board member from ZVMS
- Abigail Ring, MD – Board member from the Northwest Trustee District

Over the past several years, there have been significant changes in the number and composition of CMSs. Several have merged, closed or significantly reduced or changed their amount and scope of activity. Today, MMA has 20 component societies; at one point, there were more than 30.

MMA encourages prescribers to sign up for PMP

Following an investigative report by KSTP-TV in May that found that thousands of prescribers are out of compliance with Minnesota law, the MMA is encouraging all Minnesota physicians with DEA numbers to sign up for the state's Prescription Monitoring Program (PMP).

The 2016 Legislature passed a law requiring all prescribers with DEA numbers practicing in Minnesota to register with the PMP and create an account. Although use of the PMP remains voluntary, the hope was that mandatory registration would increase the number of prescribers who use it and, consequently, cut down on the number of patients who visit multiple prescribers to obtain opioids for illicit use.

However, the KSTP report found that more than 5,000 physicians, dentists, pharmacists and other medical professionals have failed to either sign up for the PMP or to maintain an active account. Prescribers who do not change their password every six months or update their PMP profile every year may have their accounts deactivated, potentially putting them in violation of state law.

"Frankly, this is embarrassing," said MMA President George Schoephoerster, MD. "We are all busy but not too busy to comply with the law. All prescribers need to sign up for the PMP and do it as soon as possible."

The MMA and other physician groups have supported mandatory registration for the PMP but have raised concerns with the administrative burden of a broad mandate on checking the PMP before every prescription.

For more information, visit the PMP page at http://pmp.pharmacy.state.mn.us/.

11 MN cities have now passed T21

As of mid-June, 11 Minnesota cities had passed ordinances to restrict access to tobacco to those under the age of 21.

The MMA has lent its support to all the efforts across the state to reduce tobacco use. "Cigarette smoking remains the leading preventable cause of death in the United States and, while there are many strategies already in place to reduce the use of tobacco, a

Register now for Annual Conference

Register now for MMA's Annual Conference, Sept. 21 and 22, at the Saint Paul RiverCentre. The event will feature Health Commissioner Jan Malcolm discussing the health of Minnesota; a national expert on physician health and well-being; local experts discussing innovations in health care; as well as the inauguration of the next MMA president, the House of Delegates, MMA Awards and much more. Visit www.mnmed.org/AC2018.

strategy is needed to ensure that adolescents and young adults do not start to smoke," MMA President George Schoephoerster, MD, has written in several letters to mayors and city councils.

The following cities have passed T21 ordinances: Roseville, Richfield, Minneapolis, St. Peter, Shoreview, Falcon Heights, North Mankato, Bloomington, Plymouth, St. Louis Park and Edina.

LGBTQ health examined at MMA-hosted forum

A panel of experts and a keynote speaker explored the various barriers to care that most in the LGBTQ community face in the state, as part of an MMA forum held in mid-May at the University of Minnesota.

Keynote speaker Nathalie Crowley (pictured above), patient resource coordinator at the Family Tree Clinic in St. Paul, illustrated the need that exists out there for the community by noting that her clinic has seen tremendous growth over the past few years, particularly in serving the transgender community.

"We've been able to change their lives and that's very rewarding," she told the crowd of about 85 physicians, physicians in training and other health care workers. Two additional groups participated in the forum remotely from Rochester and St. Cloud.

A panel discussion on "Working with Transgender Youth and Their Families" followed Crowley's keynote. Panelists included: Angela Kade Goepferd, MD, Children's Minnesota; Rhamy Magid, MD, Hennepin Healthcare; and Katie Spencer, PhD, Program in Human Sexuality, University of Minnesota. Bruce Thao, MS, MA, director, Center for Health Equity, Minnesota Department of Health, served as moderator.

The evening concluded with table discussions on a variety of LGBTQ topics. The forum will help the MMA in their assessment of what action steps are needed to move the dial closer to health equity for members of the LGBTQ community.

Sponsors for the forum included: CentraCare Health, Hennepin Healthcare, JustUs Health, the Minnesota Academy of Family Physicians, the Minnesota Chapter of the American Academy of Pediatrics, the Minnesota Department of Health's Center for Health Equity, the Minnesota Medical Association Foundation, the Minnesota Psychiatric Society, the Minnesota Public Health Association, the Physicians' Advocacy Network, Twin Cities Medical Society and Zumbro Valley Medical Society.

Opioid prescriptions continue to decrease

For the fifth year in a row, opioid prescribing across the country has decreased, according to a report released May 31 by the AMA.

The report found a decrease in opioid prescribing and increases in the use of state prescription monitoring programs (PMPs), number of physicians trained and certified to treat patients with an opioid use disorder, and access to naloxone.

In Minnesota, opioid prescriptions decreased by 10.9 percent from 2016 to 2017. From 2013 to 2017, there was a 28.1 percent decrease in prescriptions.

Meanwhile, queries to Minnesota's PMP have more than doubled over the past three years, increasing from 520,515 in 2014 to 1,244,173 in 2017.

The report also found:

- **Physicians enhancing their education.** In 2017, nearly 550,000 physicians and other health care professionals took CME classes and other education and training in pain management, substance use disorders and related areas.
- **Access to naloxone rising.** Naloxone prescriptions more than doubled in 2017, from approximately 3,500 to 8,000 naloxone prescriptions dispensed weekly. So far in 2018, that upward trend has continued; as of April, 11,600 naloxone prescriptions are dispensed weekly—the highest rate on record.
- **Treatment capacity increasing.** As of May this year, there were more than 50,000 physicians certified to provide buprenorphine in office for the treatment of opioid use disorders across all 50 states—a 42.4-percent increase in the past 12 months.

New CEO joins Twin Cities Medical Society

Ruth Parriott

The Twin Cities Medical Society and Twin Cities Medical Society Foundation have hired Ruth Parriott as their new chief executive officer.

Most recently, Parriott served as regional vice president for the American Cancer Society Cancer Action Network, where she managed the local, state and federal government relations programs for a 19-state region, including deployment of a grassroots network of trained volunteer and professional advocates.

During her time there, Parriott designed and implemented successful public policy campaigns to increase appropriations for

(continued on next page)

On the calendar

Event	Date	Location
Duluth Doctors' Lounge	Oct. 16	Duluth
Annual Conference	Sept. 21-22	St. Paul

cancer screening tests for medically underserved populations, expand Medicaid coverage, prevent minors from using indoor tanning devices, increase tobacco taxes, extend smoke-free protections for workers and the public, restrict access to emerging tobacco products targeting minors and special populations, and dramatically increase cancer research funding at the federal level.

In the metro area, she also served in leadership with the Neighborhood Health Care Network, strengthening funding and management support for community clinics, and as a program officer for The Minneapolis Foundation, supporting organizations advocating for economic, social, racial, and environmental equity.

