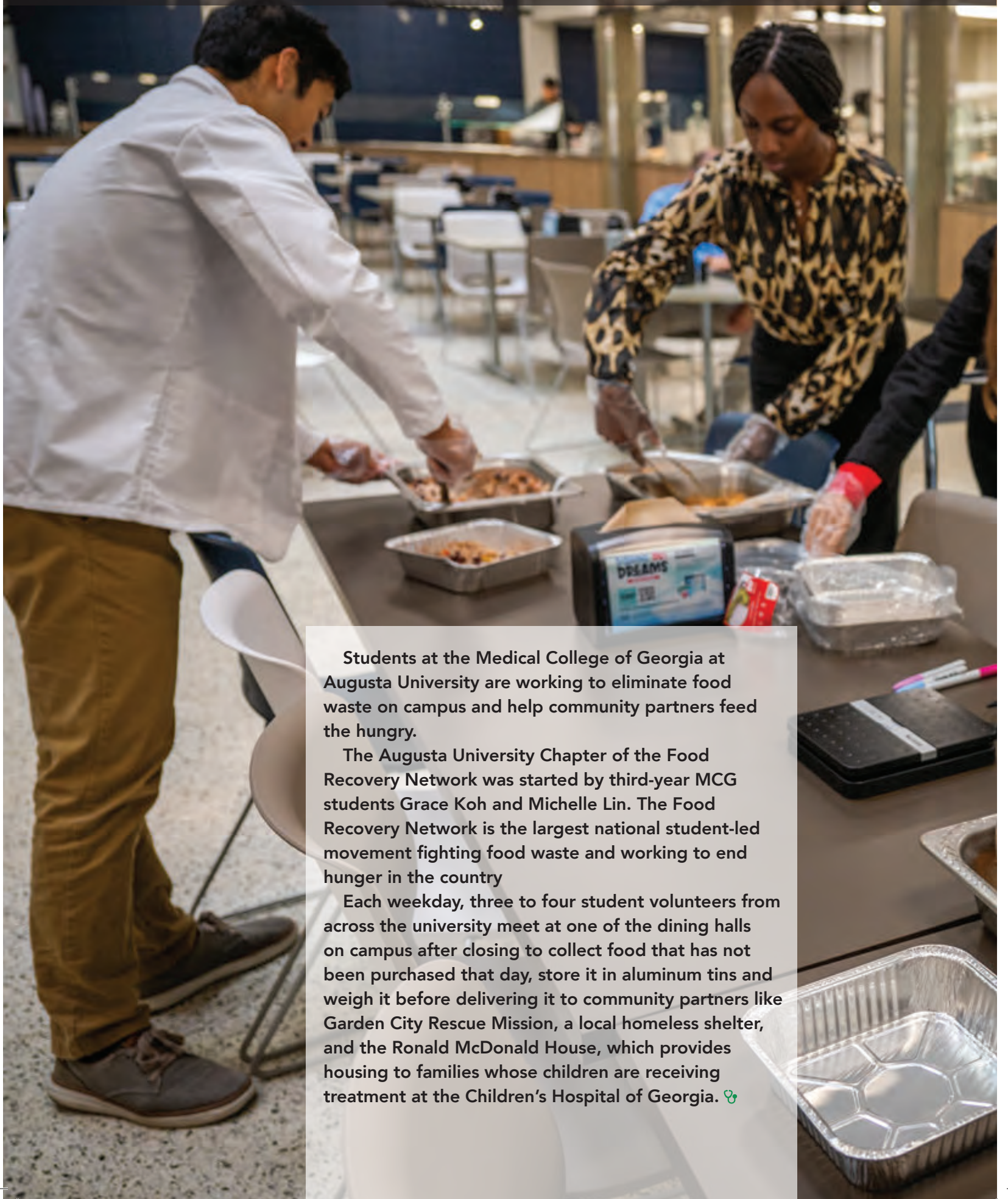


MCG **Medicine**

FALL | WINTER 23



Transforming Children's Health



Students at the Medical College of Georgia at Augusta University are working to eliminate food waste on campus and help community partners feed the hungry.

The Augusta University Chapter of the Food Recovery Network was started by third-year MCG students Grace Koh and Michelle Lin. The Food Recovery Network is the largest national student-led movement fighting food waste and working to end hunger in the country

Each weekday, three to four student volunteers from across the university meet at one of the dining halls on campus after closing to collect food that has not been purchased that day, store it in aluminum tins and weigh it before delivering it to community partners like Garden City Rescue Mission, a local homeless shelter, and the Ronald McDonald House, which provides housing to families whose children are receiving treatment at the Children's Hospital of Georgia. 🌱

Dean: David C. Hess, MD
Executive Editor: Toni Baker

Editor: Jennifer Scott
Contributing Writer: Danielle Wong Moores

Photographer: Michael Holahan
Design & Production: Pam Hayes

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FROM THE DEAN

There are watershed moments in the lives of medical schools. They don't come often but when they do, we want to position ourselves to make the most of the opportunities to take MCG to the next level.

I don't think I am overstating when I say that identifying a partner committed to excellent patient care, to medical education and to Georgia to manage our health system is one of those watershed events and transformative moments for the Medical College of Georgia.

Together MCG and its health system comprise Georgia's only public academic medical center, a place of hope and life-sustaining service, where medical students, residents and fellows learn, and where scientific discoveries take their first steps into improving the lives of people. This is important work and our health system as currently configured has struggled fiscally and operationally for years now to do their part. We had to find a better way. Our state, its citizens and our nearly 200-year-old medical school deserve no less.

And, I believe we have found our way. Many of you likely know by now that near the end of December 2022, the University System of Georgia in partnership with Augusta University, AU Health and our medical school announced plans for Georgia-based Wellstar Health System to assume management of our health system. We believe that structure will be fully operational by July 1, the beginning of our fiscal year.

Under the new partnership, MCG also will have an increased academic association with Wellstar that, with the approval of our accrediting body, the Liaison Committee on Medical Education, will enable establishment of a clinical campus in Atlanta. Please know that our students have been going to Wellstar's flagship hospital, Wellstar Kennestone in Marietta, for nearly eight years now to do

one or more of their clinical rotations. At this moment, we already have 17 third-year students at Wellstar Kennestone where they will be able to complete all their clinical rotations if they choose to. With the clinical campus, our junior and senior students will live and learn in the Atlanta area and make important life choices about what and where they will practice.

I hope you know how important ensuring great medical care in more rural regions of our state is to MCG's mission and purpose and to me personally. I can assure you that this partnership and an expanded presence in Atlanta will only enhance and expedite that mission by enabling us to more rapidly expand to 300 students per class — we are at 264 students per class at this moment — and ideally to eventually grow beyond 300 to better serve a state that regularly ranks among the nation's 10 most populous. In fact, Wellstar's nine-hospital system includes facilities in Austell, Douglasville, Hiram, Griffin, Jackson and LaGrange, all smaller communities in our beautiful state.

Wellstar's leadership also includes the kind of individuals I believe you will want affiliated with your medical school, including Candice Saunders, president and CEO, who started her career as a critical care nurse and has worked with Wellstar for 16 years. Her work at the bedside drives her decisions today to provide excellent patient care and take great care of employees as well, because nothing is possible without their satisfaction and success. Executive Vice President Hank Capps, MD, is a family medicine physician who discovered his natural aptitude for IT a little later in life when he helped implement an electronic medical record, or EMR, system. He quickly established himself as a leader in optimizing technology to benefit patients, including innovative wellness initiatives.

Our 1999 graduate, James Hornsby, MD, another family medicine physician, who once led the nonprofit Good Samaritan Health Center of Cobb in Marietta and has helped take care of citizens around the world, exemplifies the knowledgeable and approachable Board of Trustees.

And there's more. Our governor, chancellor and legislature included in this year's state budget funding for a new EMR system. The EMR was developed in this country in 1972, and getting the right system is much like selecting a good partner for our health system. Because the right system is also essential to the optimal functioning of almost everything we do for patients, from scheduling appointments to providing ready access to their own medical information through a patient portal, even to helping ensure that their bills are timely and accurate. It enables our own faculty with different expertise to immediately and easily consult about a patient. With the right system, we can do the same with referring physicians across the state and beyond. It enables clinical research to find both what is working best and what might work better for patients by readily enabling searches for specific groups of patients, like individuals with breast cancer, their treatment course and outcome. It's highly doubtful that an invaluable tool like the EMR will ever go away, it will only be further refined, and a new system will enable our medical students, residents and fellows to learn today on the most advanced system out there.

As I hope you can see, 2023 has gotten off to an outstanding start for your medical school and I am eternally grateful to so many individuals who stood strongly with us to make these transformative changes happen.

At the top of the list are Georgia Gov. Brian Kemp and University System of Georgia Chancellor (and former governor)

Sonny Purdue. I am thankful for their insight and commitment. Two other longtime servants of our state, Speaker of the House Jon Burns (District 159, which includes Screven County and portions of Effingham and Bulloch counties) and House of Representatives Member Butch Parrish (District 158, which includes Emanuel, Candler, Jenkins and portions of Bulloch counties) were invaluable in moving these key initiatives and MCG forward. I also, of course, want to thank the leadership of Augusta University, particularly President Brooks Keel and EVP Russell Keen, for helping enable these important successes.

I thank each of you as well for supporting Georgia's only public medical school. As I say so often because it is true: We could not and would not want to do this without each of you. 🍀

All my best



David C. Hess, MD
*Dean, Medical College of Georgia
Executive Vice President for Medical Affairs
and Integration, Augusta University
Presidential Distinguished Chair*



FROM THE PRESIDENT

This is an incredible time of growth for our university. In recent months, we have both created and strengthened innovative partnerships that will continue to help our university grow while adhering to our number one priority: offering quality and innovative service to our students and patients.

Everything we do at this institution is grounded on the concept of providing our students with state-of-the-art education and training opportunities in Augusta and beyond. That's what drives this university, and it is shown in the growth we have seen in the number of degrees awarded each year.

We strive every day to provide our students with an innovative and inclusive learning environment to prepare them for the workforce, and our continued enrollment growth and addition of new programs reflect that commitment. Augusta University is a place to not only receive a quality education, but also to build a fulfilling career and make a positive impact on the lives of others.

At the beginning of the academic year, a delegation led by AU Provost Neil J. MacKinnon, MCG Dean David Hess and AU College of Nursing Dean Tanya Sudia traveled to Scotland to continue to build our new partnership with Robert Gordon University and the University of Aberdeen by awarding visiting faculty status to Professor Laura Chalmers, an expert in critical care nursing and interprofessional practice at RGU and Professor James N'Dow, MD, chair in surgery at Aberdeen Medical School. This international partnership with these two world-renowned universities will help us foster new, innovative conversations and ways of thinking, while creating amazing opportunities for our students and patients moving forward as we work on international research collaborations.



In addition to the promising partnership opportunity with Wellstar Health System that Dr. Hess discusses in his column, we also recently announced two partnerships that will add value not just to Augusta University, but to the CSRA and beyond. Augusta Advantage, a new initiative with Augusta Technical College, along with a new partnership with the U.S. Army Cyber Center of Excellence were created with the knowledge that Augusta University is uniquely positioned to help the region and state continue to grow and thrive.

AU faculty are also developing five other programs to be launched in the next couple of years, including a Master of Health Sciences in Speech Language Pathology, a Bachelor of Science in Biomedical Systems Engineering, a Bachelor of Science in Neuroscience, a Bachelor of Arts in Sports Management and a Bachelor of Science in Data Science.

On top of the new program offerings, AU will launch a new School of Public Health, pulling from MCG, the College of Allied Health Sciences, the Institute of Public and Preventive Health and the College of Education and Human Development, as well as Augusta University Online, which will officially launch later this year.

While each of these new initiatives do not directly impact MCG, the indirect value will be felt as we continue to create new avenues for students to join our student body, and for new interdisciplinary research opportunities to be formed.

I am also excited to announce that the Robert B. Greenblatt, MD Library will reopen in April with a completely new look and more resources. For those of us who spent countless hours in that library while at MCG, you know how great a resource that library is. We have committed \$500,000 in new permanent funding to the budget. Every college and school on campus will be able to request materials and access to collections they need to succeed, and this will be tremendously beneficial for our medical students, including better access to the Web of Science database.

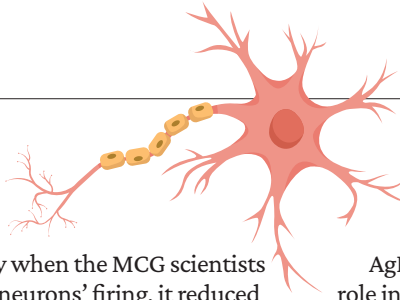
Growth and change are major parts of the spring, and there is plenty of growth and change coming to the Medical College of Georgia and Augusta University.

We are incredibly proud of what the Medical College of Georgia has accomplished, but we must set our sights even higher. The future is extremely bright at MCG, and I can't wait to see what is in store for the next decade — because there is great opportunity awaiting us. I am thrilled to be leading our great university into the future. With the support of those who love MCG, anything is possible. 🍀

Sincerely,

Brooks Keel, PhD
President, Augusta University

STRESSING THE NEURONS



It's clear that chronic stress can impact our behavior, leading to problems like depression, reduced interest in things that previously brought us pleasure, even PTSD.

Now scientists have evidence that a group of neurons in a bow-shaped portion of the brain become hyperactive after chronic exposure to stress. When these POMC neurons become super active, these sort of behavioral problems result and when scientists reduce their activity, it reduces the behaviors, they report in the journal *Molecular Psychiatry*.

Scientists at the Medical College of Georgia looked in the hypothalamus, key to functions like releasing hormones and regulating hunger, thirst, mood, sex drive and sleep, at this population of neurons called the proopiomelanocortin, or POMC, neurons, in response to 10 days of chronic, unpredictable stress. Chronic unpredictable stress is widely used to study the impact of stress exposure in animal models, and in this case that included things like restraint, prolonged wet bedding in a tilted cage and social isolation.

They found the stressors increased spontaneous firing of these POMC neurons in male and female mice, says corresponding author Xin-Yun Lu, MD, PhD, chair of the MCG Department of Neuroscience and Regenerative Medicine and Georgia Research Alliance Eminent Scholar in Translational Neuroscience.

When they directly activated the neurons, rather than letting stress increase their firing, it also resulted in the apparent inability to feel pleasure, called anhedonia, and behavioral despair, which is essentially depression. In humans, indicators of anhedonia might include no longer interacting with good friends and a loss of libido. In mice, their usual love for sugar water wanes, and male mice, who normally like to sniff the urine of females when they are in heat, lose some of their interest as well.

Conversely when the MCG scientists inhibited the neurons' firing, it reduced these types of stress-induced behavioral changes in both sexes.

The results indicate POMC neurons are "both necessary and sufficient" to increase susceptibility to stress, and their increased firing is a driver of resulting behavioral changes like depression. In fact, stress overtly decreased inhibitory inputs onto POMC neurons, Lu says.

The POMC neurons are in the arcuate nucleus, or ARC, of the hypothalamus, a bow-shaped brain region already thought to be important to how chronic stress affects behavior.

Occupying the same region is another population of neurons, called AgRP neurons, which are important for resilience to chronic stress and depression, Lu and her team reported in *Molecular Psychiatry* in early 2021.

In the face of chronic stress, Lu's lab reported that AgRP activation goes down as behavioral changes like anhedonia occur, and that when they stimulated those neurons the behaviors diminished. Her team also wanted to know what chronic stress does to the POMC neurons.

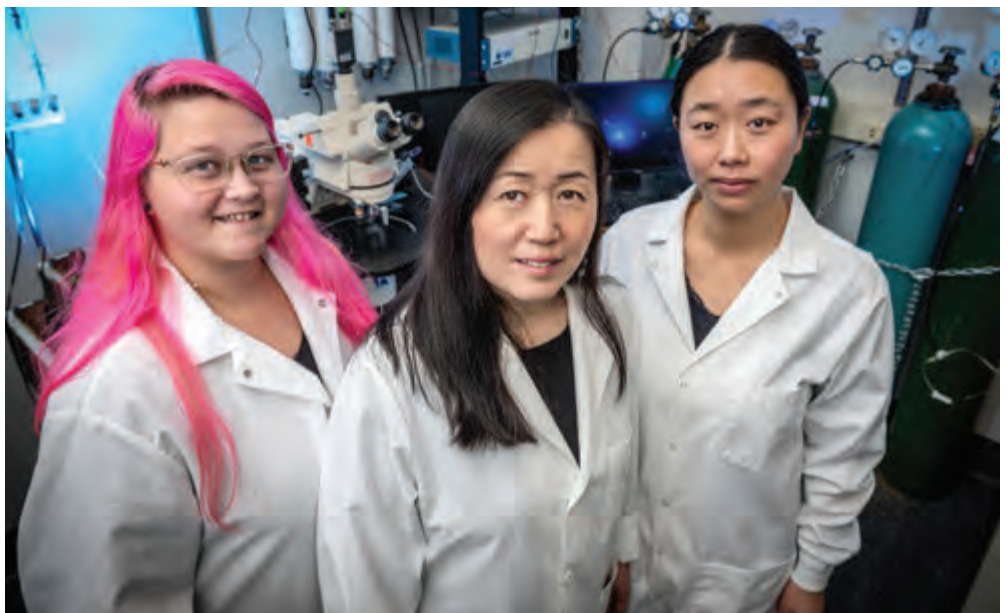
AgRP neurons, better known for their role in us seeking food when we are hungry, are known to have a yin-yang relationship with POMC neurons: When AgRP activation goes up, for example, POMC activation goes down.

"If you stimulate AgRP neurons it can trigger immediate, robust feeding," Lu says. Food deprivation also increases the firing of these neurons. It's also known that when excited by hunger signals, AgRP neurons send direct messages to the POMC neurons to release the brake on feeding.

Their studies found that chronic stress disrupts the yin-yang balance between these two neuronal populations. Although AgRP's projection to POMC neurons is clearly important for their firing activity, the intrinsic mechanism is probably the major mechanism underlying hyperactivity of POMC neurons by chronic stress, Lu says.

The research was funded by the National Institutes of Health. ♡

Xin-Yun Lu, MD, PhD, (center) with Graduate Student Kirstyn Denney (left) and Postdoctoral Fellow Yuting Chen, PhD, both coauthors on the new paper



NEWS & VIEWS

A NEW TARGET

Soon after cholesterol and fat start depositing on the lining of the blood vessels that supply your heart, the smooth muscle cells that give the blood vessels strength and flexibility start to get bigger and multiply.

While scientists studying the phenomenon suspect these vascular smooth muscle cells are trying to help, this atypical behavior for these strong cells instead contributes to coronary artery disease, the most common type of heart disease in the United States.

In a bit of a vicious cycle, stents as well as bypass grafts used to treat coronary artery disease can prompt the same response.

Now Medical College of Georgia scientists report new insight into how the cells enable this unhealthy growth and a new target to intervene.

The endothelial cells that line our blood vessels are in constant communication

with the layers of vascular smooth muscle cells that encase them and play a key role in regulating our blood pressure, says Yuqing Huo, MD, PhD, director of the Vascular Inflammation Program in the Vascular Biology Center at MCG.

In states of good health, for example, the two cell types share messages about how it's time for our blood vessels to dilate a little because we are exercising. Early in vascular disease, however the conversations change, says Huo, corresponding author of the study in the American Heart Association journal *Circulation*.

"They get the message that something is wrong," says Huo, and existing cells get exponentially bigger and start proliferating, which these cells don't normally do, perhaps in an effort to make more room inside for blood to flow since cholesterol and fat are narrowing the existing passageway.

"Normally the smooth muscle cells provide strength... if they start to proliferate a lot, it changes their identity," Huo says.

Whatever the reason, the result is more narrowing and scarring of the vital passageway for blood and worsening disease. So, the scientists looked at the building blocks needed to enable the unhealthy response.

They knew that growing more and bigger cells requires more DNA, RNA and the proteins they produce. To make that happen requires more purines, one of two chemical compounds in the body used to make the building blocks of DNA, in this case adenine and guanine.