Medical students get hands-on training on naloxone

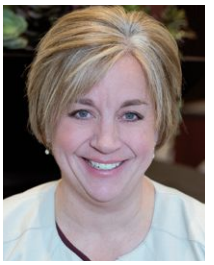
In mid-April, members of Hands on Advocacy (HOA) gathered at the MMA office to meet with representatives from the Steve Rummler Hope Network to receive training on how to administer naloxone. HOA is a student-created, student-led experiential learning project started by students within the MMA - Medical Student Section (MMA-MSS) that provides a structured opportunity for medical students to run an advocacy campaign on a public health topic. This year they are working on addressing the opioid epidemic.

Mayo Center for Innovation wins its third Edison Award

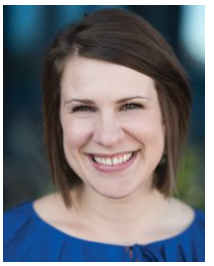
The Mayo Center for Innovation (MCI) recently received a silver Edison Award in the category of "Collective Disruption" for the Well Living Lab in Rochester, which it developed with Delos Living.

The lab is the first scientific center that uses human-centered research exclusively to understand the interaction between health and well-being and indoor environments. The lab offers an unprecedented degree of control over research variables through a modular, reconfigurable space that simulates a variety of real-world environments.

The Edison Award is a program conducted by Edison Universe, a non-profit organization dedicated to recognizing, honoring and fostering innovation.



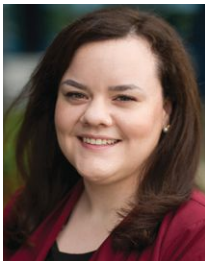
Janet Silversmith



Elizabeth Anderson

Dave Renner

Juliana Milhofer



Becca Branum

Scott Wilson

MMA in Action

In May, **Janet Silversmith**, MMA CEO; **Elizabeth Anderson**, MMA membership director, **Beth Kangas**, executive director of the Zumbro Valley Medical Society; and **Ashok Patel,** MD, piloted the MMA's first "Thank You" event for physicians at Olmsted Medical Center. The "pop-up" event is designed to show the MMA's appreciation for current and future members in an informal setting.

Silversmith joined about a dozen state medical association and national specialty society CEOs in Chicago in mid-May for a meeting with AMA EVP **James Madera**, MD, to talk about AMA initiatives and potential opportunities for collaboration.

In late May, Silversmith met with **Jim Schowalter**, of the Minnesota Council of Health Plans, and **Lorry Massa** of the Minnesota Hospital Association, to discuss issues of common interest.

Silversmith and **Dave Renner**, MMA director of legislative affairs, met with leaders of Blue Cross Blue Shield of Minnesota in early June.

Silversmith, Renner, **Juliana Milhofer**, MMA policy analyst, **Becca Braum**, MMA policy counsel, and MMA President **George Schoephoerster**, MD, attended the AMA meeting in Chicago in early June. The MMA contingent also included our AMA delegates: **Paul Matson**, MD, chair; **David Estrin**, MD, vice-chair; **John Abenstein**, MD; **David Luehr**, MD; and **Cindy Firkins Smith**, MD; and alternate delegates: **David Thorson**, MD; **Andrea Hillerud**, MD; **Kathryn Lombardo**, MD; and **Courtney Moors,** MD.

Schoephoerster also represented the MMA at the Minnesota Public Health Association's Annual Conference in St. Cloud in mid-May.

In early May, **Scott Wilson**, MMA membership manager, testified on behalf of the MMA to raise the tobacco sale age to 21 and restrict the sale of flavored and menthol tobacco in Falcon Heights.

VIEWPOINT

Some bright spots in the session

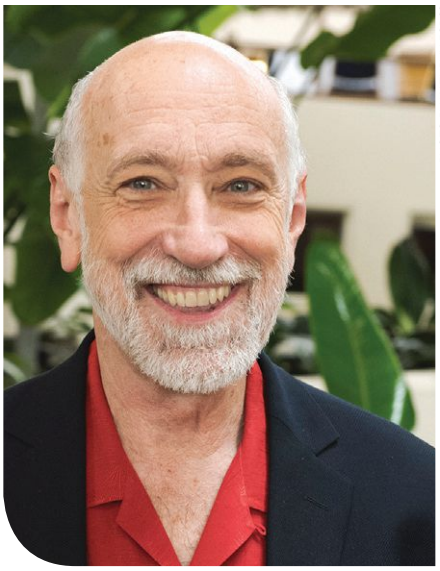


PHOTO BY KATHRYN FORSS

George Schoephoerster, MD
MMA President

Elsewhere in this issue, you'll read a comprehensive report on this year's legislative session. The news was not great. For many reasons, this session was a disappointment. But, being a positive sort, I choose to look on the bright side. Several decisions made should help the practice of medicine and the health of Minnesotans.

First and foremost, Bright Spot No. 1, physicians should be pleased about the passage of the step therapy bill, which makes it easier to override a step therapy requirement if the prescriber believes the required drug would result in an adverse outcome or if the patient has already completed the step therapy requirement with the current or previous health plan. This bill will go a long way in reducing the administrative burdens we've been lobbying against for so long.

Bright Spot No. 2 includes passage of funding for several mental health facilities. Money has been set aside for the following: $28 million for behavioral health crisis facilities grants, including up to $5 million per facility; $6.2 million to Dakota County for a Safety and Mental Health Alternative Response Training Center; and $10 million to Minneapolis for The Family Partnership for mental health, early family education and other support services for families and children. The issue of mental health needs to get our full attention; this is a good start.

Bright Spot No. 3 is legislation that increases price transparency for consumers related to the cost of health procedures. With the new law signed by Gov. Mark Dayton, health plans cannot prohibit providers from telling patients what the expected reimbursement will be for a procedure prior to the service. We should expect to see more in the future on health care cost transparency. We'll be watching this new law closely.

Bright Spot No. 4 involves the extended use of the all-payer claims database (APCD) for research purposes. The APCD has been a valuable tool for the Department of Health and other researchers to address health care spending, and now it will be available through at least 2023. Great news, indeed.

Positive results also come from the defeat of bills that would be potentially harmful to the way medicine is practiced in Minnesota. For example, the MMA defeated two scope-of-practice bills. One dealt with an APRN compact that would have overridden Minnesota law relating to CRNA's ability to practice independently. The second scope-of-practice bill would have removed the 90-day limit on direct access to physical therapy. We believe physicians need to be more directly involved when their patients see a physical therapist for the long-term.

The MMA was also able to defeat two bills with which legislators were trying to tell physicians how to practice medicine. One would have created a hard cap on the number of opioids a physician could prescribe. Even if the physician believed more was needed based on his or her professional judgment, they would have been prohibited from doing so. Through the MMA's work, physicians still can use their professional judgment to determine the right quantity to prescribe. The second bill determined what information physicians must give a patient prior to a procedure, even if providing the information would not be helpful to the patient. Specifically, the bill would have mandated that a physician must make ultrasound images available to the patient prior to an abortion.

Several decisions made should help the practice of medicine and the health of Minnesotans.

The session certainly turned out to be challenging, many opportunities for improvements were lost and very little was passed, but our legislative affairs team was able to stop bad legislation and lobby for a few victories here and there. I'd hate to imagine what kind of mischief would have ensued if we didn't have a veteran, watchful presence at the Capitol.

Impressive work

Physicians-in-training show their skills

This year's call for abstracts highlighting research and clinical work by Minnesota medical students, residents and fellows brought a smaller than usual response, but our reviewers were impressed by the quality of the work.

The reviewers looked at each manuscript to determine whether the research or case description was clear and complete, whether the methodology was sound, whether the scientific literature review was sufficient and whether the findings had implications for future research. The reviewer comments were sent to those who had submitted abstracts, so they could respond.

None of the reviewers called for major changes in any manuscript. In fact, they said they thought the work was quite good overall.

We thank our reviewers: Devon Callahan, MD; Siu-Hin Wan, MD; and Barbara Yawn, MD. All are members of the *Minnesota Medicine* Advisory Board

Hemoglobin SC disease complicated by fat embolism syndrome

BY NOLAN ANDERSON AND SAMUEL T. IVES, MD

Introduction

Hemoglobin SC Disease is a variant of sickle cell disease (SCD), defined by the presence of one allele each of HbS and HbC, which generally carries a better prognosis than Hemoglobin SS Disease. Compared with Hemoglobin SS Disease, patients with Hemoglobin SC Disease typically have fewer pain crises and longer life expectancies.[1] However, Fat Embolism Syndrome (FES) is a rare devastating complication of SCD that is more frequent in patients with non-SS disease.[2,3] We present a case of FES leading to both respiratory failure and severe cerebral fat embolism.

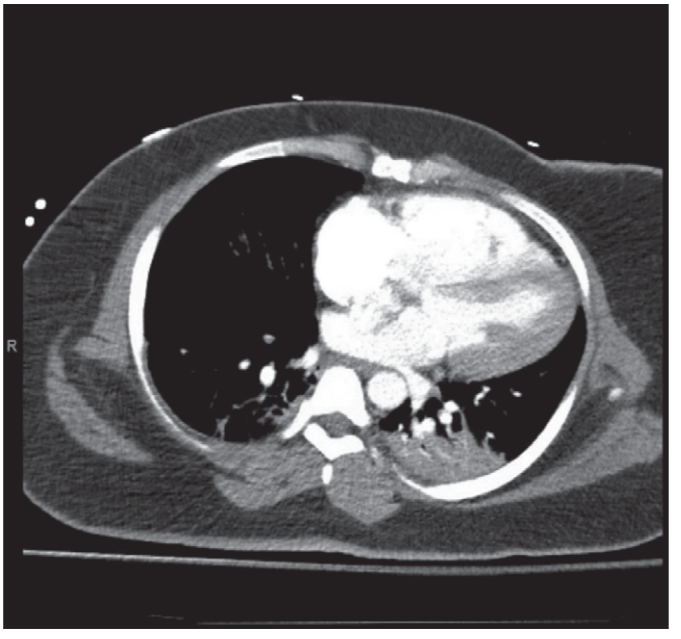
Case description

A 26-year-old woman with Hemoglobin SC Disease on hydroxyurea was admitted for a vaso-occlusive pain episode and initially treated with IV fluids, oxygen, and IV opiates. On hospital day 2, over several hours, she developed increasing hypoxia and obtundation, requiring ICU transfer and intubation.

On exam, she was intubated and sedated. She had "roving" eye movements but was not following commands, even off sedation. Lungs were clear. No petechiae were seen. Labs were notable for elevated transaminases, markedly elevated LDH, and worsening thrombocytopenia, dropping from 160,000 per mm^3 on admission to 50,000 per mm^3. A blood smear did show a leukoerythroblastic reaction. CT showed bilateral infiltrates concerning for acute chest syndrome (Figure 1) and transthoracic echocardiogram showed severe pulmonary hypertension with acute cor

FIGURE 1

CT scan showing bilateral infiltrates



pulmonale, but normal ejection fraction. A bubble study demonstrated right-to-left shunting associated with pulmonary hypertension. Due to her obtundation, an MRI was done (Figure 3) which showed multiple diffuse acute infarcts and microhemorrhages consistent with acute infarctions.

With the combination of exam findings (obtundation, hypoxia), lab findings (thrombocytopenia, transaminase elevation, and blood smear) and imaging (lung infiltrates and diffuse strokes), she was diagnosed with presumptive FES. Due to the risk of lung biopsy, she was treated for FES despite a confirmed biopsy.

She was treated with red cell exchange transfusion and discharged two weeks after admission to a long-term acute-care hospital. Five months after admission, she had a fair neurologic recovery but remained unable to function independently.

Discussion

FES is defined as histologically-proven organ involvement of fat embolism or respiratory failure and compatible neurologic findings in a patient with known bone marrow necrosis.[4] The hypothesis is that either trauma or inflammation allows fat cells to be released from the bone marrow into circulation. Embolism to the lungs can cause severe acute pulmonary hypertension, predisposing to paradoxical embolism in patients with a patent foramen ovale or atrial septal defect.

FES is seen most commonly in trauma patients, but has been well described in patients with SCD.[5] Among SCD patients, FES is more common in women and among non-SS variants.[2] It has been described as precipitated by pregnancy or parvovirus B19 infection.[2,5]

Clinical presentation is marked by respiratory distress and neurologic findings (such as lethargy, confusion, agitation, or coma) in the setting of an acute vaso-occlusive pain episode. Symptoms often appear within a few hours of presentation, as in this case. In a large review, worsening anemia or thrombocytopenia was present in the majority of patients.[2,3] In a smaller group of patients, transaminase elevation or renal failure was also seen.

Diagnosis requires high clinical suspicion during an acute episode. While bronchioalveolar lavage or bone marrow biopsy could support the diagnosis, many cases are confirmed with blood smear findings compatible with bone marrow dysfunction (e.g. leucoerythroblastic reaction) and imaging.

Treatment of FES includes exchange transfusion and supportive care. Patients with FES are at very high risk of death and permanent neurologic impairment.

This case illustrates an extremely rare but severe complication of SCD. Providers must be aware of the risk of FES, particularly in patients with non-SS disease presenting with vaso-occlusive pain crisis complicated by respiratory distress or new neurologic findings.