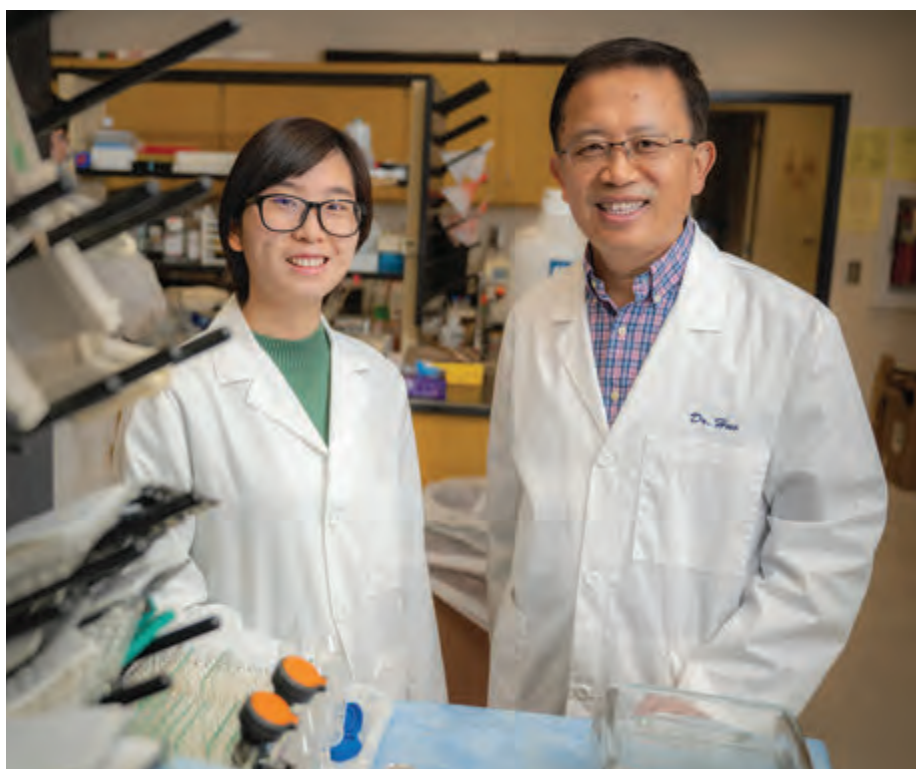
What they didn't know was precisely how these cells make more purine when faced with arterial disease, says Qian Ma, PhD, postdoctoral fellow with Huo and the study's first author.

There are two fundamental ways cells come up with purine: One is to essentially make it from scratch, called de novo purine synthesis, and the other is recycling.

The MCG scientists are the first to find that the higher-energy consuming de novo purine synthesis is increased in this scenario, Ma says. In the scar tissue and plaque inside blood vessels of mice and humans, Huo, Ma and their colleagues also found increased expression of ATIC, a gene essential to purine production.

"Our model demonstrates that this ATIC is important and targetable," says Ma.

While there is still much work to do, Huo suspects an ATIC inhibitor would work best early in the disease process when an abnormal stress test indicates that cholesterol and fat in the blood are starting to deposit inside blood vessels and that applying an inhibitor to stents placed inside diseased blood vessels would be one good way to administer it. ♡



(from left) Qian Ma, PhD, and Yuqing Huo, MD, PhD

OPPORTUNISTIC PATHOGENS

A big group of bacteria found in our soil, our water and our showerheads are harmless for most of us, but a new study indicates they are associated with an increased risk of dying in individuals whose kidneys have failed.

In what appears to be the first study of its kind, investigators at the Medical College of Georgia and Charlie Norwood VA Medical Center in Augusta looked in the United States Renal Data System at patients with end-stage renal disease, or ESRD, who also had a diagnosis of infection with the nontuberculous mycobacteria, or NTM, group.

They found a significant and independent increase in mortality with an NTM diagnosis in these patients, indicating that early diagnosis and treatment of an NTM infection may improve survival in ESRD patients, they report in the *Journal of Investigative Medicine*.

“It’s important to be alert that certain patients can be at higher risk for NTM and that NTM carries a risk for mortality,” says Stephanie L. Baer, MD, MCG infectious disease physician and chief of infection control and epidemiology at the Charlie Norwood VA Medical Center.

These “opportunistic” pathogens, which have even been found in dialysis machines, tend to only cause serious problems when a patient has a compromised lung or immune system function.

Patients whose kidneys have failed are considered to have a compromised immune function and generally considered at higher risk of infection, so investigators at MCG and the VA wanted to better identify prevalence, risk factors as well as associated deaths in those who also had an NTM infection.

They looked specifically at the 0.3% of the 1.1 million patients in the database with ESRD and an NTM diagnosis over a decade that ended in 2015. Patients were either on dialysis or had a kidney transplant.

“We looked for risk factors for the bacterium ... and we looked at the different diseases it causes, like lung disease, skin disease, and disseminated disease and looked at the mortality of those patients,” says Baer, corresponding author.

With a few exceptions like skin disease, NTM infection pretty much always increased mortality in patients with ESRD, she says.

The investigators emphasize that their findings highlight the need for physicians to remain vigilant for NTM infections in ESRD patients.

“This is showing an association,” says coauthor Wendy B. Bollag, PhD, cell physiologist in the MCG Department of Physiology. “We don’t know if NTM directly causes the mortality or is more of a red flag to their physician to treat that patient aggressively in that moment.”

It does mean patients with ESRD may need testing for NTM, if there are symptoms that indicate it may be present, and treatment with the appropriate antibiotics, they say. It may additionally indicate they need to be screened for conditions like infection with



(from left) Wendy Bollag, PhD and Stephanie Baer, MD

HIV, which directly targets the immune system, and those who have received a kidney transplant may need adjustments in the medications they must take to keep their immune system from attacking the transplanted organ.

To help ensure that they were looking specifically at the association between ESRD and NTM, the investigators controlled for other known risk factors for NTM infection such as being Black, having diabetes or liver disease, or being HIV positive. The database did not contain information on other potentially confounding factors like BMI and blood levels of proinflammatory factors.

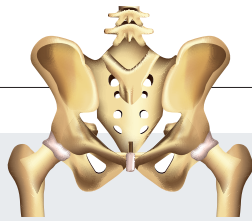
They found a higher risk of NTM infection with peritoneal dialysis versus hemodialysis. Peritoneal dialysis can be done at home and uses a cleansing fluid and the lining of the abdomen to filter waste products, compared to machine-based hemodialysis, but exactly why there was a difference was not clear. Rheumatologic disease like arthritis, which may require medicine that suppresses the immune response and so painful inflammation, also increased the NTM risk as did a history of organ transplant, and the investigators note that due diligence in needed in individuals with these added risk factors.

The database did not specify which NTM was most prevalent, but they suspect it was the *M. avium* complex, which is by far the most common type in the Southeastern United States, Baer says.

“It is all around us. It can cause an allergy called a hot tub cough or sneeze,” Baer says.

The paper’s first author, Eszter Toth, is a medical student at MCG who is currently doing a year of research in the lab of Steven Holland, MD, director of the Division of Intramural Research and chief of the Immunopathogenesis Section of the National Institute of Allergy and Infectious Diseases. 🌱

NEWS & VIEWS



BONE & MUSCLE TALK

The conversations between our bone and muscle change as we age, and both are the weaker for it, Medical College of Georgia scientists say.

They are leading a five-year, \$11 million initiative funded by the National Institutes of Health to keep the conversation, our bone and muscle and ultimately us stronger longer.

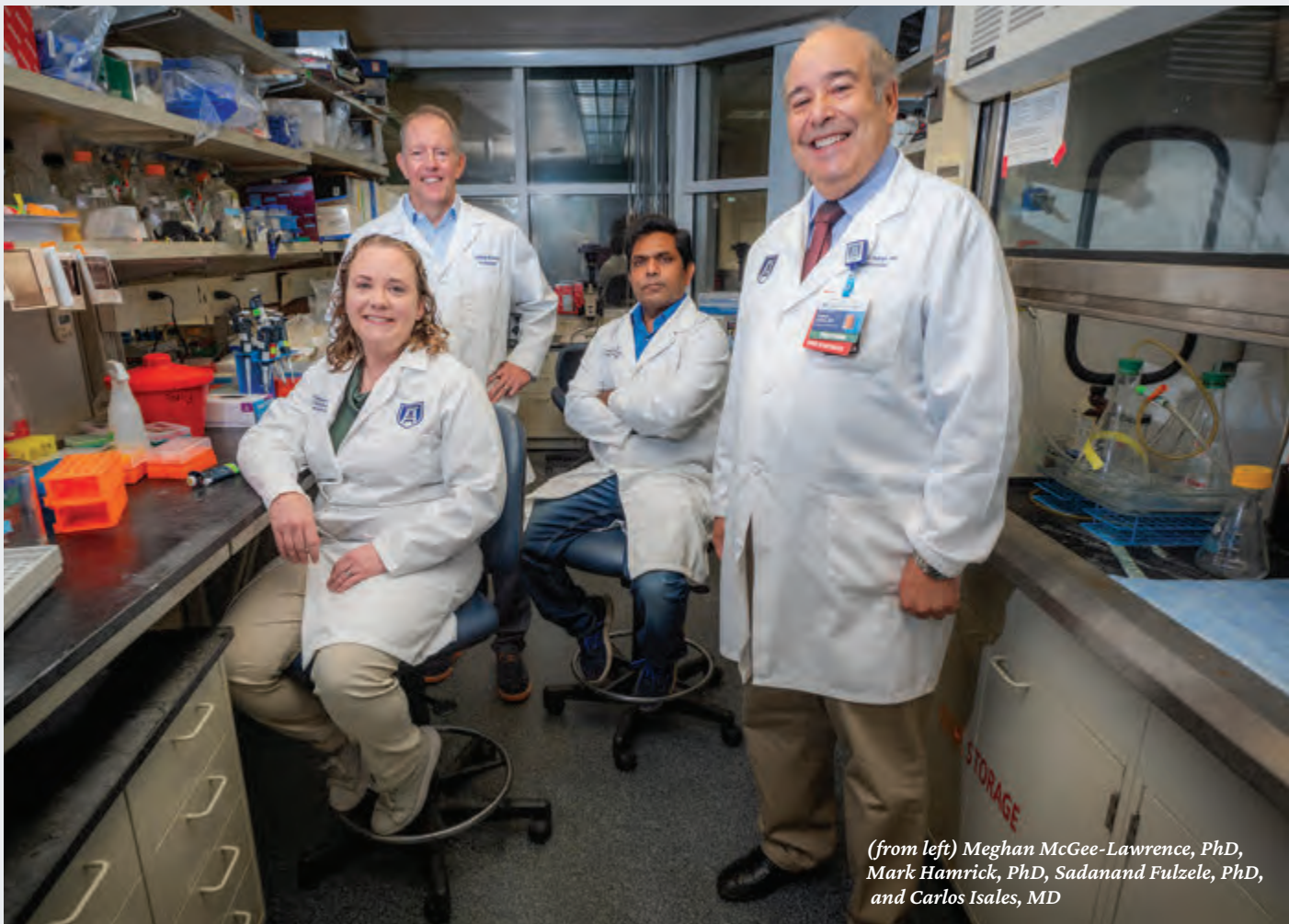
The bone and muscle that keep us upright are in constant communication and their wellbeing tends to go hand in hand, says Carlos Isales, MD, chief of the MCG Division of Endocrinology, Diabetes and Metabolism and co-director of the Center for Healthy Aging. Muscle loss, or

sarcopenia, is a major cause of falls, and falls are a major cause of bone fractures, including common and potentially debilitating hip fractures.

Isales; Mark Hamrick, PhD, bone and muscle biologist and co-director of the Center for Healthy Aging; Sadanand Fulzele, PhD, aging researcher in the Department of Medicine; and Meghan McGee-Lawrence, PhD, a biomedical engineer in the Department of Cellular Biology and Anatomy, are principal investigators on the re-renewal of the NIH Program Project grant that will identify early, optimal points for novel interventions to change this dynamic in an

aging population that is exploding with all 73 million baby boomers reaching age 65 by 2030.

Early in the complex biological dynamic than can go awry with age is tryptophan, an essential amino acid many of us associate with making us sleepy after a big turkey dinner. But Isales calls tryptophan “an important centerpiece of metabolism,” which helps us produce and maintain important proteins, enzymes even neurotransmitters that enable brain cells to communicate with each other and other cell types, like the constant communication between our brain and body so we can flex our muscles and move our legs.



(from left) Meghan McGee-Lawrence, PhD, Mark Hamrick, PhD, Sadanand Fulzele, PhD, and Carlos Isales, MD

Throughout life, the natural enzyme, indoleamine 2,3-dioxygenase 1, likely better known for its role in tamping down inflammation, breaks tryptophan down into usable products like kynurenine and picolinic acid, which are known to have an important role in the production of fuel for our cell powerhouses, or mitochondria.

But as with so many natural functions, with time the relationship becomes unbalanced. Our tryptophan levels tend to drop, while levels of IDO1 tend to rise.

Higher IDO1 levels mean more of the available tryptophan gets converted to kynurenine, which is now more likely to hook up with the aryl hydrocarbon receptor, or AhR, already associated with stiff, aging blood vessels in mice and humans. This connection means kynurenine instead damages cell powerhouses, increases inflammation and generally ages muscle and bone.

In bone and muscle, the MCG scientists say the receptor's activation by kynurenine drives up destructive oxidative stress, which damages the powerhouses, which makes bone and muscle weak because cells don't have the energy they need. "That is our idea," Hamrick says.

"If we can prevent activation of AhR, we can prevent some of the bad things we have seen happen downstream," McGee-Lawrence says, noting the drugs they are using for these studies were designed to inhibit the receptor in cancer.

The bottom line could mean that treatment of bone might help restore the health of muscle and/or vice versa, by helping restore healthier conversations between the two, Hamrick says. In fact, a class of existing drugs called bisphosphonates, which hone in to bone and today are widely used to treat osteoporosis, might be a good mechanism to deliver additional, targeted treatment, he says. 🍀



Laura Carbone, MD

CALCULATING THE RISK

Osteoporosis is a major, worsening public health problem and bisphosphonates, which help restore a healthier balance of bone production and resorption, have been a relatively inexpensive, successful treatment, particularly for those at highest risk for fractures.

But even as the population ages, the drugs' use has been trending down amid patient concerns about rare, but potentially serious side effects linking their long-term use to unusual fractures of the femur or thigh bone, the biggest bone in the body, and an even more rare jawbone loss called osteonecrosis.

Investigators have launched a five-year, \$5.7 million study funded by the National Institutes of Health to objectively analyze big, diverse datasets of males and females who have been using these drugs to objectively assess

the risk and benefit of continuing to take bisphosphonates versus taking so-called drug holidays, which can stretch out for years, in an effort to avoid the rare side effects.

Their bottom line will be developing a risk calculator called CLUB — calculator for length of use of bisphosphonates — that a physician can use to help an individual patient determine how best to proceed.

"The calculator will be designed so a physician can sit down with their patient and say: In the next X number of years you have X chance of an osteoporotic hip fracture based on everything we know about you, and this is your risk for an atypical femoral fracture," says Laura Carbone, MD, an osteoporosis expert who is chief of the Division of Rheumatology at MCG and principal investigator on the new grant. 🍀

NEWS & VIEWS

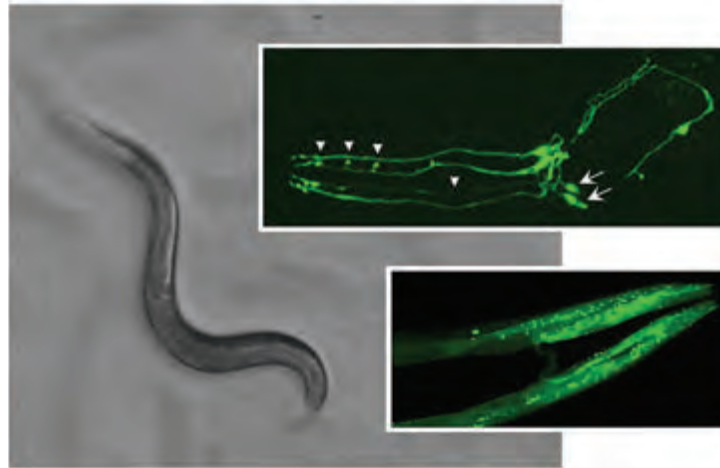
FROM GUT TO BRAIN

A tiny worm called the *C. elegans* is enabling scientists to explore the emerging theory that Parkinson's disease starts in the gut.

Key to the condition known to produce uncontrollable shaking, but also characterized by cognitive problems and gastrointestinal distresses like constipation, is a sticky, toxic form of the protein alpha-synuclein, which literally gums up the works of our neurons and kills them.

Although it may seem counterintuitive, there is evidence from science labs like Neuroscientist Danielle Mor's, PhD, that the toxic protein aggregates in the neurons in the gut before it interferes with neurons in the brain. The collection of destructive alpha-synuclein, called Lewy bodies, also has been found on autopsy in neurons embedded in the wall of the gastrointestinal tract of patients with early Parkinson's.

"This is now a hot area of research," says Mor, a faculty member in the Department of Neuroscience and Regenerative Medicine at the Medical College of Georgia. "I think we need to be intervening at the stage of the gut and that is honestly pretty exciting."



It's known that neurons in the gut regularly communicate with those in the brain and vice versa but just how the alpha-synuclein gets messed up in both is another uncertainty.

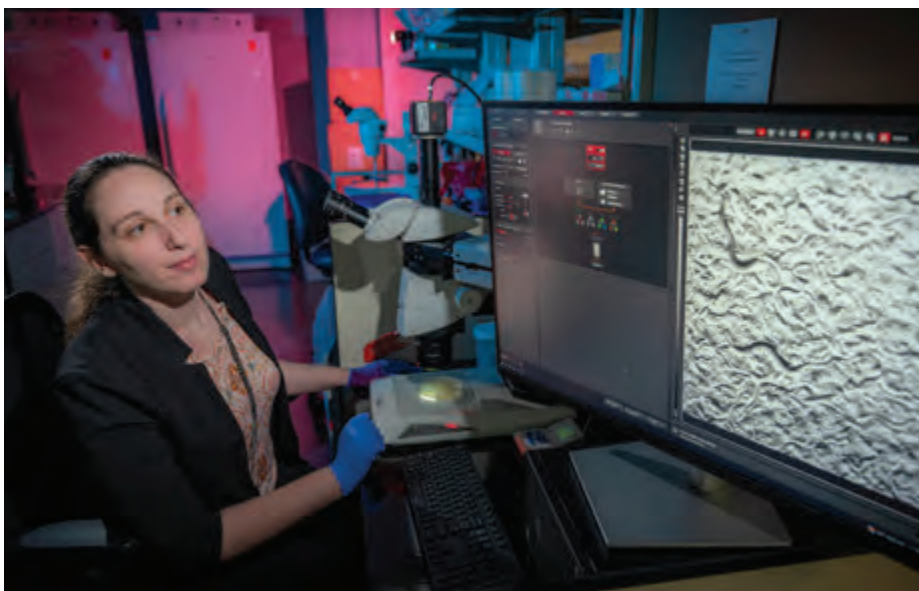
Still in animal models, scientists like Mor have watched the sticky wads get spit out of one neuron and get taken up by the next. They've also watched the sticky wads in the gut travel up the spinal cord into the brain. It appears this unfortunate sharing occurs primarily between neurons that already connect and communicate, says Mor.

She just received a two-year \$400,000 Early-Investigator Research Award from the U.S. Department of Defense that is helping her learn more about the effects of gut-derived alpha-synuclein on cognition, how it gets inside neurons and whether there are existing drugs that can deter the cognitive impact.

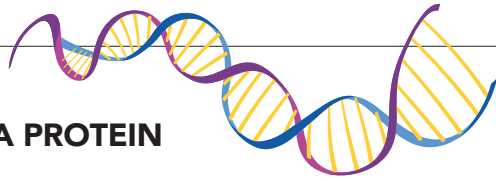
Mor is among the first scientists to look at how alpha-synuclein in the gut affects cognition. And the transparent-throughout-life *C. elegans* are a great model for pursuing answers, Mor says.

These nematodes, or roundworms, despite their size of about .039 inches, have a gene number and gene pool similar to humans. They also have a digestive tract and many of the same neurotransmitters as humans as well as an alimentary nervous system, which is basically a network of neurons in the gut and where Mor thinks the early alpha-synuclein first congregates and why she developed her worm models.

For the newly funded studies, she is focusing on the cognitive problems that often surface later in Parkinson's. So as the destructive alpha-synuclein travels from gut to brain she is testing learning and memory in the worms, which she says, again seemingly counterintuitively, is not that tough to do. ♡



Danielle Mor, PhD



TARGETING A PROTEIN

In the tough war against glioblastoma, scientists are taking a cue from viruses on how to make the aggressive cancer more vulnerable to treatment.

Their target is SAMHD1, a protein which can protect us from viral infections by destroying an essential building block of DNA that viruses and cancer need to replicate.

But they've found SAMHD1 also has the seemingly contradictory skill of helping repair double-strand breaks in the DNA that if unrepaired can be lethal to any cell, including a cancer cell, and if mended incorrectly can result in genetic mutations that produce cancer.