FIGURE 2

TTE showing RV dilation

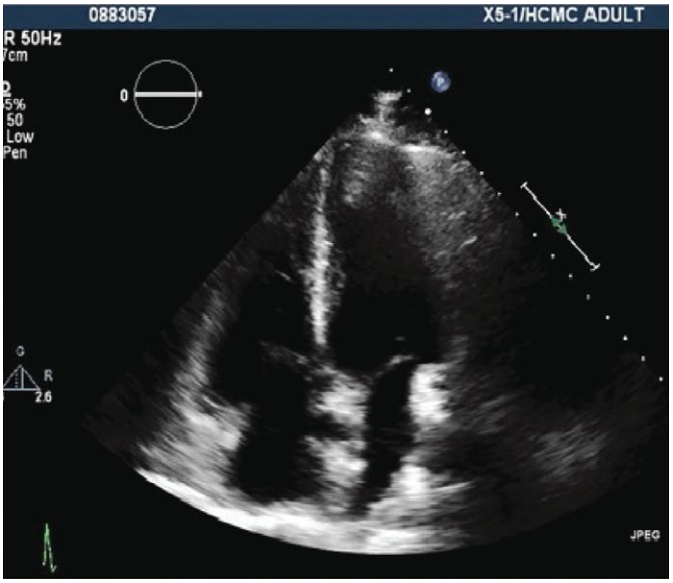
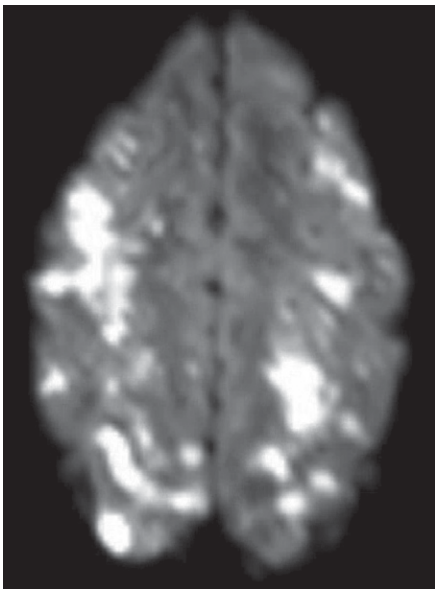


FIGURE 3

MRI showing diffuse cerebral infarcts



Nolan Anderson is a fourth-year medical student at the University of Minnesota Medical School. Samuel T. Ives, MD, is an assistant professor at the University of Minnesota Medical School and practices in the division of General Internal Medicine, Hennepin Healthcare.

REFERENCES

1. Platt OS, Brambilla DJ, Rosse WF et al. Mortality in sickle cell disease. Life expectancy and risk factors for early death. N Engl J Med. 1994:330(23): 1639-44.

2. Tsiskikas DA, Gallinella G, Patel S, et al. Bone marrow necrosis and fat embolism syndrome in sickle cell disease: increased susceptibility of patients with non-SS genotypes and a possible association with human parvovirus B19 infection. Blood Rev. 2014;28(1). 23-30.

3. Yawn BP, Buchanan GR, Afenyi-Anna AN et al. Management of sickle cell disease: summary of the 2014 evidence-based report by expert panel members. JAMA. 2014;312(10): 1033-48.

4. Kosova E, Bergmark B, Piazza G. Fat embolism syndrome. Circulation. 2015. 131(3): 317-20.

5. Dang NC, Johnson C, Eslami-Farsani M, Haywood LJ. Bone marrow embolism in sickle cell disease: a review. Am J Hematol. 2005. 79(1): 61-7.

Elevated potassium in hemolyzed sample in pediatric patients: repeat or don't repeat?

BY GRETCHEN COLBENSON, MD; RYAN CULLEN; JEFF LOUIE, MD; AND RAHUL KAILA, MD

Background

Despite best efforts, hemolyzed samples causing hyperkalemia, termed "pseudohyperkalemia" occur in approximately 3% of blood draws. Redrawing samples increases length of stay, subjects the child to a secondary painful procedure, and is likely a cause for patients and families to become dissatisfied.

Objective

Determine if pseudohyperkalemia occurring among healthy children should be repeated.

Methods

We performed a five-year retrospective chart review of all patients with hyperkalemia secondary to hemolysis. Inclusion criteria included all pediatric patients birth to 18 years of age who were seen 2011-2016 and had a hemolyzed potassium level greater than 5.5 mEq/dl. We compared previously healthy patients to patients with known chronic medical conditions.

Results

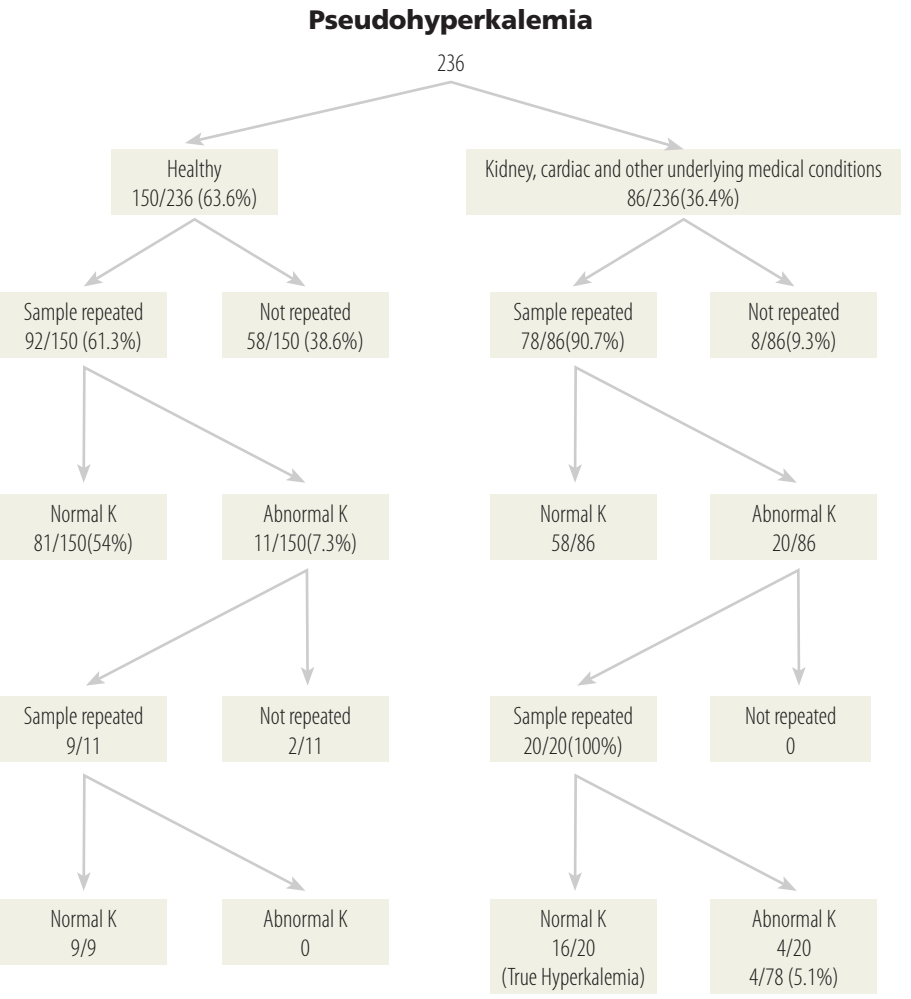
A total of 236 children were captured with any degree of hemolysis. Age ranged from 3 days to 17.9 years. Median age was 1.3 years with an initial mean hemolyzed potassium level of 6.5 ranging from 5.4 to 12.6 mmol/L. Results are shown in Figure 1. Of the 236 children with hemolysis, 150 or 63.6% were healthy and 92 or 61.3% of these had a repeat potassium. Two children (2.1% percent of those with repeat potassium) had true hyperkalemia and both had abnormal BUN and creatinine. Of the total, 86, or 35.4%, had kidney, heart, or other conditions and 78 of those (90.7%) had repeat potassium. Four of these 78 children (5.1%) had true hyperkalemia. The true hyperkalemia patients had the following diagnoses: focal segmental glomerulonephritis, chronic renal failure, DKA, and carnitine deficiency. With the exception of the child with carnitine deficiency, each patient with true hyperkalemia had an elevated BUN and creatinine.