“When the DNA breaks, that is what actually interrupts the DNA replication and also the synthesis of proteins, so a double-strand break is lethal for cells,” says Waaqo Daddacha, PhD, cancer biologist in the Department of Biochemistry and Molecular Biology at the Medical College of Georgia.

Cancer cells, which are reproducing much more rapidly than most normal cells, are replicating even faster, so are impacted even more by these DNA breaks, which is why fundamental therapies like radiation and some chemotherapy drugs used to treat cancers make these lethal breaks.

However, the aggressive brain cancer quickly becomes treatment-resistant and the average survival remains at about 15 months, Daddacha says.

Now Daddacha and his colleagues report in the journal *Cancers* their surprising finding that in glioblastoma in humans both SAMHD1 and the essential DNA building block dNTP, which it can destroy, are highly expressed, indicating SAMHD1's likely importance to the brain tumor's aggressiveness and raising questions about what it's doing there.

They were expecting high levels of dNTP because cancers need a ready supply of this building block to keep up their rapid pace of replicating and spreading, Daddacha says. Since dNTP levels were high, they were also expecting low levels

of SAMHD1 would be present and that increasing its levels would help protect against glioblastoma.

They would find the opposite to be true, indicating that like with so many innate properties cancer usurps, glioblastoma likely alters the function of SAMHD1.

Based on what they found, the scientists instead decided to reduce SAMHD1 levels and that's where viruses' skill at eliminating the multitasking protein came in.

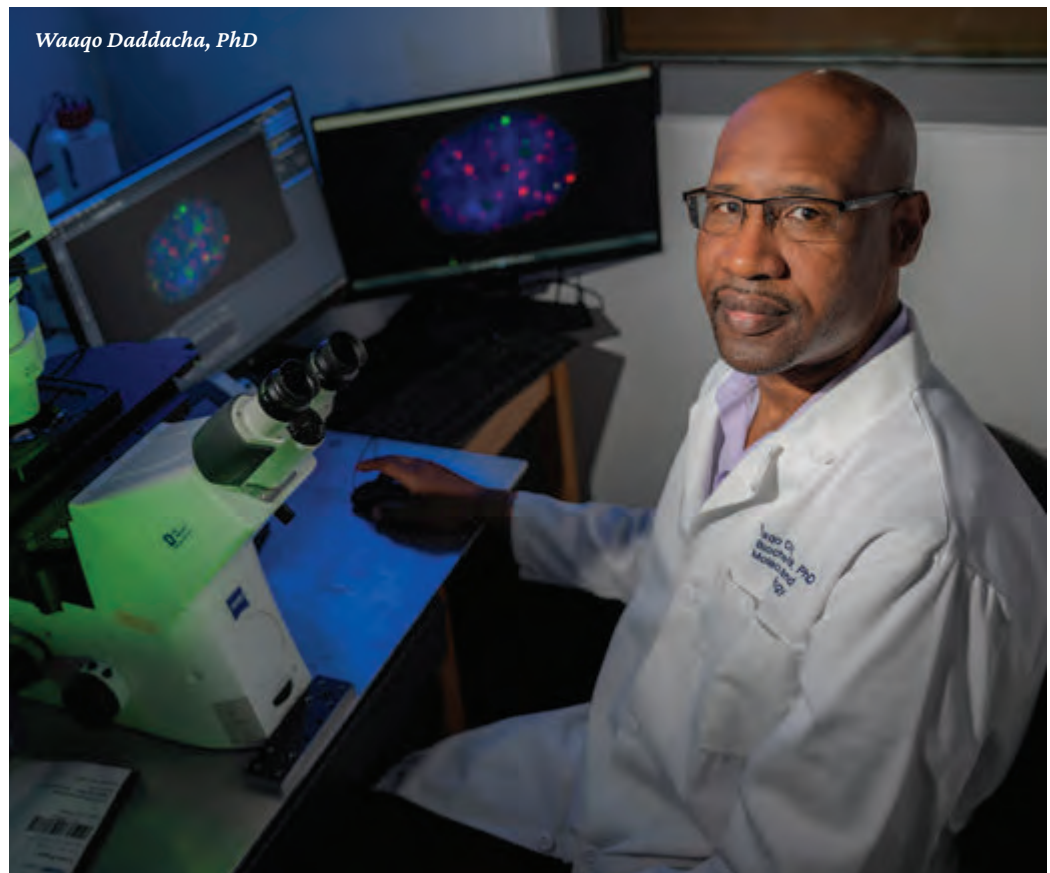
Viruses deploy the protein viral protein X, or Vpx, to literally chop up SAMHD1 so they will have a ready supply of dNTP, a virus skill set first identified in HIV. So, the scientific team used a virus-like particle, called a vector, to deliver Vpx directly to the glioblastoma. These types of viral vectors already are used in people to deliver a variety of therapies, including some of the COVID-19 vaccines.

One of the ways cancer takes over a protein for its own purposes is by modifying its function so, for example, it could shift SAMHD1 into primarily DNA repair mode and reduce its natural ability to degrade dNTP, and Daddacha suspects glioblastoma is changing SAMHD1's function.

“Clearly it's using it to survive,” Daddacha says, which is likely at least a part of how glioblastoma is so tenacious, and a piece of the big puzzle needed to one day better treat the deadly cancer.

Their findings indicate that SAMHD1 can be targeted and eliminated using the viral protein Vpx in glioblastoma, Daddacha says, but notes that much work remains before the findings and the tool can be used to improve glioblastoma treatment.

The research was funded by the National Cancer Institute. 🌱



Waaqo Daddacha, PhD

NEWS & VIEWS



MICROSCOPIC PROBLEM

Disease of the microscopic blood vessels that feed the white matter of our brain is associated with worse cognitive function and memory deficits in individuals with Alzheimer's, scientists report.

"The main message of this paper is the mixed pathology as we call it — microvascular disease and Alzheimer's — is associated with more brain damage, more white matter damage and more inflammation," says Zsolt Bagi, PhD, vascular biologist in the Department of Physiology at the Medical College of Georgia.

Theirs and other recent findings suggest that some people with Alzheimer's who have brain changes widely associated with the condition, like amyloid plaques, may not develop dementia without this underlying vascular dysfunction, the researchers write in the journal *GeroScience*.

"We are proposing that if you prevent development of the microvascular component, you may at least add several

years of more normal functioning to individuals with Alzheimer's," Bagi says.

He and by Stephen Back, MD, PhD, pediatric neurologist, Clyde and Elda Munson Professor of Pediatric Research and an expert in white matter injury and repair in the developing and adult brain at Oregon Health & Science University, are co-corresponding authors of the new study.

The good news is that vascular disease is potentially modifiable, Bagi says, by reducing major contributors like hypertension, obesity, diabetes and inactivity.

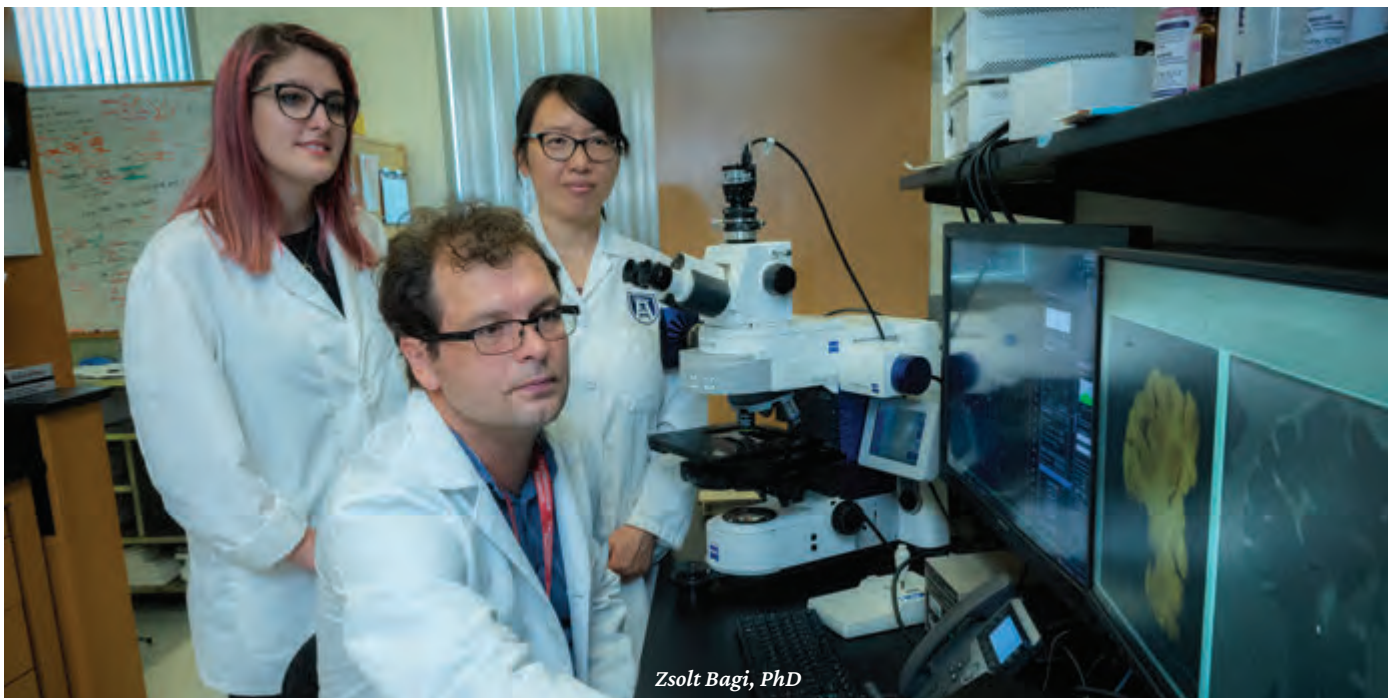
The scientists looked at the brains of 28 individuals who participated in the Adult Changes in Thought Study, or ACT, a joint initiative of Kaiser Permanente Washington Research Institute and the University of Washington, whose scientists also were collaborators on the new study.

Their focus in the studies was the white matter, which accounts for about 50% of the brain mass, enables different regions of the brain to communicate and is packed with long arms called axons that connect

neurons to each other and to other cells across the body like muscle cells. And, the microscopic arterioles that directly feed white matter with blood, oxygen and nutrients.

They wanted to test their theory that when these hair-thin arterioles had difficulty dilating and so supporting this part of the brain, it resulted in changes to the white matter that were evident on sophisticated MRIs, especially when microvascular problems coexisted with the more classic brain changes of Alzheimer's.

They found that the arterioles of those who had been diagnosed with Alzheimer's and dysfunction of these tiny arteries did have an impaired ability to dilate in response to the powerful blood vessel dilator bradykinin, compared to those without obvious microvascular dysfunction. Problems with dilation were associated with white matter injury and changes to the white matter structure that were visible on MRI. 🍀





A NEW PURPOSE FOR OLD DRUG

Clonidine is commonly used as a high blood pressure medication and for ADHD. It's also already been studied in PTSD because clonidine works on adrenergic receptors in the brain, likely best known for their role in "fight or flight," a heightened state of response that helps keep us safe.

These receptors are thought to be activated in PTSD and to have a role in consolidating a traumatic memory. Clonidine's sister drug guanfacine, which also activates these receptors, also has been studied in PTSD. Conflicting results from the clinical trials have clonidine, which has shown promise in PTSD, put aside along with guanfacine, which has not.

Scientists at the Medical College of Georgia say it's time for another look at clonidine.

They have laboratory evidence that while the two drugs bind to the same receptors, they do different things there, says Qin Wang, MD, PhD, Georgia Research Alliance Eminent Scholar in Neuropharmacology and founding director of the Program for Alzheimer's Therapeutics Discovery at MCG.

Their results published in the journal *Molecular Psychiatry* suggest that clonidine could provide immediate treatment to the

significant number of people emerging from the current pandemic with PTSD, as well as from longer-established causes like wars and other violence.

Large-scale clinical trials of clonidine in PTSD are warranted, the scientists write. Their studies also indicate that other new therapies could be identified by looking at the impact on activation of a key protein called cofilin by existing drugs.

The scientists found clonidine interferes with cofilin's exit by encouraging it to interact with the receptor which consequently interferes with the dendritic spine's ability to resume a mushroom shape and retain the memory. Guanfacine, on the other hand, had no effect on this key player cofilin.

When a memory is recalled, like when you return to an intersection where you were involved in a horrific car wreck, the synapses that hold the memory of what happened there become temporarily unstable, or labile, before the memory restabilizes, or reconsolidates. This natural dynamic provides an opportunity to intervene in reconsolidation and so at least diminish the strength of a bad memory, Wang says and clonidine appears to be one way to do that. ♡



Qin Wang, MD, PhD, (left) and Hasibur Rehman, PhD



Ravindra Kolhe, MD, PhD

A CLEAR LOOK

Technology that enables an unprecedented, high-resolution look for all structural variants in our genes that are known to cause cancer can outperform standard tests used today for common blood cancers like leukemia, researchers report.

It's called optical genome mapping, or OGM, a longtime research tool making its way into health care.


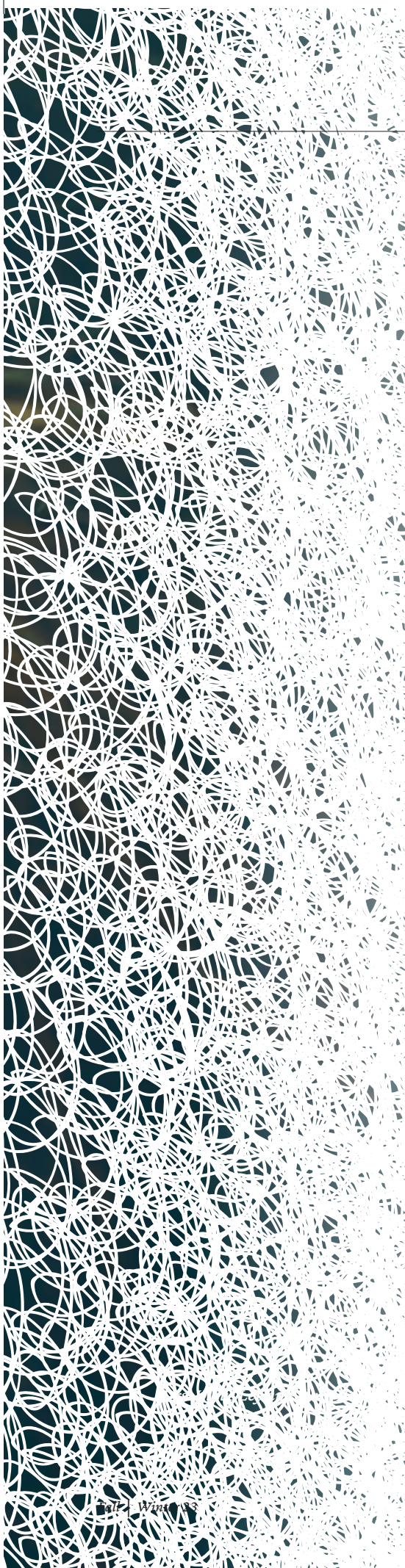
Now the first study to standardize precisely how to use OGM for patients with a wide range of blood cancers indicates it can duplicate what existing tests find, provide better insight on the variants those tests identify and find additional variants, information that should improve patient outcomes.

"This is the first study to try to standardize the way we need to investigate these structural changes in hematologic malignancies using OGM for patients," says Ravindra Kolhe, MD, PhD, molecular pathologist and interim chair of the Department of Pathology at the Medical College of Georgia.

"The bottom line is that by using technology like this, we will be able to make a better, more specific diagnosis, better classify the cancer, give a better prognosis based on that classification and enable better therapy choices," says Kolhe, corresponding author of the study published in *The Journal of Molecular Diagnostics*. ♡



STATE OF
EMERGENCY



AMERICA'S CHILDREN ARE IN CRISIS. SUICIDE IS THE SECOND LEADING CAUSE OF DEATH AMONG 10-24 YEAR-OLDS.

ADHD, anxiety, behavior problems and depression are the most diagnosed mental disorders in children, according to the Centers for Disease Control and Prevention. Between 2016-19, among children ages 3-17, 6 million were diagnosed with ADHD; 5.8 million with anxiety; 5.5 million with behavioral problems like inattention or impulsivity; and nearly 3 million with depression.

Around 1 in 44 children has autism spectrum disorder, according to the CDC. In 2000, that number was 1 in 150.

In the past year in Georgia, 11% of children in grades 6-12 reported self-harm; 12% seriously considered suicide; and 6% — or nearly 13,000 — attempted it, according to the Georgia Department of Education. Nearly 120 children in the state died by suicide last year.

The statistics are staggering and help is scarce.

In this country, more than 150 million people live in federally designated mental health professional shortage areas. In Georgia, 14 counties have no child and adolescent behavioral health services. All 120 of the state's rural counties have a mental health workforce shortage. The same is true for most of the state's nonrural counties.

There are only 700 developmental pediatricians in the entire country.

With a recent \$5.3 million gift from the Kevin and Brittany Kisner Foundation to help lay the groundwork for a new Center for Pediatric Development, Behavioral Health and Wellness, leaders at the Medical College of Georgia and Children's Hospital of Georgia hope to begin changing these dismal statistics. The center would combine services like developmental pediatrics, pediatric neurology, psychiatry and psychology together with rehab services like physical, occupational and speech therapy, under one roof, creating a one-stop-shop that would serve children and their families, from diagnosis through ongoing treatment, regardless of their ability to pay.

Blown out of the water

These are not new problems, but they are bigger ones.

The American Academy of Pediatrics, the Children's Hospital Association and the American Academy of Child and Adolescent Psychiatry together in 2021 declared the mental health crisis in children had become a national emergency. Concern over the state of children's mental health had been growing for at least a decade before that.

"There is an enormous need for children's behavioral and mental health services, which was there before COVID 19 and was completely and exponentially blown out of the water by the pandemic," says Valera Hudson, MD, '85, chair of the MCG Department of Pediatrics and pediatrician-in-chief at CHOG (see page 32).

The pandemic-induced social isolation, lack of access to school and friends, disruption of daily routines and general uncertainty, certainly led to increased stress and anxiety in children. "A lot of homes are still in crisis," says April Hartman, MD, chief of the Division of General Pediatric and Adolescent Medicine at MCG. "People are stressed. You're seeing parents who have lost their jobs. There's been an increase in domestic violence." But Hartman also suspects part of the increase in the prevalence of these problems in children is also because there's a better understanding of signs and symptoms that were probably always there.

"A lot of the reason we see more and more cases is because we recognize (these issues) now, and we identify (them)," she says. "Learning has changed and

what we require of our kids much earlier is different. When I look back at what we used to do in school, we didn't have algebra until high school. Now it's being taught in middle school. I think things like that bring out the differences in people earlier." The kid that used to just be the "quirky one" in class, may today be diagnosed with ADHD or even autism, for example.

Social influences have also certainly changed. TVs, which used to be relegated to the living rooms, have long since moved into bedrooms and now many children have access to the internet at their fingertips on phones and tablets 24 hours a day, seven days a week. "It's tough for families to regulate that and kids probably aren't getting the sleep they need. It also creates the opportunity for kids to develop unrealistic expectations from what they see on social media, not to mention opening up the door for cyberbullying and all sorts of other issues," says Dale Peebles, MD, child and adolescent psychiatrist at MCG.

"Some of this is specific to the US and our culture, which if you just read the headlines, you can see that we live in very tumultuous, challenging, divided, adversarial times with gross inequities in wealth between the top 1% and everybody else," adds Hudson. "Every country isn't dealing with the same thing we're dealing with."

Nearly 20% of children in the United States have mental and behavioral health issues — and those are just the reported cases. About one in six, or about 17%, of children have been diagnosed with one or more developmental disabilities.

Things are even worse if you're poor. Among children living below 100% of the federal poverty level, more than 22% have a mental, behavioral or developmental disorder and age and poverty level affect the likelihood of children receiving treatment for anxiety, depression or behavior problems, according to the CDC.

When children and families can and do seek treatment, just as is the case for signs of physical illness, the first place they often go is their pediatrician. "When I was in training and in my early days in practice, (general pediatrics) was more disease

April Hartman, MD



focused. Cure the pneumonia or treat the ear infection. Stop the runny nose,” Hudson remembers. “Now it’s anxiety, depression, it’s about school performance, about ADHD. The practice has changed. Many (general) pediatricians in practice today were not trained to treat mental and behavioral health issues.”

Understanding the need is only growing, Hudson began to “really dream and dream big” about establishing a new center to address mental and behavioral health and pediatric development.

Ever the pragmatist, she knew what needed to be done and what should be done, but before the Kisner Foundation’s \$5 million pledge to help sustain the center became a reality, Hudson and others knew they had to start somewhere. “We don’t always have the money and resources to do what we need or want to do. (But) you can’t always wait for the big bang. We began to ask ourselves ‘What can we do now with what we have?’”