Conclusion

In our small sample, it appeared that children without underlying conditions and children with medical conditions who have hyperkalemia from hemolysis do not require a repeat sample unless there is associated abnormal BUN and creatinine. More than 60% of healthy patients and 90% with underlying medical conditions had a hemolyzed sample repeated; this can be avoided. Performing less sampling on pseudohyperkalemia would decrease length of hospital stay and increase family satisfaction.

Gretchen Colbenson, MD, is a first-year internal medicine resident at Mayo Clinic. Ryan Cullen is a third-year medical student at University of Minnesota. Jeff Louie, MD, is assistant professor in the Department of Pediatrics, Division of Pediatric Emergency Medicine, University of Minnesota Medical School. Rahul Kaila, MD, is assistant professor in the Department of Pediatrics, Division of Pediatric Emergency Medicine, University of Minnesota Medical School.

FIGURE 1



Varicella zoster virus vasculopathy-associated recurrent strokes: a case report

BY JIA-SHYUAN SU, MD; LOGAN MCCOOL, DO; AND RODERICK SEMBRANO, MD

Introduction

Primary infection with varicella zoster virus (VZV) presents with a disseminated vesicular rash commonly known as chickenpox, and reactivation of the virus often presents as shingles. However, VZV is also known to infect cerebral and peripheral arteries.[1] VZV is associated with a 1.7-fold increased stroke risk in the first three months and 1.3-fold increased stroke risk the first year following viral reactivation.[2,3] We present a case in which difficulty diagnosing VZV vasculopathy led to multiple subsequent cerebral vascular accidents (CVAs) and a complicated, extended hospital course.

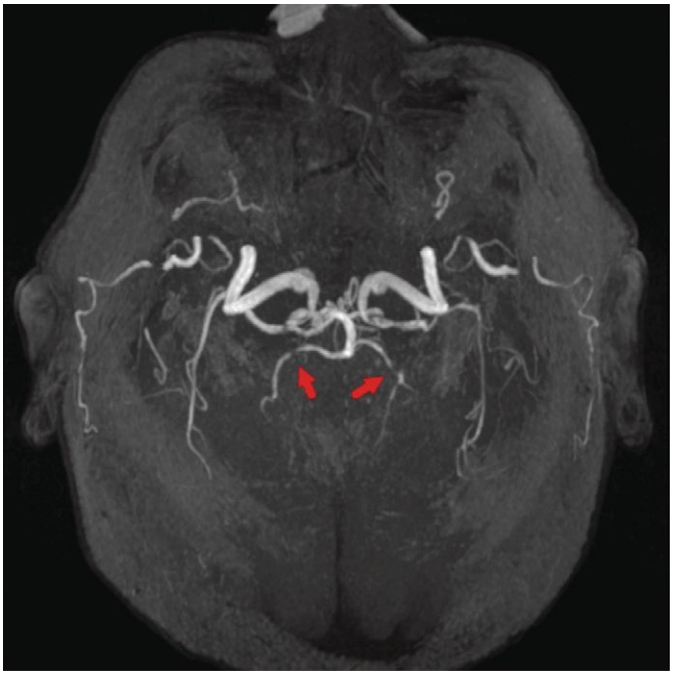
Case description

A 74-year-old male with a past medical history of hypertension, hyperlipidemia, and type 2 diabetes mellitus presented to the hospital with acute onset left ear pain, vertigo, and dizziness. Examination revealed a mild left-sided facial weakness with an otherwise unremarkable neurologic examination. Magnetic resonance imaging and angiogram (MRI/MRA) and CT angiogram (CTA) of the head revealed focal, proximal basilar artery dissection with thrombus and a small right parietal infarct. On hospital day 2 (HD-2), the patient's left facial weakness worsened and he developed left upper buccal vesicles with ulcerative lesions and left-sided hearing loss. This is a classic presentation of Ramsay-Hunt Syndrome, which is a condition that occurs with reactivation of varicella zoster virus (VZV) in the geniculate ganglion. Buccal viral culture was obtained but yielded no growth. After one unsuccessful lumbar puncture, the family declined further attempts. Given the high suspicion for VZV infection, the patient was started on intravenous acyclovir and high dose prednisone. He was then transitioned to oral acyclovir and transferred to the acute rehabilitation unit (ARU) on HD-8.

In the ARU, the patient continued with left facial weakness without forehead sparing, mild left hearing loss, left upper extremity incoordination, and imbalance with a wide-based gait. He also displayed difficulties with memory and problem solving. Ataxia, vertigo, lower body dressing, and cognition improved gradually while on an antiviral, but worsened upon cessation of antiviral treatment on HD-15. Due to this regression, valacyclovir was reinitiated on HD-18. Continued suboptimal symptom improvement led the multidisciplinary care team to initiate another five-day course of high dose steroids. Addition of high-dose steroids produced favorable symptoms improvement, however the patient again displayed significant worsening of vertigo and left-sided weakness after cessation of treatment. He was transferred back to the inpatient neurology service on HD-26 for further workup. A CTA revealed multiple foci of intracranial arterial stenoses concerning for vasculitis (Figure 1) and lacunar infarcts of the right basal ganglia and left thalamus. The entire clinical picture suggested that the most recent infarcts were likely secondary to VZV vasculopathy. Lumbar puncture was reattempted successfully, and on HD-32 the cerebral spinal fluid and anti-VZV IgG antibody tests returned positive. With his extended hospital stay due to VZV vasculopathy, the patient spent nearly 70 days between inpatient neurology and acute rehabilitation care before he was discharged to a long-term acute-care facility.

FIGURE 1

Multifocal intracerebral arterial stenosis demonstrated on the CT angiogram involving the bilateral P2 segments of the posterior cerebral arteries.