We had to start somewhere

What they had at the time was an initial \$350,000 investment from the Kisner Foundation and they had Hartman. Like most pediatricians, the Dorothy A. Hahn, MD, Endowed Chair in Pediatrics was seeing more and more children with mental and behavioral health issues in her practice. Having served on the Behavioral Health Advisory Committee for the Georgia Chapter of the American Academy of Pediatrics since 2019, she knew that trend was only going to continue and had already begun thinking of ways to change how she approached and treated patients and their families in her practice.

The answer was something Hartman calls PEPC — or Pediatric Enhanced Primary Care. She explains the clinic model as a “holistic, team-based approach. Telling children and their families ‘go there for your mental health and come here for your physical health’ doesn’t make sense. We do primary care, but we do it with a team that includes a psychologist. Psychiatry residents also spend time in our clinic. We have a different approach.”

She says the concept is simple enough — looking at the whole child, including any issues they may be facing, instead of

treating a single problem. For example, a child who goes to school and is easily distracted may have ADHD, or they may be distracted because their parents are going through an ugly divorce and they’re caught in the middle, stressed out and can’t focus. “We try to take the time to tease out what’s really going on instead of saying, ‘Yeah, you’re distracted, let’s give you this medicine that will help you focus.’ Sometimes they do need that, but if it’s not ADHD maybe it needs to be treated differently,” she says. “When you start talking to children and their families, all of a sudden, it comes pouring out. Sometimes the kids and parents start crying because they just wanted someone to listen.” If children and their families need additional resources beyond what the clinic can offer, Hartman and her staff help them find them.

"Telling children and their families 'go there for your mental health and come here for your physical health' doesn't make sense. We do primary care, but we do it with a team that includes a psychologist. Psychiatry residents also spend time in our clinic. We have a different approach." – Dr. April Hartman

Changing how pediatricians think about and feel confident in treating mental and behavioral health issues has taken some education, including for Hartman — she earned a certification in integrated behavioral health from the University of Massachusetts Medical School in 2021. With the initial funding from the Kisner Foundation, her clinic has since been able to hire a psychologist and another pediatrician with additional training in primary care behavioral health.

Hartman is also sharing the medical school and its teaching hospital’s resources with pediatricians in the community. Twice each month, she and other area general pediatricians talk with child and adolescent psychiatrists from the MCG Department of Psychiatry and Health Behavior in a meeting they call Curbside Consultations. The pediatricians can ask

about cases and MCG faculty offer some tips to determine if those can be handled at a primary care level or if they may need to be referred to psychiatry.

In February, the Department of Pediatrics, with funding and collaboration from the Pediatric Healthcare Improvement Coalition and Resilient Georgia, also offered, for the first time, a three-day REACH Institute Training to community pediatricians. The REACH, or Resource for Advancing Children’s Health, Institute is a nonprofit founded to ensure the most effective, scientifically proven mental health care reaches all children and their families.

REACH’s patient-centered mental health in pediatric primary care program trains clinicians to diagnose and treat mental health conditions they see every day in practice. The program teaches


them to manage the most common issues themselves, saving referrals to mental health specialists for complex cases. Participants also learn how to refer families to appropriate support services.

They also learn about a wide range of topics, from assessing and treating anxiety disorders, trauma and suicidality to managing depression and how to get the most out of medications.

The goal of REACH training is making pediatricians more confident in their diagnosis and treatment of mental health issues, according to the REACH Institute, which says the program has “transformed the practices of 4,000 physicians.”

It could also transform the lives of a lot of children.

“Seventy-five percent of kids experiencing problems go to their primary care doctor first, because that’s who



"We are all talking about this crisis with children. I just don't know what we're adequately doing about it. This is the answer — creating more services, centers like this that can diagnose and treat more people and can provide more services and more resources for parents who don't have them."

– Brittany Kisner

they're comfortable with," says Eric Lewkowicz, MD, a child and adolescent psychiatrist at MCG who also chairs the Georgia Behavioral Health Reform and Innovation Commission's Subcommittee on Children and Adolescents.

It's also tough to get in to see a psychiatrist, with wait times that can vary from three months to more than six, depending on where you live.

"Fifty percent of mental health illness issues happen before the age of 14. If we can address the issues at that age, we're going to minimize the progression," he says. "We're going to give them a fighting chance."

The Big Bang

As a former speech language pathologist at CHOG, Brittany Kisner became all too familiar with how hard it could be to get children and families the help they needed, so they'd have that fighting chance. "I remember seeing so many families who didn't know who to call, how to call or how to even navigate the support services they need," she says. "There are so many children that fall through the cracks simply because there is no one there to coordinate services. No one there to diagnose them."

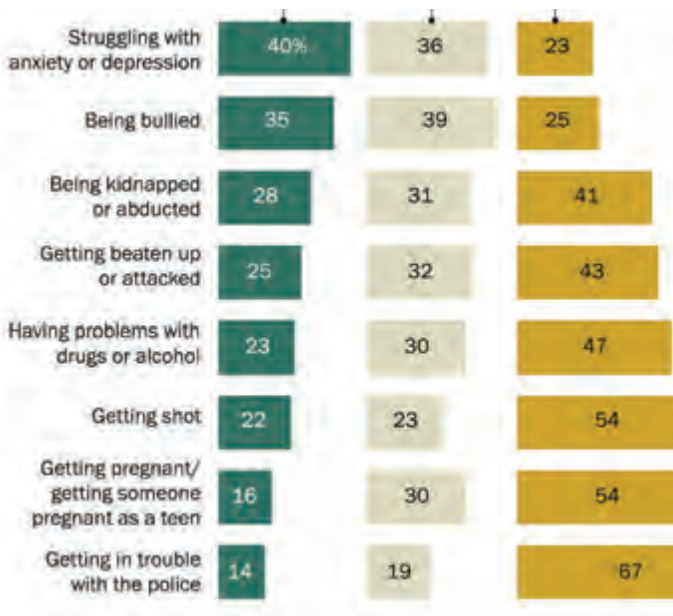
Now a mother of three young children herself, that both inspires and terrifies her. "More so even now, just understanding how hard it is to be a

parent, how hard it is to be a child right now. There's no one who's untouched by this (mental and behavioral health crisis in children). In some sort of way, if you have a child, you can most likely bet that you will be affected."

When Hudson approached Brittany and her husband, PGA golfer Kevin Kisner, a native of nearby Aiken, South Carolina, with the proposal for a new Center for Pediatric Development, Behavioral Health and Wellness at CHOG, Brittany knew instantly it was a perfect fit for their eponymous foundation. The Kevin and Brittany Kisner Foundation is focused around three main priorities — helping children with access to sports, better educational programs and better health.

Hudson's vision for the center was impressive — a one-stop shop, under one roof, where physicians, including developmental pediatricians, pediatric neurologists, child and adolescent psychologists and psychiatrists, as well as speech, occupational and physical therapists, can assess and treat children for anything that impacts their mental wellbeing, whether they are born with it or develop it. "My ultimate dream, which may be pie in the sky, is a patient shows up (to the center) and has an assessment and we tell them 'You know what? You probably need to start with the psychiatrist,' or 'You really need to see the developmentalist because that is where

(from left) Eric Lewkowicz, MD and Dale Peeples, MD



In January, the results of a new survey by the Pew Research Center showed that "four-in-ten U.S. parents with children younger than 18 say they are extremely or very worried that their children might struggle with anxiety or depression at some point. In fact, mental health concerns top the list of parental worries, followed by 35% who are similarly concerned about their children being bullied..."

Parents worried more about those issues than physical threats to their children, the dangers of drugs and alcohol, teen pregnancy and getting in trouble with the police, the report said.

Full article & report: [tinyurl.com/ParentingInAmerica](https://www.pewresearch.org/parenting-in-america/)



Jennifer Poon, MD

STARTLING STATISTICS

ADHD, anxiety problems, behavior problems and depression are the most commonly diagnosed mental disorders in children and some of these conditions commonly occur together. Having another mental disorder was most common in children with depression.

Source: The Centers for Disease Control and Prevention 2016-2019

AGED 3-17 YEARS:

ADHD 9.8% (approx. 6 million)

DEPRESSION 4.4% (approx. 2.7 million)

- About 3 in 4 also had anxiety (73.8%)
- Almost 1 in 2 also had behavior problems (47.2%)

ANXIETY 9.4% (approx. 5.8 million)

- More than 1 in 3 also had behavior problems (37.9%)
- About 1 in 3 also had depression (32.3%)

BEHAVIOR PROBLEMS 8.9% (approx. 5.5 million)

- More than 1 in 3 also had anxiety (36.6%)
- About 1 in 5 also had depression (20.3%)

AGED 2-8 YEARS:

- 1 in 6 has a mental, behavioral or developmental disorder

AGED 12-17 YEARS: DEPRESSION AND SUICIDE

- 1 in 5 (20.9%) experienced a major depressive episode
- More than 1 in 3 (36.7%) high school students reported feeling sad or hopeless
- Nearly 1 in 5 (18.8%) seriously considered attempting suicide.
- About 7 in 100,000 children aged 10-19 years died by suicide in 2018 and 2019

your primary problem is,” and then they are sent there, Hudson says. “The structure we have now is so splintered and fragmented.”

The Kisner Foundation committed to an additional \$5 million endowment to sustain the center, bringing their total gift to \$5.3 million. An additional \$4 million will need to be raised to renovate existing space to give the center a physical home.

“We are all talking about this crisis with children. I just don’t know what we’re adequately doing about it,” Brittany Kisner says. “This is the answer — creating more services, centers like this that can diagnose and treat more people and can provide more services and more resources for parents who don’t have them.”

With the initial funding Hudson and others at CHOG have been able to begin laying the groundwork for the new center, including hiring Jennifer Poon, MD, who will serve as the center’s director. A developmental pediatrician, Poon’s clinic had a waiting list almost as soon as she arrived in 2022.

A native of North Augusta who’s wanted to be a pediatrician since she was five-years-old, Poon came to MCG from the Medical University of South Carolina, where she also went to medical school, trained and had worked since 2011. Her experience also includes serving on the executive committee of the American Academy of Pediatrics Section on Developmental and Behavioral Pediatrics. She says she too was impressed with Hudson’s vision and her clear and concise plan on how to get there. “That really attracted me to this position. I think this is also a great opportunity for collaboration. When services like this are siloed, even from a location standpoint, patients get fragmented care. If your office is just down from the psychiatrist’s office or the pediatrician’s office, the hope is that you can more easily collaborate and share ideas.”

Ultimately, while the center is focused on diagnosis and treatment, Poon says she has hopes it will be about something much bigger than that. “While we make these diagnoses, we’ve got to celebrate

who the child is. At the end of the day, that’s who the family is taking home. Their child who they think is special and awesome. We’ve also got to think of ways to capitalize on children’s strengths.” It’s a philosophy both Hudson and Kisner share as well.

“I hope as we advance and gain more insight, that we can move into prevention and we can help children thrive as opposed to treating illnesses that are already there,” Hudson says, explaining why she specifically wanted the word “wellness” in the name of the center.

“If we can provide better care and coordination of care, most of those children will go on to be successful adults and live normal lives and be productive and happy,” Kisner says. “That’s all I want for my children — to be happy, confident adults who contribute to society in some way.”



For information on how you can contribute to the **Center for Pediatric Development, Behavioral Health and Wellness**, contact Catherine Stewart, director of philanthropy at the Children’s Hospital of Georgia, 706-832-1804 or castewart@augusta.edu; or Mary McCormack, associate vice president for gift and estate planning, 706-540-2885 or mmcormack1@augusta.edu.

The Heart



BY TONI BAKER

The fist-sized heart is one of the first organs to develop and to function. The first heartbeats can start at four weeks of gestation; and the heart should be fully formed by week seven. Congenital heart defects occur in those first few critical days and weeks.

There are known causes like thalidomide, a cancer drug that was also used as a sedative during pregnancy and can cause numerous malformations of a fetus, and the viral disease rubella, but mostly the cause is not certain.

There are more than 250 different kinds of heart disease in children. One of the most serious is when the left ventricle, the pumping chamber of the heart, the mitral valves that keep blood flowing the right way and the aorta that should direct oxygen-rich blood out to the body, don't get as big and strong as they should. It's called hypoplastic left heart syndrome. These types of structural defects of the heart, which sustains the body with blood, oxygen and nutrition, are the most common birth defect, affecting about 1% of births per year in the United States, or some 40,000 babies, according to the Centers for Disease Control and Prevention. They also are the leading cause of infant death from birth defects. About 1 in 4 of those babies will need surgery or some other intervention in their first year of life.

Cardiac catheterization to diagnose these often-complex structural problems began to be performed routinely on children in the late 1950s. By the mid-1960s this approach was also being used therapeutically, like to palliate transposition of the great arteries where, like the name implies, the flow of the oxygen-rich blood and oxygen-poor blood is reversed. The earliest of these physicians were largely pediatricians who wanted to help and basically taught themselves. Pediatric cardiology became the American Board of Pediatrics' first subspecialty certification in 1961.

In those early days, it was adult heart surgeons who developed an interest in the very different heart disease of children and took the lead in trying to surgically repair the imperfections. The first successful intracardiac repair reported was sealing the hole between the upper chambers of the heart, called an atrial septal defect, in 1949.

Recognizing the unique complexity of congenital heart surgery, the American Board of Thoracic Surgery finally established a subspecialty certificate in congenital heart surgery in 2009.

In 2020, the Cleveland Clinic's fellowship program became the 12th and the last approved by the Accreditation Council on Graduate Medical Education.

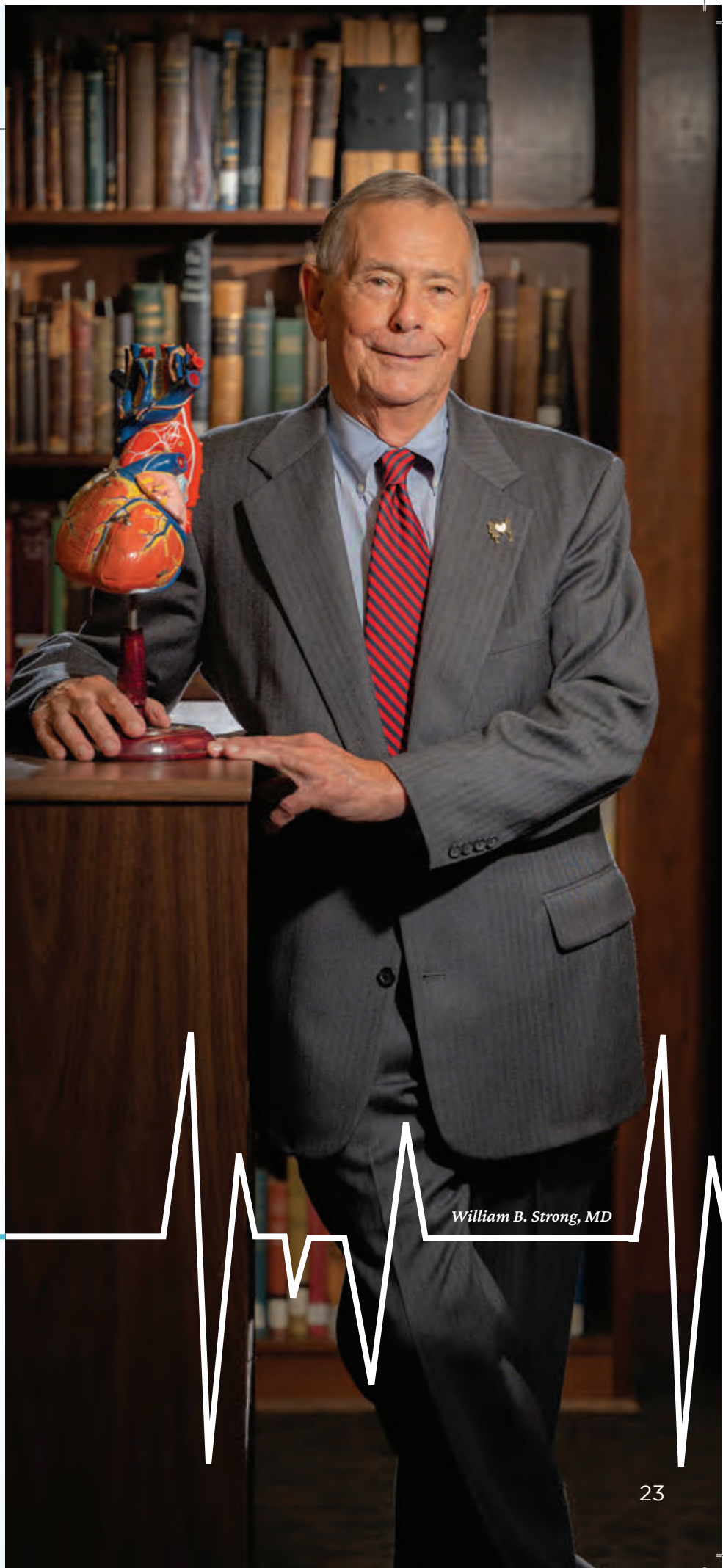
A Strong start

William B. Strong, MD, longtime chief of the Section of Pediatric Cardiology at the Medical College of Georgia, was the 280th physician in the nation to become board certified in pediatric cardiology and would later chair that subspecialty board.

He joined the MCG faculty in 1969, a year after MCG and its health system became a relatively early player in the formal education of pediatric cardiologists. Children's Hospital of Philadelphia, for example, which has one of the oldest and largest of these pediatric cardiology fellowships, got its start in 1965.

Strong had just completed his fellowship at Rainbow Babies and Children's Hospital in Cleveland when he joined Gordon M. Folger Jr., MD, (who just passed in January 2022 at the age of 92) at MCG. Folger had helped establish MCG's pediatric cardiology fellowship and was publishing about the medical school's clinical experiences with children who had problems like cyanotic heart disease and tetralogy of Fallot, a combination of defects that result in oxygen-poor blood being pumped out to the body and consequently babies having a bluish tint to their skin. Folger was a great colleague, but Strong shortly found himself alone and he says, by default, a very young section chief before the age of 40.

But Strong, who exudes smarts and smiles but does not suffer fools, was undaunted. He began a series of great recruits most of whom would go on to lead other programs. His first recruit was interventional pediatric cardiologist Syam Rao, MD, who would later lead programs at the King Saud Hospital in Riyadh, Saudi Arabia and at the University



William B. Strong, MD

of Texas at Houston. Another, Linda Leatherbury, MD, a 1978 MCG graduate who trained at Children's National Medical Center in Washington, D.C., is back there on faculty now and is distinguished for her scientific studies in the origins of heart defects that had their roots while she was on the MCG faculty.

H. Victor Moore, MD, a 1963 graduate of Wake Forest School of Medicine who completed his surgical training at New York Presbyterian Hospital, joined the MCG faculty in 1973 as the medical school's first designated congenital heart surgeon. Strong laughs that until the last of their some 30 years together at MCG and Children's Hospital of Georgia, Moore referred to Strong as "Dr. Strong."

Strong also recalls his longtime colleague, who remains his neighbor in West Augusta, as dedicated and principled, a breed of surgeon and individual who would send a child elsewhere for some rare surgery if he thought it best for that child and who could sometimes be found in the NICU in the wee hours rocking one of his tiny patients.

"Victor was unbelievably dedicated and essentially on call 24-7 for 30 years," Strong says. "He was core to the early development and the strength of our children's heart program. His surgical skills and postoperative management of children were excellent," his longtime partner says.

They were a good fit, each, no doubt, exacting individuals, and no pushovers when it came to children or much else.

And there were others. It was 1985, when Strong and his longtime friend, the late educator Maury Levy, EdD, founded the Georgia Prevention Institute, one of the nation's first initiatives focused on better understanding how children became adults with heart disease and how best to intervene. The GPI would yield pioneers in studies of salt-sensitive hypertension, the effects of stress on the cardiovascular system and the ill effects of obesity and inactivity. They were pioneers as well in building relationships with parents and the school system in Richmond County that have enabled longitudinal studies following hundreds of children with a family history of hypertension as they became adults.

"The GPI was founded on the basis that adult cardiovascular disease and most chronic adult disease begin in the young," Strong says.

Strong knew firsthand what it was like to lose someone too early to acquired heart disease. His father Ben had his first heart attack at age 36 and died of heart disease at 52. Ben Strong was active and strong but was also a smoker, the son says of the man who solidified his focus on the heart.

His "Gram Haslem" was sweet, colorful inspiration as well. When he was just a

boy and wanted to come home after school and listen to Western star Tom Mix's long-running popular radio show, his grandmother was no pushover either. "If you don't get outside and play you are going to become ... (well, not healthy)," she would tell him. So Strong, who in his 80s looks pretty much like he always has, would head outside.

Flash forward to 2005, when Strong cochaired a 13-member national panel convened on behalf of the CDC's Divisions of Nutrition and Physical Activity and Adolescent and School Health that found pretty much what Gram Haslem told him: That school-age children should participate in 60 minutes or more of moderate to vigorous physical activity daily. Today record levels of obesity and problems like hypertension even in the very young, leave this pioneer still feeling a sense of tremendous frustration on this important front for children.

Cohesive care

Flash back to 1989. A few years after getting the Georgia Prevention Institute rolling, Strong was thinking that in the clinical setting the entire team of talented caregivers for children with heart disease needed a more united front.

The Children's Heart Program came together for the first time in September of that year with members of the pediatric



(from left) nurse Ann Rogers, cardiac surgeon Victor Moore, MD, patient Michael Poda, pediatric cardiologist Sharon Kamina, MD, host Paul Davis and Michael's mother, Fran at the Weekend of Champions Telethon in 1996.



Strong in the Cardiac Catheterization Lab in 1985

cardiology and pediatric cardiovascular surgery teams as well as pediatric cardiac anesthesiology, pediatric critical care, neonatology, general pediatrics, nursing service, senior hospital administration and a mom to represent patients, Julie Moretz, who would later help the health system develop one of the nation's first programs in patient- and family-centered care and is now the health system's AVP for patient and family centered care.

The team adopted what Strong calls an "all for one and one for all" approach that brought all providers and patients to the pediatric cardiology practice site, which remains on the sixth floor of the adult hospital. They would also work collaboratively to set priorities for how limited resources would be spent. The nurses and other staff reported directly to the physicians rather than to an offsite hospital administrator. When, despite best efforts, clinic was running behind, one of the pediatric cardiologists would step into the waiting room and explain why.

Strong would talk to his young patients about their grades and their future. Like a mentor years before, he and his colleagues would sit with a child and his parents and draw out the child's unique heart problem on a simple diagram of the heart, sign and date it, then give a copy to them to keep forever. Strong noted that not long ago a former patient, now in his 50s, ran into him in the grocery store and pulled from his wallet the tattered diagram he once drew for him.

With the same patient and family friendly mindset, Strong would establish some of MCG's first satellite clinics at 14 divergent sites across Georgia from Athens to Savannah to Macon as well as Fort Jackson in Columbia, South Carolina. It was a pragmatic move. Because of the relative rarity of congenital heart defects, pediatric heart programs probably needed a population of 2 million to draw from. As of this year the Augusta Metropolitan Statistical Area just reached about 610,000.

Bottom line, the heart program needed patients and patients needed the heart program. Strong remembers a family from Moultrie, Georgia. Both parents came

each time as well as the young patient's sibling. The drive up from South Georgia took more than four hours, each parent lost two days of work, the family had to stay overnight and eat meals out. Strong figured it cost them about \$500 out of pocket each time in those days. But if he went to them, he could save the families having to make some of these trips and he could see 20 or 25 patients from that area on the same day.

It became one of those win-wins because the communities, physicians and hospitals there benefitted as well because more of the children's care and parents' money stayed there. Strong, a straight shooter but ever a gentleman, met the family practitioners, obstetricians and pediatricians on their various frontlines, including dinner meetings where he would talk with them about the patients from their communities. It was a good learning experience for the medical students who often made the journey with this natural educator. No doubt those were simpler times, Strong says, where the partnerships he formed across Georgia were sealed with a handshake.

Unfortunately, the Children's Heart Program would become fractured about a dozen years later primarily because of the Department of Surgery's lack of support of a programmatic approach, Strong says. It was about the same time as an Early Retirement Program offered by the university resulted in an unprecedented loss of faculty and staff across MCG and the university. Both helped set the tone for some bumpy years. Eventually the satellite clinics could not be sustained primarily because of insufficient human power. Today only the Valdosta clinic is still active.

Strong retired from his position as section chief in 2001 but volunteered to take care of adults with congenital heart disease — a group that now outnumbers children born with heart abnormalities and that a decade ago emerged as another related subspecialty open to pediatric and adult cardiologists.

"Having a 35-year-old in pediatric intensive care didn't work out that well most of the time," Strong says, as largely dramatic shifts in survival both

short and long term emerged because of focused programs like the one at MCG and Children's Hospital of Georgia, with greater than 97% of children expected to reach adulthood.

Soon after Strong stepped away as chief, the pediatric cardiology faculty dwindled to only Bill Lutin, MD, today an acclaimed nature photographer, who managed with the help of then-fellow George McDaniel, MD, now on the faculty of the University of Virginia Children's in Charlottesville, and Echocardiographer Celeste Lemieux Kessler, who remains on the children's hospital staff today. Strong credits Lutin with the program's survival in the lean early 2000s. Henry Wiles, MD, joined Lutin in 2001 and would serve as section chief from 2003-10.

Moore officially retired from his post in 2000, but was rehired to continue as the primary surgeon during a series of recruits that included the initial 2003 recruitment of James D. St. Louis, MD, who had completed his pediatric and neonatal cardiac surgery fellowship at Children's Mercy Hospital in Kansas City, Missouri before joining the faculty of Brown University Medical Center.

Moore, who St. Louis calls a great surgeon and mentor who solidified his decision to come to MCG, worked with St. Louis in his early days here. Still, St. Louis grew frustrated with the lack of clear direction for the pediatric heart program at those moments in time. He wanted more volume of cases, more complex cases, including a program for heart transplants and medical assist devices like left ventricular assist devices that can temporarily help support a child's ailing heart. St. Louis left for the University of Minnesota Amplatz Children's Hospital in 2008, where he became director of The Heart Center, Pediatric Cardiac Surgery, Pediatric Cardiac Transplantation and the ECMO Program. St. Louis would become surgical director of Pediatric Cardiac Transplantation at the University of Missouri-Kansas City School of Medicine in 2014 and director of the Congenital Cardiac Surgery Fellowship program there four years later.

A new strength

St. Louis returned to MCG and the Children's Hospital of Georgia in 2020 as chief of the Section of Pediatric and Congenital Heart Surgery, co-director of the Pediatric and Congenital Heart Program and J. Harold Harrison MD Endowed Chair in Surgery.

He brought with him a broadened world view of congenital heart programs and how they must change again here and elsewhere.

That same year the American Heart Association journal *Circulation* published a commentary about excessive mortality and complication rates in some of the nation's children's heart programs. It was clear something was not working in this high stakes, high reward field that today has approximately 150 centers — many within just 25 miles of each other — providing some level of this highly specialized care.

The math was clearly a problem. Data collected by the Society of Thoracic Surgeons indicated centers which performed at least 300 cases annually had the lowest mortality rates while those with the highest mortality rates performed more like 100 cases.

"Sixty-five percent of the programs in this country do less than 100 cases a year, which is insufficient. That is the thing we are trying to change," says St. Louis, who emerged as a leader in taking a national look at the problems and solutions.

As a member of the Society of Thoracic Surgeons Task Force on Congenital Heart Surgery Database, St. Louis has been looking at numbers of centers, cases and survivors for at least a dozen years now. He's also been a member of the society's Workforce on Congenital Heart Surgery since 2016. He has been on the Executive Board of the Pediatric Cardiac Care Consortium also since 2011 and the Database Committee of the World Society for Congenital and Pediatric Heart Surgery looking at more numbers of cases and results worldwide. He's been volunteering through the nonprofit Children's HeartLink, in high-child





(from left) James St. Louis, MD and Brian Bateson, DO

density locales like China and Korea, where there are clear deficits of physicians and programs for children with heart problems.

The United States has the opposite problem.

While St. Louis and many colleagues agree that overall the care of these children in the US is superb, there are unacceptable results in some programs. For example, with the more complex defects, like hypoplastic left heart syndrome, which requires multiple surgeries to correct, having early mortality rates as high as 10-15% — compared with about 2% elsewhere, and with a major complication in at least a third of these tough cases. Many centers perform only a handful of surgeries like the Norwood operation, typically the first corrective surgery for children with this single ventricle defect. Numerous studies have associated higher volumes with the better success rates. There are also inconsistencies among centers in things like staffing, length of hospital stays and costs. Inconsistencies have also been found in lower complexity care.

National media stories have brought the losses to life with children's pictures and families' sorrow. Calls began echoing for a process to help ensure the quality of the some-150 programs in the nation, most likely by reducing their number and thereby ensuring more experienced surgeons, pediatric cardiologists and all caregivers taking care of this unique subset of heart problems in children. The *Circulation* editorial called on the Centers for Medicare and Medicaid, which sets payment standards for all insurance providers, to support a better system for these children and for professional groups to develop minimum standards for programs.

For the past two years St. Louis has worked on a Congenital Heart Surgeons' Society committee to look at the data and produce standards for what a congenital heart program should look like, something which has not been done for 20 years in this country.

The draft is now under review by other societies relevant to congenital heart disease as well as third-party payer groups. The final report will likely

recommend services any program must offer and those needed to provide high-complex care, as well as a minimum number of cases to maintain each.

A bottom line is that, maybe not tomorrow, but soon pediatric heart programs will be regulated in a sense by who payers agree to pay probably based on their numbers. "Pure numbers are probably not the way to make this happen, but it's probably how it will happen," says St. Louis.

And there is at least one more number concern. Despite there only being a dozen training programs for congenital heart surgeons in the country, that still translates to about 170 new surgeons out there learning at any one time, many of whom will not even find work in the surgical subspecialty they and St. Louis chose. If a surgeon does find work, they likely won't find enough to keep them performing optimally, which ties back to too many centers doing too few cases.

It's a bit of an odd problem to have in medicine where more typically every community, hospital and specialty is crying out for more. But it's real.

So, much like hospitals across the nation began consolidating in earnest about a dozen years ago, in large part due to changing reimbursement trends, like a big push for more outpatient care, children's heart programs are looking for ways to survive and thrive in a market that is out of balance.

Safety and success in numbers

Going back to those disturbing numbers, St. Louis had been searching for a good partner institution for the heart program in Augusta, where about 75-100 cases are done annually, a number that evidence indicates is not sufficient and which St. Louis says will change.

To help accomplish that, in the Fall of 2022, St. Louis signed a contract with Inova Health System, a dozen-hospital nonprofit, private health system based in northern Virginia that includes Inova L.J. Murphy Children's Hospital. Inova, which has a 30-year history with complex heart care, was no longer satisfied with their outcomes. They shut the program down

while considering what next and decided to commit the significant resources needed to make their program excel again. They had recruited Mitchell Cohen, MD, from Phoenix Children's Hospital in 2017 as chief of pediatric cardiology and codirector of the pediatric heart program. In 2022 Inova recruited St. Louis as chief of Pediatric and Congenital Heart Surgery and heart program codirector, to take the lead in revamping and eventually expanding their program to include the most complex cases, and to start heart transplant and medical assist device programs.

While Inova has committed not to start another training program for heart surgeons, they will start a pediatric cardiology fellowship program to help ensure a healthy ratio in the nation where about 20 cardiologists are needed for one surgeon. Again oddly, there are currently not enough pediatric cardiologists to help take care of patients who need surgery as well as the majority who do not.

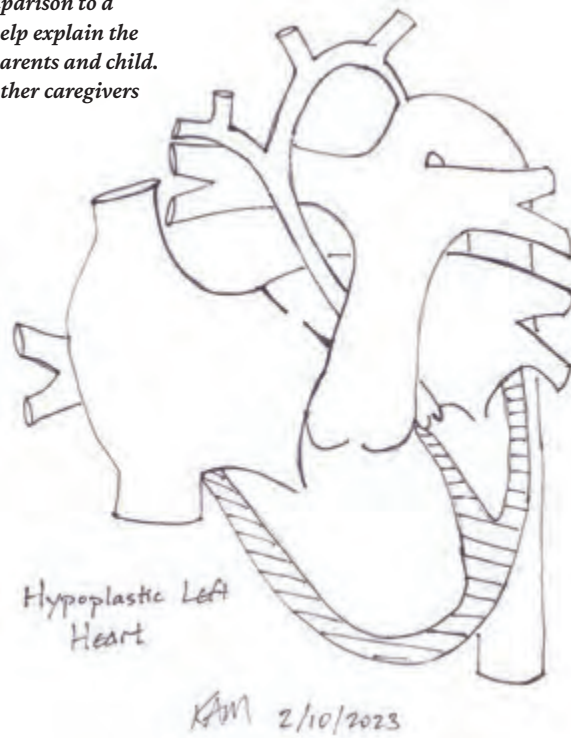
This time St. Louis will also remain at MCG and CHOG and direct both pediatric heart surgery programs. While many details are still in the works, his plan is to have the two children's hospitals, which are an hour and 10-minute plane ride apart, develop a larger joint program that collaboratively will offer a full spectrum of care and have the number of cases needed to help ensure excellence.

Right after Christmas 2022, AU Health System and Wellstar Health System announced a letter of intent to move forward with plans for the Georgia-based nonprofit to assume management of the AU Health System, which includes the Children's Hospital of Georgia (see page 2). Obviously just how plans for a joint program between Children's Hospital of Georgia and Inova could work depends on finalizing the health system partnership, something which should happen in the next few months, he says. But certainly, the proposed partnership with Wellstar bodes well for a more progressive health system in Augusta, including pediatric care, St. Louis says. "I think the announcement that Wellstar is moving forward has changed everybody here," he says.

Joint pediatric heart programs are not unprecedented. “The first time Jim walked into my office, he said we have to partner with somebody,” says Valera Hudson, MD, a pediatric pulmonologist and 1985 MCG graduate who chairs her alma mater’s Department of Pediatrics and is pediatrician-in-chief of the Children’s Hospital of Georgia (see page 32). The two meet regularly now and both are excited about what has already unfolded.



Kenneth Murdison, MD, like his predecessor Strong, usually provides a sketch like this in comparison to a “normal” diagram to help explain the heart condition to the parents and child. This is also helpful for other caregivers in the NICU or PICU.



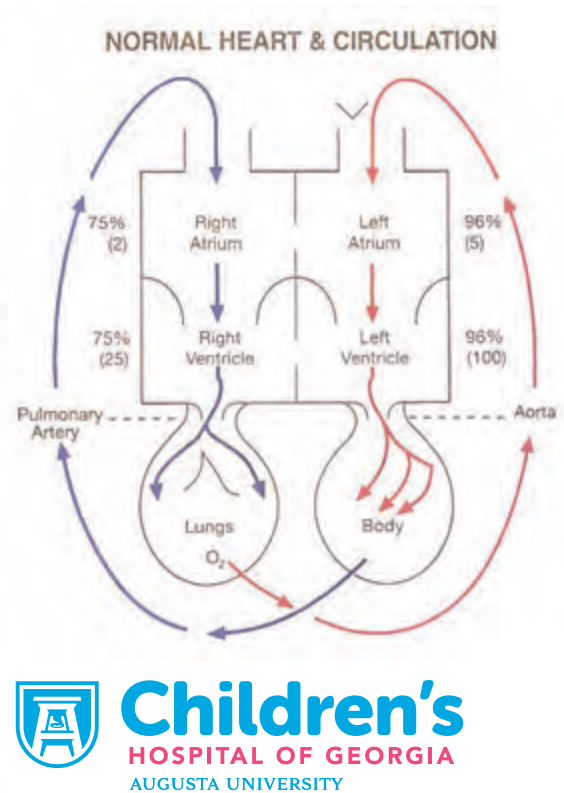
“It’s happening all across the country,” adds Kenneth A. Murdison, MD, chief of the MCG Division of Pediatric Cardiology, who believes the relationship is a sound opportunity for the MCG program to grow its patient numbers and ensure children with a range of care needs keep coming. It’s also a way to ensure that medical students and residents at MCG and the children’s hospital continue to get experience taking care of this unique subset of children.

Murdison notes that MCG and its health system are a bit of a rarity when it comes to these children, because the Children’s Hospital of Georgia backs directly up to the adult Augusta University Medical Center. “There is no other place in the state where I can prenatally diagnose a baby with congenital heart disease, have the baby born here and be in the NICU in 10 minutes,” Murdison says of problems which are increasingly diagnosed before birth, with good prenatal care.

An hour and 10 minutes by air

St. Louis started making the plane ride every other week to Falls Church, Virginia in September. He recruited a second surgeon, Brian Bateson, DO, a graduate of New York College of Osteopathic Medicine who completed his general surgery residency at MCG and AU Health and Congenital Cardiac Surgery Fellowship at Seattle Children’s Hospital, to the MCG faculty in August 2022. At MCG, Bateson is also codirector of the Adult Congenital Heart Program along with Khyati Pandya, MBBS, director of Congenital Electrophysiology. Another pediatric heart surgeon likely will be recruited to MCG and Children’s Hospital of Georgia sometime in 2023, St. Louis says. His plan is to have three surgeons based at Inova and two in Augusta while he continues to operate at both places.

He also plans to encourage the other surgeons to do some back and forth as well as the relationship develops.



Children's
HOSPITAL OF GEORGIA
AUGUSTA UNIVERSITY

In pediatric cardiology, Wiles, now the senior pediatric cardiologist, is scheduled for a May retirement and the division is currently recruiting two more faculty to join the five who remain with his departure, says Murdison. John Plowden, MD, pediatric cardiologist and 1984 MCG graduate, is traveling Georgia to reestablish pediatric heart clinics that will again bring more care directly to patients. The physicians today say MCG's current academic footprint, which has students living and learning all over Georgia, provides logical places to add the specialized clinical resources.

Likeminded Hudson is moving toward ensuring the heart team has adequate ICU beds and is recruiting at least two more pediatric intensivists. "As this program builds in volume, the critical care docs will have additional training and expertise specific to caring for cardiac patients," Hudson says.

The children's hospital currently has 14 ICU beds and a six-bed Intermediate Care Unit and plans to add an additional 8 ICU beds. The longer-range plan is for a dedicated cardiovascular ICU in a new tower proposed as part of a major expansion for the children's hospital.

St. Louis says a dedicated ICU for these patients is today's standard, and essential to program growth in size and scope.

Full circle

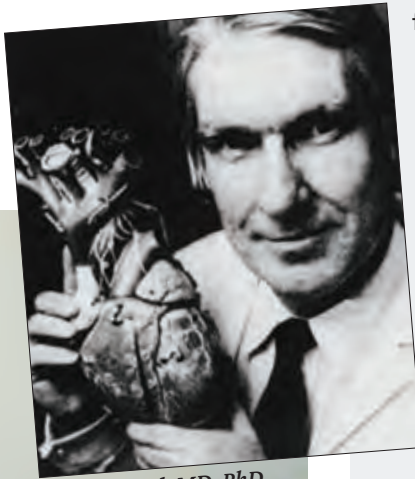
St. Louis was a 16-year-old volunteer in a hospital in Methuen, Massachusetts who quickly got promoted to emergency room orderly. He was working the night shift when a patient with a rupturing triple A, an abdominal aortic aneurysm, arrived. He was quickly promoted again, this time to holding the retractor during surgery. The sturdy football player remembers asking if he was looking at the heart and the



surgeon assured him they were in the belly repairing a tear in the body's biggest blood vessel. St. Louis wanted to be a surgeon from that day.

Working with Richard A. Hopkins, MD, then chief of pediatric cardiac surgery, while he was in medical school at Georgetown University convinced him that he wanted to be a pediatric heart surgeon.

While mortality rates were high then, the ability to dismantle and reconfigure a child's misshapen heart was quite a motivator. Flash forward 30 years and find him now working to do the same for children's heart programs. ♡



Bill Norwood, MD, PhD

THE NORWOOD

Kenneth A. Murdison, MD, was named chief of the Division of Pediatric Cardiology, in 2021. The native of Glasgow, Scotland who grew up in Canada, went to medical school at Queen's University at Kingston and did his pediatric residency at Children's Hospital of Western Ontario. He came south for his pediatric cardiology fellowship to the large program at Children's Hospital of Philadelphia. There he unexpectedly found himself in the presence of William "Bill" Norwood Jr., MD, PhD, the surgeon who developed the first procedure to help correct hypoplastic left heart syndrome, which is fatal at birth without intervention. "He was a terrific surgeon. He changed everything," says Murdison.

Like many pioneers, Murdison remembers this brilliant surgeon being a flashpoint for many in the pediatric heart field because they thought he was offering hope to parents for a hopeless situation. The procedure that became known as the Norwood would permanently reroute some of the blood flow within the heart to make the right ventricle, which normally pumps blood to the lungs to pick up oxygen, able to pump blood directly to the body, typically the job of the left ventricle.