Discussion

Due to the lag in clinical presentation of VZV vasculopathy associated CVA, diagnosis is often delayed and the underlying disease is undertreated. Importantly, timely diagnosis coupled with early treatment are associated with improvement in recovery.[4] In this case, difficulty in diagnosis of VZV vasculopathy led to multiple subsequent CVAs and extended hospital stay, which contributed to the patient's variable progression, prolonged hospital course, and a clinically significant decline

in functionality in acute rehabilitation. Given the seriousness of the complications associated with cerebral vasculopathy, we hope this case presentation will serve as an educational tool and remind providers to include VZV vasculopathy in their differential diagnoses. **MM**

Jia-Shyuan Su, MD, is a first-year resident at Hennepin Healthcare. Logan McCool, DO, is a third-year resident in the Department of Physical Medicine & Rehabilitation at the University of Minnesota Medical School. Roderick Sembrano, MD, is a staff physician at Northeast Rehabilitation Hospital Network in Salem, New Hampshire.

REFERENCES

1. Gilden D, Kleinschmidt-DeMasters B, Wellish M, Hedley-Whyte E, Rentier B, Mahalingam R. Varicella zoster virus, a cause of waxing and waning vasculitis: the New England Journal of Medicine case 5-1995 revisited. Neurology. 1996;47(6):1441-1446.

2. Kang J-H, Ho J-D, Chen Y-H, Lin H-C. Increased Risk of Stroke After a Herpes Zoster Attack. Stroke. 2009;40(11):3443.

3. Yawn BP, Wollan PC, Nagel MA, Gilden D. Risk of Stroke and Myocardial Infarction after Herpes Zoster in Older Adults in a US Community Population. Mayo Clin Proc. 2016;91(1):33-44. doi:10.1016/j.mayocp.2015.09.015.

4. Langan SM, Minassian C, Smeeth L, Thomas SL. Risk of Stroke Following Herpes Zoster: A Self-Controlled Case-SeriesStudy. Clin Infect Dis An Off Publ Infect Dis Soc Am. 2014;58(11):1497-1503.

Thick blood, heavy heart: a case of hyperviscosity syndrome.

BY ALICE LEHMAN, MD

Introduction

Hyperviscosity syndrome (HVS) is a clinical diagnosis in patients that can be associated with significant morbidity. HVS is a complication of viscous blood, secondary often to increased serum protein circulation. The following case highlights potential morbidities associated with a delayed diagnosis of HVS and explores the potential role of laboratory values. Additionally, the complexity of this case demonstrates how etiology of HVS helps direct definitive management.

Case description

A 54-year-old old female presented to the emergency room with vague complaints of fatigue; she was found to have a hemoglobin of 6.5. Peripheral smear demonstrated rare circulating blasts, initiating a bone marrow biopsy on hospital day 4 (HD-4). The following evening, the patient developed acute abdominal pain, with CT imaging revealing a new large right retroperitoneal hematoma without evidence of acute hemorrhage on angiogram. Report from the marrow demonstrated cellularity of 60-70% with atypical lymphoids, most consistent with a diagnosis of Waldenström's macroglobulinemia (WM)/lymphoblastic lymphoma. Bortezumab was initiated following bone marrow biopsy results on HD-9. On HD-11, the patient developed altered mental status and left upper peripheral extremity paresthesia. An MRI demonstrated new hemorrhagic conversion of a cerebrovascular accident. Emergent plasmapheresis (PLEX) was initiated. Labs during this period demonstrated a viscosity index ranging from 1.7 to 9.5, with IGM noted to be 944mg/dL (range 60-265), IGG 2520mg/dL (695-1620), positive cyro-kappa, and positive cyro-IGM. The patient tested positive for Hepatitis C virus (HCV) with a high viral load. Ledipasvir and sofosbuvir (Harvoni) were initiated on HD-22.

On HD-19, the patient experienced acute heart failure, in addition to two PEA arrests without evidence of coronary artery disease, and acute kidney injury requiring continuous renal replacement therapy shortly after. Throughout her six-week hospitalization, the patient required multiple treatments of emergent PLEX for symptomatic HVS. The patient was discharged to a long-term care facility due to severe deconditioning. Her treatment course consisted of Bortezumab, Dexamethasone, Rituxan, and Harvoni.

Discussion

HVS is a clinical diagnosis consisting of vague constellations of visual disturbances, paresthesias, oronasal bleeding, and confusion found in conjunction with physiologic "viscous" blood. HVS is frequently a diagnosis made at time of symptomatic presentation, often without guidance of laboratory data. A delayed diagnosis of HVS can have profound impact on patient morbidity, making early diagnosis imperative.

An incomplete understanding of the quantitative laboratory measure of HVS may contribute to delayed diagnoses. Laboratories typically quantify viscosity using a capillary tube that measures the time required for a serum to flow under the influence of gravity. Viscosity indices for serum typically range between 1.4 and 1.8 relative to water[1]. HVS is unlikely unless the viscosity index nears 4.0. There is relative consistency in the viscosity indices at which HVS symptoms appear in the same WM patients[2]. Ultimately, the utility of viscosity indices lies in determining the patient-specific viscosity threshold at which symptoms of HVS appear, thereby helping guide preemptive treatment with PLEX to avoid long-term morbidities. In the presented patient, trending the viscosity indices more consistently and determining relative paraprotein compositions may have helped determine need for PLEX and avoidance of observed complications. A potential barrier to clinical practicality with be distinguishing lab turnaround time for viscosity indices.

PLEX can be expected to reduce plasma viscosity approximately 20-30% per session[3]. However, the underlying etiology of HVS ultimately guides definitive treatment. The complexity of our case lies in the simultaneous presentation of HCV and WM, which begs the question of the correlation between these two diagnoses and their relative contribution to the patient's HVS. Ten to 30 percent of patients with WM present with HVS[3]. Our patient presented with rheumatoid factor posi-

tive, cryo-IgM positive, and cyro-Kappa light chain positive, consistent with type III mixed cyroglobinemia. Previous retrospective studies describe links between HCV infection and B-cell non-Hodgkin's lymphoma, as well as other B-cell lymphoproliferation, such as WM and monoclonal gammopathy of unknown significance[4]. IgG-bound HCV has been proposed to drive the clonal expansion of RF + B cells[4]. HCV RNA suppression through viral eradication is the most effective treatment for HCV mixed cryoglobulinemia and often leads to a sustained response[5]. As in this case, when HCV cryoglobinemia and WM present at the same time, it is difficult to differentiate between the contributing factors, which can delay necessary antiviral treatment. More research needs to be done to understand the mechanisms by which HCV triggers B-cell proliferation and whether early recognition and treatment of HCV may ultimately change morbidity.