Murdison and Norwood crossed paths again at Nemours Cardiac Center at Alfred I. duPont Hospital for Children (now Nemours Children's Health) in Wilmington, Delaware, where Murdison was named codirector of the Echocardiography Lab in 1998 and later medical director of the Inpatient Unit. Murdison was first author on a 1990 paper in the journal *Circulation* that would take a retrospective look at the famous Norwood procedure in 200 patients. What they found was that many children dwindled and died between the Norwood procedure and what was then the next step, the Fontan, where the surgeon does additional rerouting so the lone ventricle can work more efficiently by only pumping oxygen-rich blood to the body as the missing or undersized left ventricle was intended to do. Basically, the Norwood was putting too much pressure on the heart for too long with the time between the two procedures.

Norwood and pediatric heart surgery colleagues like Moore already had been thinking about how to make things work better. The evidence helped prompt the famous surgeon to also develop a go-between: the bidirectional Glenn procedure, which sent blood from the upper body directly to the lungs to take some of the pressure off the right ventricle. He also lent his name to Murdison's landmark paper.

"It gave a gradual transition between stage one and the Fontan physiology," Murdison says. "It wasn't such a shock and more kids started to survive."

Norwood passed in 2020. ♡



Pediatric Heart Team meeting

Pediatrician-in-Chief

BY TONI BAKER

Her countenance exudes calm, but when her legs are crossed, her right foot probably is a better gauge of what is really going on with Valera Hudson, MD.

The foot, typically clad in a navy athletic shoe, is in constant motion.

She calls herself an “introvert by nature,” which she says is not to be confused with shyness, despite what the dictionary might say.

Hudson favors author Susan Cain’s description: That introverts prefer quiet, minimally stimulating environs, quiet concentration, listening more than they talk and thinking well before they speak.

“Introvert just describes how you get your energy. It’s just what fills your tank, what charges your battery,” says Hudson.

A big thing charging Hudson’s battery is the wellbeing of children.

That is a good thing. Because it can be a tough world for children these days. Headlines highlight the latest school shootings. Assault is a leading cause of death in children ages 1 to 4, according to the Centers for Disease Control and Prevention. Suicide is a top killer among 10- to 14-year-olds. About 10% of children ages 3-17 have ADHD. An estimated one in six children in that age

group have one or more developmental debilities that can impact every aspect of their being. It feels like a lot.

“I think collectively as a society we have a number of factors that have disrupted and changed the experience of children,” reflects Hudson, a 1985 Medical College of Georgia graduate who chairs her medical school’s Department of Pediatrics.

“I am not trying to make a value judgement, but things are different, meaning that many kids lives are chaotic and unpredictable. Our society runs 24-7. No one thinks they need any sleep, even though we are wired to need sleep just like we are wired to need food and water. There are families who are not even sure where their next meal is coming from and who are not safe in their own home,” she says.

Poverty and racism can make many matters worse. Too much money can create a different level of stress, like performance addiction and sometime unrealistic achievement expectations. Real connections with other people likely are not made through texting.

But there are also record numbers of premature babies, children with cancer, children born with heart defects and

young victims of trauma surviving and thriving. The same day Hudson was talking a newborn, who was expected to die and who other hospitals had refused to take, went home with her parents from the Children’s Hospital of Georgia after just a few days on ECMO, which takes over the work of the heart and lungs, most often when a child is born in dire respiratory distress.

“We all live in paradox, the tension that two things that seem like they are opposite are true at the same time,” Hudson says. There may be no greater tension or paradox than the reality that while most children who get sick live, some will die. While death is heartbreaking, the risk is worth it, she says.

The MCG Department of Pediatrics and Children’s Hospital of Georgia exist to reduce the risk and soften the paradox.

“I can’t change how we got here,” Hudson says. “What I can address is how do we move forward. I can say we have some real challenges but part of being a pediatrician is that hope and expectation that we can intervene and make things better and that the hope of our country rests on our children.”



What children deserve

“Children deserve the care that we can provide here,” says the children’s hospital’s pediatrician-in-chief.

So, like the most intricate LEGO MOC (my own creation) ever made, Hudson has spent the last five years of her life ensuring that what the children get is great care.

That includes the basic of more physicians to take care of the diverse needs of children. This past year there’s been an unprecedented list of recruits to add depth and scope to what could be done specifically for children. It has meant new programs and tweaking others to better accommodate the state of children today. It has meant plans to grow the state’s second largest children’s hospital.

“We are growing broadly across the board in surgery and medicine,” Hudson says. Targeted clinical programs include strengthening the longstanding pediatric

said it aloud and knew that she had when he laughed. She would learn from these and others what good leadership is and from still others what it is not. “Everybody comes to things differently,” she says.

Pruitt, now an Episcopal priest, was chair while Hudson was still in medical school, and while she completed her pediatric residency at MCG and its health system, including a year as chief resident.

When she left for her three-year pediatric pulmonology fellowship in 1989, years she recalls as some of the best and hardest in her life, at the University of Minnesota Hospitals and Clinics in Minneapolis, she reasoned she was gone forever from the town where she was raised (but not born) by Don and Marie Hudson. But Pruitt, who she calls a servant leader, stayed in touch, reminding her what she could do for children back home. She would not have come back without him.

Because Hudson never considered that ‘interim’ meant ‘temporary’ or worse ‘making do.’ “What I told folks from the beginning is if we do not have a thriving clinical service, we do not have a platform for teaching and for advancing the field through research,” says Hudson. As interim chair she was also interim pediatrician-in-chief of the Children’s Hospital of Georgia and her years of boots on the ground made her acutely aware of what was needed to shore up the three-legged academic stool.

Her department and the children’s hospital had lost too many faculty members in the most recent years, part of the reason there was no time to be reticent. She worked from day one as if she were already chair, knowing she would have to leave if that approach didn’t work and/or wasn’t appreciated. She was willing to take the risk because full tilt was all she knew and what she and longtime colleagues knew was needed. By then, she also wanted the job.

At the top of her list was distinguishing between the frontline work of the general pediatricians and the increasingly present pediatric hospitalists. Evolving trends in health care had drawn the distinction and broadened the divide between the skillsets of these two groups.

To shore up both, her first six interim months included recruitment of Dr. April Hartman, as division chief of General Pediatric and Adolescent Medicine. A graduate of Meharry Medical College who trained at MCG, Hartman quickly established herself back in Augusta as a great fit for the cohesive, comprehensive approach to family focused patient care and the education of future physicians that Hudson was working to strengthen. A true triple threat, Hartman also arrived as an advocate for the increasing number of patients with behavioral and developmental delays, and for fair treatment for all by spearheading diversity, equity and inclusion initiatives.

Hudson also established the Division of Pediatric Hospital Medicine, which a year later she expanded to include largely hospital-based infectious disease and pediatric palliative physicians. Pediatric hospital medicine was just designated as a board-certified specialty in 2016,

"If you have a chronic illness then you are more prone to anxiety and depression. If you have anxiety and depression you are more prone to not taking care of yourself and doing your treatments and taking your medicine. So, you can't treat one and ignore the other and expect to be successful." – Valera Hudson, MD

heart program (see page 22), strengthening the pediatric cancer program with the addition of a bone marrow transplant program and a new emphasis on behavioral and mental health to better address that growing crisis in children (see page 14).

The self-declared introvert did not pursue the job as boss of such important work, as much as it seemed to pursue her. She talks about standing on the shoulders of giants like Al Pruitt, MD, who chaired the department for a decade starting in 1982 and Bill Kanto, MD, a neonatologist and longtime division chief, who served as chair from 1994-2009. Both would become her mentors. She can still remember as an exasperated young faculty member saying to or at least around Kanto: You could not pay me enough to do your job. She wondered for a moment if she had actually

She returned as associate director of the Cystic Fibrosis Center and medical director of Pediatric Pulmonary Diagnostics. She became director of the Pediatric Residency Program in 1997 and kept it up for 20 years. She became vice chair of the Department of Pediatrics in 2008, chief of the Division of Pediatric Pulmonology in 2012 and six years later, first interim chair then chair of the Department of Pediatrics.

Stepping up and out

Hudson had for years been stepping up to help her colleagues and her children’s hospital whenever she could, so it was logical to step up as again as interim. MCG Dean David Hess said then it was quickly clear when they started looking for a ‘permanent’ chair that the best person for the job was already in it.

a field which developed largely because of the changing dynamic in caring for kids. Like adult medicine, more care was being delivered to children on an outpatient basis and handled by general pediatricians. Outpatient care has changed too with an increasing number of pediatric outpatients needing care for the developmental and mental health problems that Hartman was helping spearhead at the Children's Hospital of Georgia.

"The patients in the hospital now were in the ICU 20 or 30 years ago," Hudson says. "Many of the patients who are in the ICU now did not live. The patients who were in the hospital 20 years ago are now being take care of as outpatients. It's amazing the evolution of the complexity and the sickness."

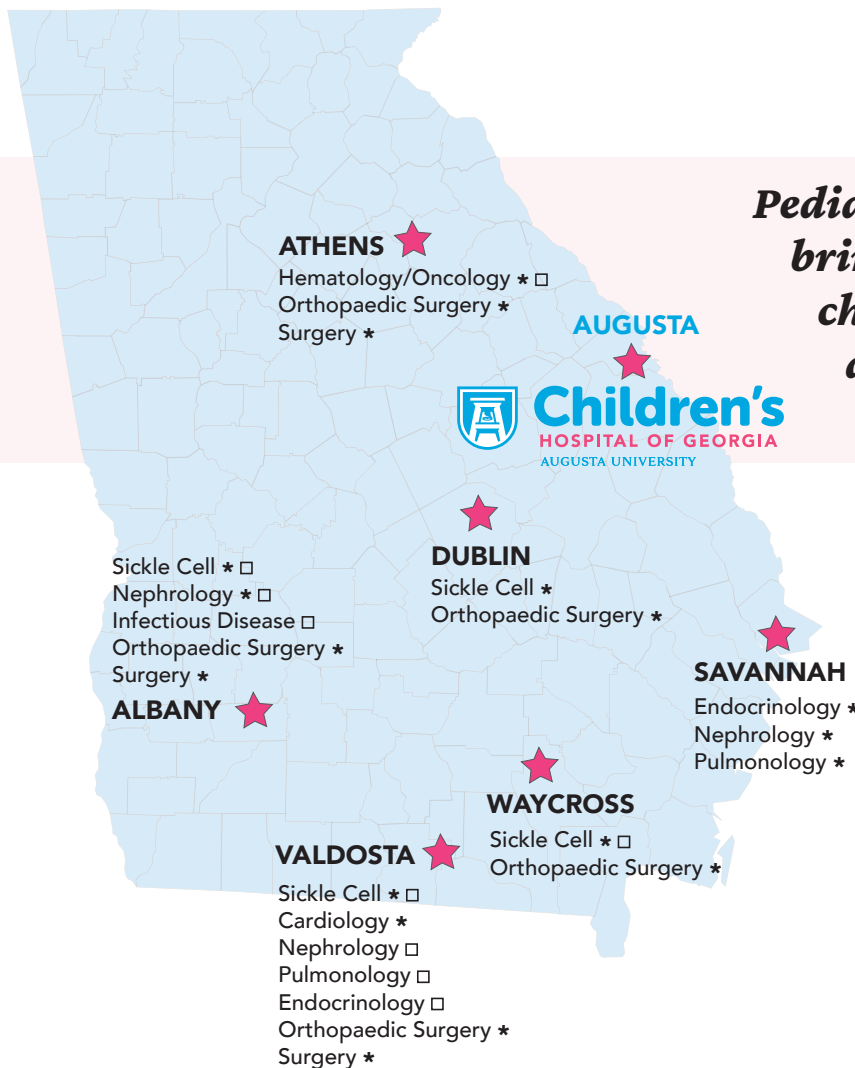
By last summer Developmental Pediatrician Jennifer Poon, MD, had joined up as chief of the Division of Developmental-Behavioral Pediatrics and as medical director of the new Center for Pediatric Development, Behavioral Health and Wellness. Poon had completed her fellowship in this increasingly sought-after subspecialty at the Medical University of South Carolina in Charleston and serves on the Executive Committee of the Section on Developmental and Behavioral Pediatrics of the American Academy of Pediatrics.

"There is an enormous need for behavioral and mental health services for children, which was there before COVID and was completely blown out of the water by COVID," Hudson says, just a few weeks before a new Pew Research Center Report showed children's mental

health topped the list of parents' concerns. Bullying was a close second.

"If you have a chronic illness then you are more prone to anxiety and depression. If you have anxiety and depression you are more prone to not taking care of yourself and doing your treatments and taking your medicine. So, you can't treat one and ignore the other and expect to be successful," says Hudson. She notes that at least a decade ago, the Cystic Fibrosis Foundation, a longtime leader in comprehensive and transformative care for complex illness, said Cystic Fibrosis Centers like the one at MCG had to have a mental health specialist as part of the care team. No doubt.

Her plans for the new comprehensive center were unfolding amid record reported levels of problems like ADHD,



***Pediatric Outreach Clinics
bring MCG faculty to
children, families
and communities
across Georgia***

★ On-Site
□ Telemedicine

autism and depression among children and as the Academy of Pediatrics, American Academy of Child and Adolescent Psychiatry and the Children's Hospital Association was declaring a national emergency in child and adolescent mental health. The 2023 Pew Research Center report was more of the unfortunate same.

The center got an incredible boost in 2022 by Kevin and Brittany Kisner of Aiken, South Carolina, with a \$350,000 gift and a \$5 million pledge to support essential groundwork. He is a professional golfer and she is a former speech language pathologist at the children's hospital. An additional \$4 million is actively being pursued to give the center a dedicated home in the children's hospital, both to

ease the process for children and families and further embrace collaboration between their caregivers. Hudson says the Kisners' benevolent spirit enabled her to dream big, which she loves to do, on how to better address a clearly big and growing problem.

"I hope as we advance and gain more insight into this that we get better at prevention and that we can help children thrive and be well as opposed to just treating the illnesses that are already there," Hudson says of the center which she insisted include wellness in its name.

On many other fronts, key recruits include Pediatric Geneticist Faizal Asumda, MD, who had just completed his clinical genetics and genomics residency at the

Mayo Clinic in Rochester; Kristianna Singh, MBBS, who had finished her pediatric nephrology fellowship at Texas Children's Hospital; and Pediatric Infectious Disease Physician, Ingrid Camelo, MD, who completed her fellowship at Boston Medical Center and is the new medical director of the CHOG Antibiotic Stewardship, Epidemiology and Infection Prevention.

All told in her handful of years as boss, Hudson has grown the Department of Pediatrics by 53 faculty members, with retirements and resignations accounting for just a handful of the spots, and eight more faculty starting this summer. She also has filled important blanks in areas like genetics.

The growth is hardly random, rather based again on the needs of children and math. Not unlike her commitment to the wellness of children, Hudson wants the same for the physicians — and everyone — who help take care of them. That means setting boundaries for how long physicians work when historically, mostly there have been no boundaries.

"That dehumanizes physicians in many ways because you are expecting us to be super humans and we are not," she says. That means working 2,200 hours per year, rather than 24-7 365, is a reasonable expectation.

Boundaries have the additional benefit of enabling Hudson to give precise numbers to medical school and hospital administrators making the calls about who gets hired. "If you want a PICU that is open 24-7, 365 with a faculty member in house, this is how many doctors I need," she says. A little cold, hard math also should help with faculty retention and provide objective data about what is needed for more growth.

Hudson does not care for boundaries, when it comes to meeting the needs of children where they are. Thirty booming pediatric outpatient practices are helping keep as many children as possible out of the hospital.

Valera Hudson, wife Mary Caddell and their child Raven enjoy Alaska's blustery beauty. Hudson says another way she recharges is traveling/exploring with her family.



Outreach clinics in subspecialties like pediatric endocrinology, pediatric orthopaedic surgery and pediatric sickle cell, currently pepper the state. Like everything else, Hudson is looking at ways to grow the sites and enhance their efficiency and effectiveness for patients and physicians alike.

“We refer to it as windshield time,” Hudson says of hours spent traveling the expansive state to Savannah or Albany or Waycross.

Back to the math, physicians can’t see patients when they are seeing their windshields but it’s a great service to children and families and communities. In fact, Hudson counts some of those outreach clinic visits with patients among her favorite clinical encounters.

She is doing her usual talking with her colleagues and thinking about how to enhance access with also expanding programs in telehealth and telemedicine knowing that sometimes there is no replacement for face-to-face care.

And, keeping her battery charged.

Coda

Valera Hudson was 16, the only sister of three brothers when her youngest sibling, Richard, was hit by a car and killed. While she does not believe the tragic loss of her 8-and-a-half-year-old brother inspired her ultimate interest in pediatrics, she knows it inspired her ability to connect with people, to care about people and to walk beside families who also were losing children.

She has taken a lot of those walks. Caring for children with cystic fibrosis is a mainstay in pediatric pulmonology, and even before her fellowship, Hudson worked a lot with these patients in the year after her pediatric residency, a year Pediatric Chair Al Pruitt, MD, arranged for her, before she figured out what next.

During that time, the mother of her patient Dwayne McCutcheon asked why

she would consider anything else when more doctors were needed to care for children like her son. Dwayne passed later that year, but his mother would send Hudson a Christmas card for the next 20 years.

“We didn’t have effective treatments for cystic fibrosis back then and we lost a number of amazing children, and somehow I was able to come along beside families and walk that journey with them,” she says.

“The children that I had the privilege of caring for, many of them were accepting and had a peace long before their parents. To watch these children fight to give their parents more time was the tension I was living in.” But the children also helped her.

Fortunately, today 90% of these children are eligible for a drug that targets their specific, disease-causing gene mutation, treatment that has helped transform cystic fibrosis more often into a chronic disease children grow old with.

In fact, years ago, MCG and its health system expanded the Cystic Fibrosis Center to include an adult program in response to dramatic shifts in the survival rates of patients.

It goes back to softening the paradox.

“We do still have bad outcomes, but the majority of children are resilient and part of the joy of being a pediatrician is that kids can be really, really sick and recover and their resilience and their drive to live is just (she hesitates), it is something to behold.

Although she considers every patient at the children’s hospital her own, Hudson stopped directly taking care of patients midway through 2022, following the recruitment of Sunil Kapoor, MD, from Inova Fairfax Hospital for Children in Virginia, as the new chief of the Division of Pediatric Pulmonology. Kapoor joined the faculty in the last quarter of 2021 and Hudson wanted him free to make the division his own.

Every dollar counts

It was 1897, when a 10-year-old child befriended another child who was hospitalized in an adult ward of Augusta’s old City Hospital, MCG’s first hospital, because there was no other place for her.


In honor of her new friend, the child gave \$1.20 to the Hospital Association, a communitywide initiative underway to build a new general hospital. The heartfelt gift of a child became the impetus for the association’s Children’s Ward Fund, and eventually the establishment of the Children’s Hospital Association to support construction of a freestanding children’s hospital as well.

Mary G. Cumming, whose family had helped develop the Augusta Canal and the city’s historic Summerville Neighborhood, helped lead the Children’s Hospital Association.

A few years later, New Yorker Grace Shaw Duff, who had spent winters in Augusta with her husband, wanted to do something to honor the community and the care her husband had received here. He had died, and a nurse who helped care for him in Augusta knew about plans for the children’s hospital.

Mrs. Cumming and the widow Duff met, and Mrs. Duff would give \$25,000 to build the hospital and fully equip the operating room. The Wilhenford Children’s Hospital opened in 1910. The name, Wilhenford, combines the names of Mrs. Duff’s late husband William, her father Henry and her son Bradford.

Decades later, the Children’s Medical Center would first occupy the eighth floor of MCG’s adult hospital and opened as a freestanding hospital in 1998. The hospital was renamed Children’s Hospital of Georgia in 2013.

The new general hospital in Augusta would open in 1915 as University Hospital (now Piedmont Augusta), because of its affiliation at the time as MCG’s teaching hospital. MCG opened its own hospital in 1956. 

If you would like to support the Children’s Hospital of Georgia and the MCG Department of Pediatrics please visit augusta.edu/giving/childrens, email philanthropy@augusta.edu or call **706-721-4001**.

The Medical College *for* Georgia

BY MICHAEL BRANDS, PHD
VICE DEAN FOR ACADEMIC AFFAIRS

Four growing educational initiatives are broadening the statewide impact of Georgia's only public medical school — proving the Medical College of Georgia is the Medical College *for* Georgia.

Probably the most visible, with much support from philanthropy and state funding, is the Peach State Scholars Program, which allows students to complete medical school in three years and enter directly into a primary care residency in Georgia, followed by at least two years of practice in a rural and underserved area of that state. The first cohort will graduate this May, with a progression of talented scholars following right behind in the next classes.

Another developing program has a similar goal. AIM, the brainchild of Kelli Braun, MD, '04, our associate dean for admissions, recognizes that the rural Georgia counties with the most severe physician shortages often also have limited educational resources. The program will help close that gap by providing a summer educational enrichment program on MCG's campus that will help more of those students be competitive applicants to MCG and eventually, hopefully, return to practice in their home counties.