Conclusion

HVS is a subtle clinical presentation with morbid complications for the patient including cerebrovascular infarct, vision loss, acute kidney injury, and heart failure. Laboratory guidance from viscosity indices, in addition to HCV status, can help guide definitive management of treatment. Trending a patient's viscosity index can help predict acute management with PLEX and therefore potentially avoid associated morbidities. **MM**

Alice Lehman, MD, is a second-year resident in internal medicine-pediatrics at the University of Minnesota Medical School.

REFERENCES

1. Stone MJ, Bogen S. Evidence-based focus review of management of hyperviscosity syndrome. Blood. 2012;119(10).

2. Stone MJ. Waldenström's macroglobulinemia: hyperviscosity syndrome and cryoglobulinemia. Clin Lymphoma Myeloma. 2009:9(1).

3. Mackenzie MR, Babock J. Studies of the hyperviscosity syndrome: II. Macroglobinemia. J Lab Clin Med. 1975; 85(2).

4. Fahey JL, Barth WF, Solomon A. Serum hyperviscosity syndrome. JAMA.1965;192(6).

5. Edgar CD, Dustin LB. Hepatitis C virus-induced cryoglobulinemia. Kidney Int. 2009 October; 76(8).

6. Pietrogrande M, De Vita S. et al. Recommendations for the management of mixed cryoglobulinemia syndrome in hepatitis C virus-infected patients. Autoimmunity Reviews. 2011;10.

A nightmare vacation

BY BETH K. THIELEN, MD, PHD, AND AILEEN AHISKALI, PHARMD

A 58-year-old Vietnamese-American woman underwent an elective liposuction procedure during a recreational trip to Vietnam. The procedure was complicated by intestinal perforation that then required a colostomy and caused subsequent post-operative wound infection. Management challenges included lack of patient analgesia for procedures, CT imaging, and basic infection prevention tools, including gloves. The infection progressed despite multiple debridements, and cultures grew a multi-drug resistant organism (MDRO) for which appropriate antibiotics were unavailable. The woman traveled back to Minnesota for care.

Upon presentation, she was afebrile and hemodynamically stable with extensive abdominal wall wounds draining purulent material. An abdominal CT scan revealed multiple intra-abdominal abscesses. Empirical vancomycin and piperacillin-tazobactam were started, and exploratory laparotomy with debridement was performed. After operative cultures were obtained, her regimen was broadened to high-dose polymyxin B, high-dose tigecycline, extended-infusion meropenem, and micafungin to cover suspected MDROs. Cultures grew 11 different organisms—including carbapenem-resistant New Delhi metallo-β-lactamase (NDM)-producing *Klebsiella pneumoniae* and oxacillinase (OXA)-producing *Acinetobacter baumanii*. She required a prolonged stay in the intensive care unit due to malnutrition, metabolic encephalopathy, and multiple suspected antibiotic-related complications including polymyxin-induced neurotoxicity and tigecycline-induced hepatotoxicity. Her kidney function remained stable while on polymyxin B therapy, but acute kidney injury developed after trimethoprim-sulfamethoxazole was administered. She was hospitalized for three months, during which multiple debridements were performed, and she received 37 consecutive days of antibiotics. She was discharged to an acute rehabilitation facility and will require complex multi-stage reconstruction of her abdominal wall.

This case highlights two emerging and interrelated challenges: the global spread of MDROs[1] and the spread of medical tourism. The emergence of MDROs has created new treatment challenges. Carbapenems remain a mainstay of therapy for many serious infections, but resistance is emerging by multiple mechanisms. One such mechanism is the NDM carbapenemase, which was first described in a traveler from India in 2009[2] and subsequently found in many other countries. While some new β-lactam/β-lactamase inhibitor combination agents inhibit certain carbapenemases (e.g. *K. pneumoniae* carbapenemases or KPCs), they do not reliably inhibit the NDM- and OXA-type enzymes produced by the organisms infecting this patient. There are often limited (or no) treatment options for patients with infections caused by these MDROs. Additionally, antibiotics that retain activity against these organisms are often costly and carry significant risk of toxicity (Table 1).

With increasing global travel, patients are receiving medical care outside of their home country at an increasing rate. In 2012, an estimated 1.6 million North Americans sought medical care abroad[3], for reasons that include lower cost, access to procedures not available in the United States, and increased comfort in their countries of origin. While many facilities provide high-quality, cost-effective care and fill gaps in local care, the quality is not uniform. Resources exist to help patients and providers make informed choices about prospective facilities and under-

stand potential risks, including unproven and experimental therapies, lax hospital accreditation standards, lack of infection prevention infrastructure, unregulated antibiotic use, and high prevalence of antimicrobial-resistant organisms[4].

On the surface, the lower cost of medical tourism for cosmetic surgery presents an appealing opportunity to obtain care not otherwise affordable, but this case highlights potential risks and hidden costs of this treatment. **MM**

Beth K. Thielen, MD, PhD, is an infectious disease fellow at the University of Minnesota. Aileen Ahiskali, PharmD, is an antimicrobial stewardship pharmacist at Hennepin Healthcare and a former infectious diseases resident with Allina Health.

TABLE 1 **Primary Antimicrobial Cost & Adverse Effects**

ANTI-MICROBIAL	DOSE	DAYS OF THERAPY	COST*	SERIOUS ADVERSE EFFECTS PATIENT POSSIBLY EXPERIENCED
Tigecycline	200mg load, followed by 100mg q12h	32	$21,902.40	Hepatotoxicity Gastrointestinal (nausea, diarrhea)
Polymyxin B	1,350,000 units load, followed by 500,000 to 750,000 units q12h	34	$541.20	Peripheral neuropathy Respiratory arrest following use of neuromuscular blocking agents
Meropenem	2g IV q8h extended infusion (over 3 hours)	37	$3,168.00	Hepatotoxicity
Micafungin	100mg IV q24h	27	$6,050.70	Hepatotoxicity Electrolyte abnormalities
			Total Cost: $31,662.30	

***T**otal cost of therapy during inpatient hospitalization based on number of doses received and average wholesale price (AWP).

REFERENCES

1. Versporten A, Zarb P, Caniaux I, et al. Antimicrobial consumption and resistance in adult hospital inpatients in 53 countries: results of an internet-based global point prevalence survey. Lancet Glob. Heal. 2018; 0:1–11. Available at: http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30186-4/fulltext.

2. Yong D, Toleman MA, Giske CG, et al. Characterization of a new metallo-ß-lactamase gene, bla NDM-1, and a novel erythromycin esterase gene carried on a unique genetic structure in Klebsiella pneumoniae sequence type 14 from India. Antimicrob. Agents Chemother. 2009; 53:5046–5054.

3. Rogers BA, Aminzadeh Z, Hayashi Y, Paterson DL. Country-to-country transfer of patients and the risk of multi-resistant bacterial infection. Clin. Infect. Dis. 2011; 53:49–56.