Both medical students and physicians in rural Georgia will have the support of another initiative spearheaded by Matt Lyon, MD, '99, associate dean for experiential learning, who is expanding MCG's telemedicine programs. The statewide network he has helped grow allows our students to engage with patients at rural health care sites from the first weeks of their medical school training through residency. It also provides a safety net for physicians in rural practice, who have remote, 24-7 access to MCG physicians' expertise.

The fourth, and most complex initiative, became a clear need when I was appointed vice dean last May, which unfortunately coincided with a lot of unrest from our

students, many of whom were unhappy with where they had “matched” for the clinical years of their education. With regional campuses in every corner of our state and a second four-year campus in Athens, Georgia truly is our campus. I was shocked by so much disquiet among our students about clerkship assignment.

The three campuses where over 40% of students from the main campus in Augusta do their clerkship training: Northwest (Rome and Dalton), Southwest (Albany) and Southeast (Savannah and Brunswick), were viewed by students and faculty as “those things out there.” They had become ill-defined entities where some students do their clerkships. Students and faculty seemed to have little knowledge of them, and assignment to a regional campus sometimes seemed to be dreaded rather than embraced as an incredible opportunity.

And although students at those campuses often rave about the experience and are great champions for their campus, we also learned from this year's Independent Student Analysis that they also felt detached from Augusta.

We should be creating an environment where students at all our campuses and training sites recognize that they are valued MCG students without needing to remind them that we are “One MCG.”

This year, under the leadership of Dr. Greer Falls, assistant dean for student affairs for our second-year students (see page 40), we reinstated the bus trips to our regional campuses, which had not been planned since 2019 and even before the pandemic. It is impossible for the class to be positive, even excited, about the regional campus locations without having the opportunity to see them. Staff and faculty worked overtime to make bus trips a reality. Every student in the Class of 2026 visited one of the three regional campus locations during fall 2022. Not only did a third of the class visit each location,

but 68 students, ambassadors for each regional campus, were able to share their experience there with their classmates. We also invited regional campus leadership to freshman orientation and held virtual follow-up meetings in February to help students with their clerkship site selection.

While all of this helps students make informed decisions about their choice of sites for clerkships, we also had to address the detachment that some Augusta students felt doing clerkships away from Augusta. Our amazing clerkship directors at the main campus in Augusta answered the bell by planning to personally visit each of these regional campuses during their orientation for new students. They will also plan virtual check-ins to answer student questions and provide updates from the main campus, and regional assistant deans for curriculum, in turn, will provide clerkship directors with updates from their campuses.

The statewide educational experience is growing with new partnerships with Federally Qualified Health Centers and Community Health Centers statewide, an effort being spearheaded by Joseph Hobbs, MD, '74, and Ashley Saucier, MD, '11. These partnerships are another way to introduce our students to established health care systems providing comprehensive primary care access in underserved communities. More new partnerships with rural hospitals, another effort spearheaded by Dr. Lyon, will also see students in clinical rotations at rural hospitals across the state, a particularly valuable experience for our Peach State Scholars.

We must remember that MCG is the Medical College *for* Georgia, with one statewide campus that serves the entire state by educating future physicians and placing them in the areas that need them the most. 🌱



YOUNG AT HEART

BY DANIELLE WONG MOORES

When Bennett Grimm, MD, '06, thinks back, he remembers the awful feeling of not getting into the Medical College of Georgia the first time he applied.

At that point, a friend and first-year medical student suggested, "You need to go talk to Dr. Falls."

Grimm had already met Greer Falls, MD, an MCG associate professor of pathology and student advisor, since Falls served on the Admissions Committee that reviewed his application. So, Grimm hung around Falls' office until he was able to catch him. He remembers having at least two long conversations with Falls, asking what he needed to do to improve his chances.

Funnily enough, neither remember the particulars. But "either way, it happened," says Grimm, now a spine specialist at Resurgens Orthopaedics in Atlanta. He and his wife, Kristy McDonald-Grimm, MD, '06, a hematologist/oncologist at Atlanta's Northside Hospital, have never forgotten what Falls did for their family. "He's responsible for me becoming a doctor and getting to do what I wanted to do — giving me my life," says Grimm.

It's just one of many life-changing conversations that students have had with Falls, often described as a mentor, a friend and "just a great guy." And it's why the Grimms have chosen to give a major gift to support an endowed scholarship for rising third-year medical students, in Falls' honor.

"We got to a place where we could pay it forward," says Bennett Grimm, MD, '06, who along with his wife and classmate is funding the endowed scholarship.

"We wanted to give back to MCG because Dr. Falls is such a great guy and a mentor to students and a good friend. We wanted to honor him. He was born to do what he's doing because he's such a special human being. There's just very few people like him."

Once Upon a Time

Much like Grimm, a chance conversation also led to Falls' career in medicine. A pediatrician lived across the street from Falls' family home in Rock Hill, South Carolina, and Falls' father, Dorth, owned an auto repair shop that serviced the physician's car. "He told my dad that if I should happen to choose medicine and pediatrics as a career, he would be very interested in my coming back to Rock Hill [and joining his practice]," recalls Falls.

So Falls had pediatrics in mind, until a friend encouraged him to look into a student fellowship in autopsy pathology when Falls was in his third year at the Medical University of South Carolina. Once he started doing the work, "I thought, 'This is cool,'" says Falls. "It was like all the pieces of the puzzle were there, and I had to put the pieces together to figure it out. It was fascinating, and I loved it."

Falls then came to MCG in 1979 as a pathology resident. He never left. He joined the Department of Pathology as an instructor in 1983, became an assistant and associate professor, and also worked as a full-time practicing anatomical pathologist. With the encouragement of his chair, the late Bleakley Chandler, MD, '48, who liked his faculty to be involved at the school, Falls joined various administrative committees related to pathology. But he quickly found a role with students. Another mentor, Mary Ella Logan, MD, associate professor in the Department of Pharmacology and associate dean of MCG Admissions, encouraged him join the MCG Admissions Committee. Then Falls was tapped to join the MCG Student Affairs Committee, which brought student and university leadership together for class updates. He would serve in both those capacities for greater than 20 years, rising to vice chair of

the Admissions Committee and chair of the Student Affairs Committee.

Yet, Falls says that if you'd told him as a young man that he'd spend his career teaching and mentoring students, he would probably have run for the hills. "I would have never, ever thought I could do that," he says adamantly. "If anything, I was more introverted than extroverted."

He stumbled upon his love of working with students during residency, when one of his roles was helping teach pathology to medical students. That first time, he remembers just going through a carousel of 2x2 slides and giving a review session on the previous module of work, doing his best to make it visual and to bring what could have been a dry lecture to life. To his surprise, he succeeded. Students responded eagerly — and he was hooked. Falls has since been recognized for exemplary teaching and as Educator of the Year more often than not across his nearly 40 years at MCG, for his work teaching medical students the pathophysiology of various diseases and how it relates to their future patients.

Kristy McDonald-Grimm is just one of many students who fondly remembers the pathology lectures taught by Falls. "My biggest memory is how engaging he was ... he just had a way of making everything relevant and poignant," she says. "He just wants everyone to succeed ... and he's not changed at all [since we were here at MCG] ... He's a very empathetic, engaging man who is just dedicated to the success of MCG students."

For the five years prior to his retirement in 2017, Falls held a dual position in pathology and student affairs as class dean for second-year medical students. Then, a month after he retired, he was rehired. "After 34 years as a full-time practicing pathologist, I wanted to give back to

The Dr. Greer Falls, III MD Scholarship recognizes students who have displayed exceptional stewardship during their first 18 months of medical school through their mentorship and education of first-year medical students.

To give a gift in honor of Dr. Falls, please call **706-721-4001** or visit augusta.edu/giving/makeagift



students in two primary areas — teaching and advising/mentorship,” he says. “Both areas had been the driving principle that kept me motivated during those many years. I was very fortunate to receive a part-time hire back position in the Office of Student Affairs as a class dean, continuing to advise and mentor students as well as teach. For the past five years, the ability to continue to impact the lives of young medical professionals — my students — has been an amazing journey, a journey that continues to this day.”

His long-term impact as a mentor is something he says he only recently realized when the Grimms announced that they wanted to establish a scholarship in Falls’ name. It was a surprise and an honor: The Grimms contacted the Office of Philanthropy knowing exactly who they wanted to recognize and how much they want to give — but exactly how the funds should be used they left up to Falls.

So, Falls did what he does best: He talked to his students. In particular, he called a former student and friend, William Oren Blalock, MD, ’96, an internist in New Orleans, Louisiana. “Well, that’s simple, Greer,” Blalock said. “Do it on mentorship, because you were a mentor to all of us.”

“Even more,” adds Falls, “I wanted to do this for a rising third-year medical student, because there simply are not new scholarships for that year. We have scholarships for those entering MCG... then we have monies that are available and can be offered to fourth-year medical

students. It would [also] be nice to have it for a second-year medical student about to go into their third year that has shown mentorship in whatever way toward a first-year medical student. That’s kind of how it came together.”

A Friend and Mentor

The first scholarships were awarded in November 2022, days shy of Falls’ 70th birthday. During the reception to recognize the three inaugural recipients of the Dr. Greer Falls III, MD, Scholarship, one of the speakers was Natasha Savage, MD, ’07, vice chair for academic affairs in the Department of Pathology and MCG’s associate dean for graduate medical education — the first in her family to go beyond high school. She says she was drawn to Falls immediately as a role model.

“I am beyond confident that Greer deserves a large amount of credit for my success in medicine,” she says. “However, it’s not just my success that can be credited to him. It’s hundreds and hundreds and hundreds of student successes, and it’s the hundreds and hundreds and hundreds of students that [those students have] mentored ... That’s the amazing thing about mentoring. It’s the gift that keeps on giving, and it does not stop with the first mentee. Because every great mentor is carried on into the next generation.

“So, here’s to Greer ... thank you for all that you have done for us. MCG is better because of you, my friend and mentor.” 🍀

Natasha Savage, MD



A Little Pixie Dust



“Young at heart” is a phrase commonly used to describe Greer Falls, MD. Like a puckish Peter Pan, he says that through his work with students, “I haven’t had to get old. They’ve had to grow up and leave here and assume all kinds of careers, which is amazing. But I have not had to grow up.”

Part of it may be his love of all things Disney World, which started when he was in his 40s. He visits the park in Orlando several times a year, adding to his collection of snow globes, which spreads over most of his desk, joining other memorabilia displayed on walls and bookcases in his office in the J. Harold Harrison M.D. Education Commons.

So, when Falls was recently presenting the inaugural recipients of the D. Greer Falls, III MD Scholarship with \$5,000 each for their role as mentors at the Medical College of Georgia, he had a bit of a twinkle in his eye.

With the funds automatically deposited, “I wasn’t sure what [tangible thing] to award,” he said to Queen Abure, Shresttha Dubey and McKenzie Maloney, all from the class of 2025.

Then, from behind his back, cradled in the palm of his hand, he brought out the perfect representation of the scholarship in his name — a Disney snow globe, featuring a classic Mickey Mouse. Amid laughter from the audience, Falls added, “I decided something very appropriate.” 🍀

2022 GREER FALLS III, MD, SCHOLARSHIP RECIPIENTS

Queen Abure, '25

Class president and cofounder of the MCG Inclusivity Council, where she leans on her own experiences to serve others facing challenges related to inclusion, uniting them through positive communication. Advocate liaison for first-year medical students and leads student liaison group, spearheading wellbeing efforts.

McKenzie Maloney, '25

Established a mentorship program for local high school students interested in careers in medicine and is a founding member of several student-led organizations, supporting philanthropy, skin cancer prevention, financial management and information technology.

Shrestha Dubey, '25

Serves as curriculum vice president for his class, incorporating his knowledge and understanding of education as a former high school chemistry teacher, contributing to improvements in the academic experience of his peers. Working on a mentorship project to connect classes through clinical settings.



‘I Was Here’

BY DANIELLE WONG MOORES

For Talmadge “Joe” Bowden, MD, ’66, his University of Georgia ROTC commander — a no-nonsense combat veteran of World War II with a colorful vocabulary — gave him the best advice of his career.

Bowden’s sights were set on following in his father’s footsteps by joining the Air Force and becoming a fighter pilot. His career in medicine, he says, happened almost accidentally.

At UGA, Bowden’s roommate, the late Leslie Wilkes, MD, ’65, wanted Bowden to join him at the Medical College of Georgia — so much so that Wilkes filled out the medical school application for him.

So, when Bowden got accepted to the Medical College of Georgia and the U.S. Air Force flight school in the same week, “I can’t pursue both careers,” he remembers telling his ROTC commander.

The commander let him have it. “Bowden...” he started, then went into a stream of colorful expletives. Once he calmed down, he told Bowden, “Look, I got these wings, but not everyone who gets accepted to flight school does. If you wash out, you’ll fly a desk. You’ll end up bitter and disappointed because you’ll hear the planes taking off all the time, but you won’t be in the cockpit.”

“He made up my mind for me,” says Bowden. And that first day in MCG’s gross anatomy lab, he knew it was the right choice: “I loved anatomy and learning the awesome way the body was created and

functioned. That love of anatomy would lead me to a surgical career that lasted 48 years.”

Bowden would spend his entire professional career in general surgery at MCG — where he helped start MCG’s minimally invasive surgery program — along with stints at Augusta’s University Hospital (now Piedmont Augusta) and the Charlie Norwood VA Medical Center. He adds, “These things happened over time.

I had no burning passion or desire for them, but if you believe angels or the Holy Spirit guides you through life, that’s got to be what happened.”

Years later, that divine guidance came again. Like his parents, Bowden had a deep faith, and throughout his career, he had explored what seemed to him to be an obvious connection between prayer and healing. After 30-plus years as a surgeon, he says he felt a call to talk to the bishop of the Diocese of Georgia about becoming a deacon in the Episcopal church with a primary ministry as a chaplain for MCG medical students and residents. Then came another piece of great advice: The bishop said, “Absolutely not. I don’t see you as a deacon. I need a priest.”

After much prayer with his wife, Cissy, Bowden decided to test the waters by taking five weeks off from his practice and enrolling in a summer course at Sewanee — The University of the South School of

Theology. He went on to complete his degree and, for the last 16 years of his professional career, worked as both a surgeon and a priest.

Now retired from surgery and serving full-time as assistant rector at Augusta’s Church of the Good Shepherd, Bowden is remembering his long and colorful career with a gift — donating his available resources toward the Talmadge A. “Joe” Bowden, Jr. M.D. Distinguished Chair in Surgery, which, when fully endowed, will support minimally invasive surgery education for residents.

‘A Great Fit’

Years after that conversation with his ROTC commander, Bowden had a chance to fly a Cessna 125 after he was drafted to the Vietnam War and was on active duty at Shaw Air Force Base in Sumter, South Carolina. He hated it — further confirmation that his ROTC commander was right.

But at MCG, he flourished. He loved his time there — loved being able to give patients “half a chance and see them bounce back.” Nights, he’d often be on call with other medical students,



and they'd typically be the first to see a patient and analyze the situation. They'd also be on hospice duty, sitting with and supporting patients in their hospital rooms as they lay dying.

"MCG was different then," Bowden says. "We were given independence far greater than exists now."

One of his jobs was being a pediatric extern at what was then University Hospital. Bowden thought briefly about pediatrics, but ultimately decided it wasn't for him. He was late in the game, so he went to William H. Moretz, MD, chair of the Department of Surgery, about possible other residency slots. "I liked surgery," Bowden says. "You had a problem, you quickly analyzed it, you made a plan, you did it and you had an outcome all within a very compressed period of time."

Plus, as a lifelong musician who played the violin as a child and later the saxophone, he had the hands for it. "The word surgery comes from the word χειρῶν ἔργον, which means hand work in Greek," says Bowden, whose love of medical history is infamous among his students. "For some, dexterity ain't their game. But for me, the technical part came easy."

Residency was a turning point in more ways than one. Bowden recalls the 1970 Augusta riots, when gunshot victims poured into every hospital in town, including MCG's Eugene Talmadge Memorial Hospital, which then had no emergency room. "We were doing everything we could to triage them, then a bunch came in and Dr. Ed Brackney said, 'Joe, this kid has multiple gunshot wounds in his belly and some in his legs. You take him to OR 2 and operate on him.'

"It was that independence I was talking about earlier," Bowden says. "Everyone matured quicker in those days because the independence was there...it was a scary concept, but that's the way it worked."

Fortunately, the boy had no major vascular injuries and it was a successful outcome. "That's when the little bird was thrown out of the nest," Bowden says.

The next year, Bowden was drafted to Vietnam. "I was hanging on the edge to go," says Bowden, but then President

Nixon began de-escalating the conflict. So, Bowden was sent to Shaw Air Force Base in Sumter, where he performed reconstructive surgery on prisoners of war who had been brutalized and tortured. "It was unbelievable the inhumanity of humans against each other," he says.

By 1973, Bowden had fulfilled his military obligations, achieving the rank of major and serving as chief of the Division of General Surgery at the U.S. Air Force Regional Hospital at Shaw Air Force Base. He was ready to join a private surgical practice in Myrtle Beach, South Carolina when it was Moretz' turn to call on him.

In 1972, Moretz was chairing the search committee for a new MCG president. After a national search was unsuccessful, Bowden recounts that the chair of the Board of Regents called Moretz, saying, "Bill, you're our new president."

"I don't want to be the new president," Bowden says Moretz replied. But Moretz took on the mantle, and with another surgical faculty member leaving for an out-of-state position, the Department of Surgery was down to just four faculty.

Bowden didn't want to say yes either when Moretz called about a faculty position. "I never had aspirations for academic surgery," he says. But he and Moretz had become good friends. So, he agreed to stay for a year.

That year would turn into 48. "Well, I fell in love with it," Bowden says. "Teaching residents and students and all that. Their enthusiasm, their passion was infectious."

Bowden later served as MCG's coordinator of student education for nearly 30 years and oversaw the surgical residency program at the old University Hospital, for a decade. He remembers some choice words from some of his student reviews: "too strict" and "intimidating." Or "Dr. Bowden is nice, but too much damn history!"

"One of the things I always tried to impress on them is that you didn't get here because you're so cool and wonderful and beautiful," says Bowden. "You are smart, but you got here, in the words of Isaac Newton, 'if I have seen further, it is by standing on the shoulders of giants.'"

You got here because all these people came along before you and brought you to this point in time in surgery where you have all this at your disposal."

Some of those giants were on faculty with him. They included Charlie Wray, MD, '59, who, with Moretz, pioneered the Moretz vena cava clip for preventing pulmonary embolism; the late Bob Parrish, MD, '56, MCG's first chief of pediatric surgery; Bob Johnson, MD, MCG's first chief of surgical oncology; the late Arlie Mansberger, MD, chair of the MCG Department of Surgery, who developed the first emergency room and trauma center at MCG; the late Carl Jelenko, MD, who established the burn unit at MCG and was a founding member of the American Burn Association; and the late Dan Sullivan, MD, '49, the first fellowship-trained surgical oncologist in Augusta.

Then there was Bowden, who in 1991 along with chief surgical resident, David Rogers, MD, performed MCG's first laparoscopic cholecystectomy, or minimally invasive removal of the gallbladder — thus introducing minimally invasive surgery to the Department of Surgery.

Bowden also served as president of SAGES, the Society of American Gastrointestinal and Endoscopic Surgeons, which has grown to become one of the largest surgical organizations in the U.S. "I was in the right place at the right time," says Bowden.

Turning Point

For Bowden, who grew up in a strong Southern Baptist home, faith has always been an important part of his life. He wrote this when Mansberger passed in 2018: "We both had everything in common. We loved surgery, we loved teaching surgical residents, we loved golf, we loved research and writing, and we loved Jesus — perfect ingredients for a lifelong friendship grounded in collegiality and respect."

In his 50s, Bowden was part of a Commission on the Aging Surgeon for the American College of Surgeons. It made him look at himself: "I was thinking, 'I'm one of those aging surgeons."

This might be the time to think about laying it down.”

He had served as a layperson at the Church of the Good Shepherd since 1975, leading prayers and non-Eucharistic services. “I’d been interested — long before I was ordained — in the dynamics between spirituality and healing, religion and science, the power of prayer and the power of healing through connection with the divine, in this case, Jesus,” he says. “I’d read all kinds of things, I’d studied, I’d written about it, talked about it. So, I thought, ‘I love the church, I’ve been active in it all my life. It might be a good match.’”

It was another right fit. While his original hope to become an MCG chaplain didn’t work out due to the hospital administration in place at the time, after he was ordained in 2002, he was appointed assisting priest at Church of the Good Shepherd. And he continued to perform surgery until he retired from the VA in 2019.