4. Nguyen DB, Gaines J. The Pretravel Consultation: Medical Tourism. In: Brunette GW, Kozarsky P, eds. CDC Yellow Book 2018: Health Information for International Travel. Oxford University Press, 2017. Available at: https://wwwnc.cdc.gov/travel/yellowbook/2018/the-pre-travel-consultation/medical-tourism.

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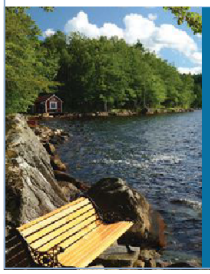

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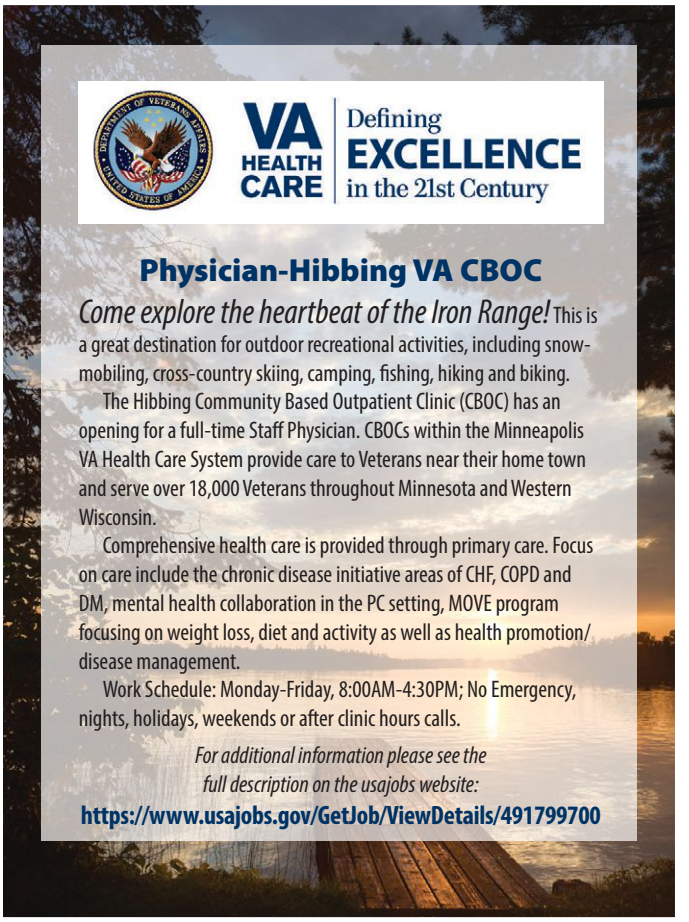

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Air Hungers

BY COLLEEN BELL

On my very first day as a medical student, before I had even sat in lecture hall or tried on my white coat, I was assigned to an observation experience in a small hospital in rural Minnesota. I walked in more nervous and excited than I had ever been. Here I was, living my dream. I truly felt like a giddy child, giddier than I ever was when I was actually a child—probably because I was the kind of kid who stayed busy planning out my future medical career and talking way too much to adults. The doctor supervising my rotation shook my hand, welcomed me to the hospital, and then abruptly said, "have you ever seen someone die?"

"No," I responded, and said nothing else—a rare moment of brevity for an extremely talkative person. It was all I could think to say.

"Well, today is the day," he said back, his tone impossible to read. "Follow me."

We walked down the hallway of the 25-bed hospital and entered the last room on the left. In the bed lay an older, white-haired man, eyes closed, not moving his arms or legs. Even lacking all medical knowledge, I could tell that he was alive since his breathing, or attempts to breathe, were drowning out any other noise in the room. His chest rose and fell dramatically as he gasped, trying to take in more air. A nasal cannula sat in his nose and was hooked up to an oxygen tank. All of his chest and neck muscles looked like they were on overdrive, trying to help him meet his oxygen demand. The doctor and I stayed for a few minutes, talking with his family and speaking to him, although he couldn't respond.

When we left the room, the doctor turned to me. "Those are called air hungers," he said. "They happen when a patient can't breathe well on his own anymore. They're a sign that someone is actively dying." I wished I could do something for him or his family.

Later the same day, that patient—the first one I ever saw—passed away.

Just two months later, I was halfway through my first semester of medical school. I'd finally stopped waiting for someone to pinch me and wake me up. Here I still was, living my dream. I had started to learn something in class and make connections as to how human bodies work in real life.

I enter the University of Minnesota Hospital, a big city hospital with seven floors, countless wings and many people bustling in and out at all hours of the day. This hospital, in fact, is right next door to our lecture hall. I walk in as if I am an authority, because I have been here many times before. I go straight to the 5th floor, C hallway, to room 5426.

In the bed is a small, beautiful, bald woman with a scarf over her head. She has the most expressive eyes. A nasal cannula sits in her nose, hooked up to an oxygen tank. She takes labored breaths, gasping the air in, and my heart drops. I realize these are the same "air hungers" that I saw in my first-ever patient, who died on my first-ever day.

I try not to panic.

I take her hand, which feels cold to the touch. "Hi, mom," I gently say, with the softness of tone that a whisper has, although my actual volume is louder than normal. Chemo has damaged the hair cells in my mom's ears beyond repair and she has trouble hearing.

She tries to say something back. "Hi, sweetie," is what she usually says, but this time it's too hard for her to breathe. She looks up at me again, then closes her eyes from fatigue. I close mine, too, just to stop the flood welling up in them. Keep breathing, I remind myself. I want to scream. I imagine myself in a boat in the middle of the ocean, with blue sky all above me and blue water all around me, just a tiny me on a tiny vessel in a sea of vast nothingness where nothing bad or stressful can happen and I'm just floating, floating, floating. I feel a deep sense of longing inside me. Longing to be on the ship at sea, longing to be outside, longing to be anywhere but here. Longing to no longer be a witness to pain on a level that I can barely even fathom in the human I love the most.

I take a deep breath and pull it together, reminding myself to stop being so ridiculous. Wanting to be on a boat at sea is great, I think, but you are here now. And. Now. Is. What. You. Have.

I sit down next to mom and gently rub her hands, softly describing my day to her, working for a hint of a smile in her eyes. She has no idea the lengths I would go to make her smile, the way I try so hard to work any charm I have so I can see a flash of life, though I make sure telling my stories seems effortless.

I recall an email she sent me before she was quite this sick. The title read: "Colleen, you are a rock." The message read: "But also soft too. You give me strength and encourage me so don't ever think that your strength and encouragement aren't important." I know, based on this sweet message, that she sees right through me and knows this is hard, knows I am being hard on myself about the main things in my life—med school and her leukemia.

I hold her hand, imagining myself there as a rock, steady and solid, but also soft. A soft rock. I can be that. I can be anything.

MM

Colleen Bell is a second-year student at the University of Minnesota Medical School. She says that "thanks to two bone marrow transplants and excellent care at the University of Minnesota," her mother, Carolyn, is currently at home and doing well

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