His faith, he says, like his chosen career, is entirely practical: “It’s the true reality,” he says. “To paraphrase Pierre Teilhard de Chardin, ‘Are we human beings on a spiritual journey or are we are spiritual beings on a human journey?’ The answer is yes, absolutely yes.”

‘Near and Dear’

Bowden shrugs a bit at the suggestion that there’s more behind his named chair than just this simple fact: “It’s just because we can...there’s nothing altruistic about it. There’s no sob story. Education is near and dear to my heart, and anything that can benefit the education of surgical residents, I will support it.”

It’s the last in a line of giving back, which started with a \$10,000 gift as part of the President’s Club and included his leading the fundraising for the Moretz/Mansberger Distinguished Chair in Surgery, a chair position that honors the two men he calls his mentors.

Like the other giants in his day, Bowden says, he’s had a good ride. It’s not a legacy so much as a simple statement: “I was here.” 🍀

ON A NATIONAL STAGE

Joe Bowden is a surgeon, a priest, a columnist, a golfer and a military veteran. He also, outside of the COVID blip, has not missed a Masters Tournament in 56 years.

Many may also know him as a musician. What they don’t know is how often Bowden has had a brush with fame.

In 1953, Bowden’s father was stationed in England, and Bowden was taking lessons from the first chair violist at the London Philharmonic. He played with other young musicians for Queen Elizabeth I during her coronation festivities that year. “I still have that violin to this day,” Bowden says.

After his family returned to the United States, Bowden joined the marching band at Albany High School, Albany, Georgia, where he picked up the saxophone. He later played with Ray Ragsdale, who became Ray Stevens, known for songs such as “Ahab the Arab” and “The Streak,” and was a member of the backup bands for Jerry Lee Lewis and Brenda Lee when they toured through Georgia in the mid-1950s.

About a decade later, Bowden and other physicians and residents formed a band, Code 99, which lasted four decades. Code 99’s forte was old standards and swing, but their passion was Dixieland. Their finest hour was when they were asked to be

the warm-up band for New Orleans’ Preservation Hall Jazz Band when they came on tour through Augusta. During the grand finale, Preservation Hall invited Code 99 to join them on stage for “When the Saints Go Marching In.” “We paraded all over the Imperial Theater,” recalls Bowden. “The audience wouldn’t let us stop playing! It was our happiest moment in our long history.” 🍀



Clockwise from left:

The late Bob Parrish, MD, '56, former MCG chief of pediatric surgery; Annie Alperin, wife of Henry Alperin, MD, current MCG assistant professor of radiology; the late Gilbert Klemann, MD; Pharmacist Warren Weatherford; the late Ben Moss, MD, '51; the late John Hudson, MD, '81; and Bowden

In January, I lost one of the best people in my life – my grandmother who helped raise me. From instilling in me a sense of right and wrong to teaching me how to treat others, grandmother truly shaped the person I am today. She changed my tomorrow for the better.

As the chief fundraiser for the Medical College of Georgia, I have the privilege and pleasure of meeting many of you who change tomorrow for the better in the ultimate way: saving lives and curing disease. I have heard you say that MCG made your life's work possible.

In August 2022, I came to this university from Florida, where I worked for over 25 years in higher education and health care philanthropy, including leadership posts at the University of North Florida and Florida State University. While Florida has six public medical schools, Georgia has just one.

As the state's only public medical school, the Medical College of Georgia is the leading provider of Georgia's physician workforce, graduating the largest number of doctors of the four medical schools in the state. As you well know, Georgia's medical school is more vital than ever.

Based on my fundraising experience at two academic medical centers – Meharry Medical College in Nashville and University of Florida College of Medicine/Shands Jacksonville Medical Center – I can assure you that MCG would not be where it is today without the generous support of you, our MCG alumni.

Your gifts support our medical students, residents, fellows, faculty and staff. Your gifts help fuel research and foster groundbreaking discoveries that lead to better treatment and care in the future. Ultimately, your gifts help MCG provide quality patient care for your family, friends and neighbors.

In short, your philanthropic partnerships change tomorrow for the better. And there is more than one way to give – I like to talk about the three levels of giving: (1) an annual gift for immediate needs; (2) a larger, major gift that is more transformative, and (3) an estate gift for more long-term support. Some of the larger gifts can give forever through

the form of an endowment. You may be familiar with the term “endowment” but have questions about what this really means. An endowed fund is a permanently invested fund, where a percentage of the earned income spins off every year to fund a general or specific purpose. The principal gift is never touched – it is preserved through careful spending policies – but continues to generate income in perpetuity.

Donors often choose to name endowments to preserve their own legacy or to honor a family member or mentor. Endowed funds can become family traditions, with succeeding generations adding gifts to the principal established by a founding donor.

MCG's endowment funds are invested for the long term, and earnings from those investments provide a permanent source of funding for scholarships, academic programs, patient care and innovative medical research. Endowments provide the vital financial stability that enables MCG to maintain its excellence in delivering high-quality education, clinical care and science that moves our knowledge about the body and patient care ever forward.

Your endowment can change life for the better, spanning generations, touching countless students, patients and families. If you are not already a supporter, I encourage you to consider partnering with MCG for a better tomorrow.

I miss my grandmother, but the lessons she taught me will live on through the impact I make with you. I am happy to be here and to make Augusta my family's new home. I look forward to meeting more of the MCG community and making many new friends as we partner together to promote and undergird Georgia's one and only public medical school. – Brandon McCray



Brandon T. McCray

*Vice President for Development,
Philanthropy & Alumni Engagement
Augusta University*

brmccray@augusta.edu

706-721-7191

3 WAYS TO SUPPORT MCG

Annual Gifts

Annual gifts are those charitable donations that help MCG meet the needs of the day. Donors who give annually have the unique opportunity to immediately put their contribution to work. You may designate your gift to support students, faculty, research or any MCG department, program or unit, or simply allocate it to the greatest need.

Estate Gifts

These are what we often call legacy gifts or ultimate gifts. The simplest form of a planned gift is the bequest – leaving something to MCG in your will. Other ways include creating a trust or charitable gift annuity; naming MCG as beneficiary of your retirement or life insurance plan; leaving or donating tangible personal property, such as real estate, artwork or antique furnishings or transferring stocks or bonds to MCG. Estate gifts often create endowments such as an endowed chair, but also can be directed to immediate, impactful use.

Major Gifts

Major gifts are deliberate, larger gifts of \$25,000 or above – the kind of philanthropy that solves a major problem or meets a specific or substantial need. Of significant impact is a major gift that creates an endowment. Endowments last forever. The principal of your donation is invested, and the earnings are used to fill the purpose of your choosing.

Named endowment opportunities start at \$50,000. You may choose to create and name an endowed fund for a scholarship, a residency education fund, research, academic chair, a lectureship, patient care or other vital purposes. You may designate your endowment as a single gift or spread the payments over up to five years in the form of a pledge. For example, the minimum gift to create a named scholarship is \$100,000, which can be given as a \$20,000/year pledge over five years. ☺

Let our philanthropy experts help you decide the best way to partner with MCG. Please reach out to philanthropy@augusta.edu or 706-721-4001 to schedule a personal visit.



A retired Savannah allergist/immunologist and 1971 MCG graduate and his wife are endowing a fund that will provide a stethoscope, bearing the iconic MCG seal, for every freshman medical student. The Dr. Melvin L. Haysman, '71, and Mrs. Roberta Kamine-Haysman Stethoscope Fund, along with gifts from other MCG alums, will help sustain the program for years to come.

"We wanted to be able to provide the students with something personal, something they're going to have for a lifetime," Kamine-Haysman says. "These stethoscopes are also a tangible representation of how the current generation of physicians is mentoring the future generation."

The Haysmans have a long history of supporting MCG – from hosting alumni retreats at their home in Savannah, to also hosting students who were interested in a career in allergy/immunology in their practice. Dr. Haysman served for many years on the MCG Alumni Association Board of Directors, including his term as president from 2003-04. He also is the 2023 MCG Distinguished Alumnus for Loyalty. ♡

To donate the cost of a stethoscope for a new student, please visit mcgfoundation.org/stethoscope or for more information please call **706-721-9394**.

Conrad Easley, MD, '66, an orthopaedic surgeon in Dalton, Georgia, was surprised recently when he opened his mail and found he had received a Bronze Star for his service, 54 years after he left Vietnam. He was supposed to have received the award decades ago, but with changes in his commanding officers and changes in his assignments the award didn't happen. Several years ago he was talking to Bernhard Mittermeyer, MD, a retired lieutenant general whom he served under in Vietnam. When Mittermeyer found Easley had never received a Bronze Star he began an effort to help him.

Jerry A. Miller Jr., MD, '76 recently published his second book, *Sure Hope*, the story of a boy who grows up in the heart of the Blue Ridge Mountains, near Sure Hope, Virginia when the Civil War is in its final stages. Miller practiced pediatrics in Augusta for almost 40 years. His first book, *The Burden of Being Champ: The Dropout, The Legend, and The Pediatrician*, was published in 2014.

Dean Burke, MD, '81, is the Georgia Department of Community Health's new Chief Medical Officer for the Medical Assistance Plans and will lead the department's efforts related to health performance and quality reporting for the Medicaid and PeachCare for Kids® populations. Burke had been serving as chief medical officer for Memorial Hospital and Manor in Bainbridge, Georgia. He also served as a state senator for Senate district 11, representing Colquitt, Decatur, Early, Grady, Miller and Seminole counties along with portions of Mitchell and Thomas counties. During his senate service, he served as chair of the Insurance and Labor Committee, vice chair of the Health and Human Services Committee and Ethics Committee, secretary of Appropriations and was a member of the Reapportionment and Redistricting Committee and the Rules Committee. He also served as the chair of the Community Health subcommittee.

Howard L. Melton, MD, '87, longtime general surgeon at Colquitt Regional Medical Center in Moultrie, Georgia, was recently reappointed as a Governor-at-Large to the Board of Governors of the American College of Surgeons. Melton served a three-year term before being reappointed for another three years.

Douglas Thompson, MD, '93, is the new medical director for hematology/oncology at AdventHealth in Hendersonville, North Carolina.

Helen Louise Moore, MD, '96, has been recognized by *Continental Who's Who* as a Top Pediatrician and Owner for her work in the medical field and in acknowledgment of her work at Cornerstone Medical Pediatric Associates in Warner Robbins, Georgia.

Diana Koelliker, MD, '97, was named the EMS Physician of the Year by the Western Regional EMS and Trauma Advisory Council (WRETAC) in Colorado. Koelliker is the medical director of Emergency and Trauma Services at Telluride (Colorado) Regional Medical Center, and also serves as medical director for the Telluride Fire Protection District, Emergency Medical Services (EMS) Division.

Elizabeth Taghechian, MD, '98, an obstetrician/gynecologist at Marietta OB-GYN Affiliates, P.A., has been recognized by *Atlanta Magazine* and *Castle Connolly Medicine* as one of Atlanta's Top Doctors.

Fatima Cody Stanford, MD, '07, has been named a member of the Biden Administration's US Department of Agriculture's 2025 Dietary Guidelines Advisory Committee, which will examine the relationship between diet and health across all life stages, and will work to ensure factors such as socioeconomic status, race, ethnicity and culture are described and considered in new dietary guidelines.

Ngoc Minh Nguyen, MD, '13, a cardiologist, has joined the Canton-Potsdam Hospital medical team in Potsdam, New York.

Jonathan S. Harris, MD, '11, an orthopaedic surgeon, has joined OrthoGeorgia in Warner Robbins, specializing in the surgical and nonsurgical treatment of the hip, knee, shoulder, and elbow as well as joint replacement and trauma care.

Jason Harms, MD, '14, a spine surgeon, has joined Resurgens Orthopaedics, the largest orthopedic practice in Georgia. He specializes in complete adult spine surgery, reconstructive spine surgery, artificial disc replacement, kyphoplasty and fracture care. He will treat patients from the Johns Creek area and his hospital affiliation is Emory Johns Creek Hospital.

Karen Kagma, MD, '16, a medical and cosmetic dermatologist, has joined Skin Care and Laser Physicians of Beverly Hills, California. After finishing her dermatology residency at Southern California's Loma Linda University, she also completed a cosmetic fellowship at Harvard Medical School/Massachusetts General Hospital and the Wellman Center for Photomedicine in Boston.

Michael Webber, MD, '16, an orthopaedic surgeon, has joined Georgia Bone and Joint, an orthopaedic practice dedicated to providing exceptional care to the residents of Atlanta's southside including Coweta, Fayette and Spalding counties.

Four MCG graduates have been named partners at Pediatric Partners in Augusta: **Sandra Herzwurm, MD, '86; Beatriz Barrientos, MD, pediatrics residency, '03; Jill Kitchens, MD, '05; and Yolanda Safford Jones, MD, '15.** Pediatric Partners is the largest private practice group of board-certified pediatricians and board-certified pediatric subspecialists in the Central Savannah River Area. 🍀



In Memoriam

Lamar Lafayette Fleming, MD, '65, a retired orthopaedic surgeon who served as president of the American Orthopaedic Foot and Ankle Society, died Aug. 14.

While at MCG, he was a member of the Scholastic Honor Society and was inducted into the Alpha Omega Alpha Honor Medical Society during his third year. He received the medical school's Distinguished Alumnus Award for Professional Achievement in 2009.

After medical school, Fleming completed his internship and training in internal medicine at Parkland Memorial Hospital in Dallas, Texas; his general surgery residency at MCG's Eugene Talmadge Memorial Hospital in Augusta (now AU Medical Center); and orthopaedic surgery residency at Duke University School of Medicine in Durham, North Carolina. He was a veteran of the US Navy, serving as a naval flight surgeon and earning the rank of lieutenant commander.

Fleming was a professor and chair of orthopaedic surgery at Emory University in Atlanta and served as chief of the Hand Service at Grady Memorial Hospital, as well as chief of the Hand Section at Atlanta's Department of Veterans Affairs Medical Center.

During his 15-year tenure as chair, he recruited talented faculty and guided the Emory Orthopaedic Department through significant growth in size and national prominence. He started the Emory Sports and Spine Center, which led to the expansion of Emory Orthopaedics throughout the Atlanta metropolitan area. He founded the Emory Orthopaedic Surgery Residency Alumni Organization, the Robert Kelly Society, which is still active today. He received the Emory Distinguished Medical Achievement Award in 2012.

Throughout his career, he served in a variety of leadership roles, including president of Atlanta Orthopaedic Society, president of Georgia Orthopaedic Society and president of Eastern Orthopaedic Association and Southern Orthopaedic Association. He published over 40 peer-reviewed articles and served on the editorial boards of the *Journal of the Southern Orthopaedic Association*, *Clinical Orthopaedics and Related Research*, *Journal of Orthopaedics*, *American Foot and Ankle Journal* and *Journal of Sports Medicine*.

He is survived by his wife of 53 years, Sally Hurt Fleming; daughters, Anne Ridley Fleming of Greenville, South Carolina and Sarah Sibley Fleming of Atlanta. 🌿

Jack G. Williams, MD, '66, July 1
John R. Andrews, MD, '70, July 5
William L. Wilkes, MD, '67, July 13
Oliver W. Jenkins, MD, '67, July 19
Donald R. McRae, MD, '73, July 20
Larry D. Gattis, MD, '77, July 29
John D. Reynolds, MD, '65, Aug. 19
Sidney P. Johnson, MD, '65, Aug. 20
H. J. Beecham, MD, '74, Aug. 25
James R. Wilhoite, MD, '66, Aug. 28
Olin C. Dobbs, MD, '57, Aug. 29
William R. Thompson, MD, '55, Sept. 5
Ferdinand V. Kay, MD, '59, Sept. 14
James H. Smith, MD, '58, Sept. 16
Theo G. Thevaos, MD, '48, Sept. 16
Robert Parrish Jr., MD, '56, Sept. 27
John B. Hill, MD, '68, Sept. 28
Ray H. McCard, MD, '60, Oct. 2
William M. Oxford, MD, '66, Oct. 15
Fred T. Owens, MD, '70, Oct. 23
Eugene R. Long, MD, '77, Oct. 23
Susan W. Belson, MD, '77, Oct. 26
Frederick D. Maner, MD, '57, Nov. 5
Rebecca A. Madden, MD, '79, Nov. 19
George E. Linney, MD, '69, Dec. 22
Robert J. Walker, MD, '67, Dec. 25
Jesse D. Hester, MD, '70, Dec. 28
Robert L. Galphin, '58, Dec. 31
James W. Duncan, MD, '80, Jan. 7
Thomas J. Busey, MD, '57, Jan. 7 🌿

THE FIRST OF ITS KIND

A vibrating capsule designed to stir the colon to action appears to double the ability for adults struggling with debilitating chronic constipation to defecate more normally and without drugs, researchers report.

BY TONI BAKER



In a study of more than 300 adults at about 90 centers nationally, participants using the vibrating capsule for eight weeks had about twice the number of complete spontaneous bowel movements as those taking a placebo, researchers led by Satish S.C. Rao, MD, PhD, report in the journal *Gastroenterology*.

For the study, the nearly inch-long, traditional-shaped capsules with a latex-free plastic shell, which you swallow like any pill, were preprogrammed to induce two-hour vibration sessions twice daily and were taken five days per week. The capsules stimulated the colon for three seconds followed by 16 seconds of rest. After the two daily sessions were complete, the capsules fell silent and passed naturally through the gastrointestinal tract.

“It’s the first of its kind in the entire GI world,” says Rao, director of neurogastroenterology/motility and the Digestive Health Clinical Research Center at the Medical College of Georgia and Augusta University Health.

“First of all, it’s a device, it is not a drug. It’s a nonpharmacological treatment, and secondly it works right in the colon, the target area, where it’s exciting the muscles in the wall of the colon to do their job,” says the study’s corresponding author.

Rao and his colleagues have additional information that the call to action in the colon also can be detected in the brain and that, over time, it may help the colon regain more normal function without additional prompting. Normal prompts for the colon to get busy include when we wake up in the morning and when we eat a meal.

“The vibrating capsule is a novel non-pharmacological approach to the management of chronic constipation, a common and challenging problem worldwide,” says coauthor

Eamonn Quigley, MD, chief of gastroenterology and director of the Lynda K. and David M. Underwood Center for Digestive Disorders at Houston Methodist Hospital.

Investigators reported 39% of participants using the vibrating pill had one or more complete bowel movements a week versus 22% of those taking a look-alike placebo. Nearly 23% of those taking the active capsule had two or more complete spontaneous bowel movements per week compared to just under 12% of those taking the placebo.

Those using the vibrating capsule also had significant improvement in classic problems like straining, stool consistency and general quality of life compared to placebo takers, the researchers report. No significant side effects were reported. About 11% of participants using the capsule reported experiencing a “mild vibrating sensation” but continued its use, the researchers write. The vast majority found the system easy to use.

Despite advances in drug therapy, there is a tremendous unmet need for better treatments for the problem affecting about 40 million people in the US alone. About half of patients are dissatisfied with their current therapies and willing to try new ones, report study authors who included William D. Chey, MD, from the University of Michigan in Ann Arbor, Anthony J. Lembo, MD, from the Cleveland Clinic in Cleveland, Ohio, and Dr. Amol Sharma, also at MCG and Augusta University Health.

The final, Phase 3 study was funded by the capsule developers, Vibrant Ltd. The pill was approved by the U.S. Food and Drug Administration in August 2022, but the therapy just became available for physicians to prescribe. [👉](#)

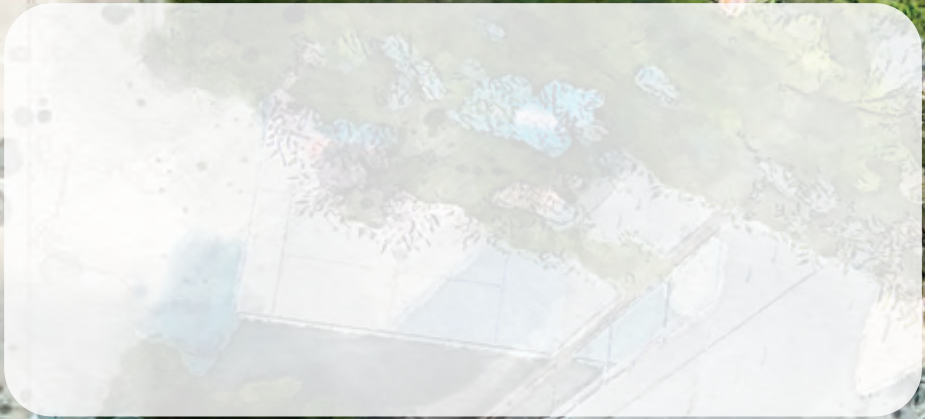





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