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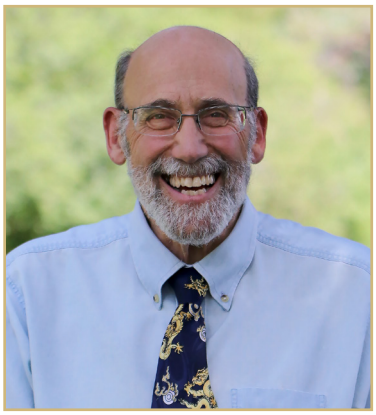

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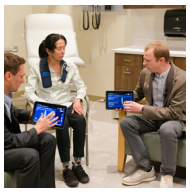
Mark Deutchman, MD, on 20 years of rural medicine training.

Cover photo by Melissa Santorelli



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From Bison to Buff

This summer, I visited my hometown, Winnipeg, to see family and friends and while passing through the airport, I saw a billboard for my alma mater, the University of Manitoba.

The university's mighty mascot – the bison – features prominently in the advertisement, and I was struck by why CU feels so much like home.

We buffaloes stick together. There's power in the herd.

I marked my one-year anniversary as Dean and Vice Chancellor for Health Affairs in July and what an eventful and extraordinary year it has been!

Since joining CU I have been impressed by the passionate commitment of our faculty, staff, and affiliates to improving care, conducting research, and training the next generation of physicians, physician assistants, physical therapists, anesthesiologist assistants, genetic counsellors, and all other clinicians in our community.

I feel fortunate to have joined such a strong academic medical center where we committed to my goal of making CU Anschutz top 10 in 10 years.

We have a solid foundation, strong clinical partners, and steadfast commitment from our community. From this base, we have a tremendous opportunity to be one of the best academic medical centers in the country.

I am excited to report some of the major successes achieved during my first year that will help us fulfill that promise.

We have been working tirelessly to align and strengthen our programs:

- With UCHealth, we adopted a comprehensive update of the funds flow that our school and our hospital partner into alignment for our common goals.
- At Children's Hospital Colorado, we are building new reporting structures that will ensure that our faculty have strong bonds with the hospital and the clinical departments.
- I have reorganized our senior leadership team at the School of Medicine to emphasize our priorities of quality, education, translational research, and philanthropic partnerships.
- Our department leaders are setting high standards for team performance, and they will be appropriately rewarded when they achieve improved results.
- We are ensuring that our faculty practice is focused on strategically growing in our community so that our patients have access closer to home when they need care.
- Our clinical departments rallied to create an emergency fund of $12 million to support research faculty whose grant funding was stalled due to federal agency transitions.

And we celebrated major successes in all our mission areas:

- In August, we announced that the School of Medicine is the leader of a $64 million NIH grant to establish a new consortium focused on palliative care research. Our school will be leading a multi-institutional center with 40 personnel from more than 20 institutions.
- Our Gates Institute provided CAR T-cell therapy to the 50th patient enrolled in an investigator-led clinical trial for patients with B-cell acute lymphoblastic leukemia who have relapsed or whose disease didn't respond to standard treatments.
- Our school received a $1 million endowment to support one of the country's best programs for training physicians who serve rural communities across the country.

These results are few examples of our CU Anschutz stampede to the Top 10. We are just getting started!

John Sampson, MD, PhD, MBA
Richard D. Krugman Endowed Chair
Vice Chancellor for Health Affairs
Dean, University of Colorado Anschutz School of Medicine

Reporters locally and nationally turn to the School of Medicine for expertise and research news. Here are some examples from near and far.

Jean Kutner, MD, MPH, Distinguished Professor of Medicine and Chief Medical Officer for University of Colorado Hospital, was quoted in Forbes in August about a new five-year, $64 million grant from the National Institutes of Health that creates the Advancing the Science of Palliative Care Research Across the Lifespan Consortium, which will be led by the CU Anschutz School of Medicine. "While palliative care as a field has advanced significantly in the last few decades, there are still a lot of unmet needs. This consortium will serve as a springboard for filling gaps and offering resources to researchers who will ultimately improve the field," she said.

Lisa Abuogi, MD, MS, professor of pediatrics, was quoted by the Denver Post in August in an article about how some canceled National Institutes of Health grants remain stalled after being reinstated. Her grant to study ways of serving pregnant and postpartum women dealing with both HIV and common mental health conditions remained in limbo because the Kenya Medical Research Institute, the institution she's partnering with, still hasn't received its NIH grant, she said. "In effect, we still can't restart the work," she said.

James DeGregori, PhD, professor of biochemistry and molecular genetics and deputy director of the CU Cancer Center, was interviewed by Colorado Public Radio in July about a study by his research team finding that respiratory viruses, such as COVID-19 or the flu, can wake up dormant cancer cells in the lungs. The peer-reviewed study was published in Nature. "Dormant cancer cells are like the embers left in an abandoned campfire, and respiratory viruses are like a strong wind that reignites the flames," he said.

Jean Kutner, MD, MPH

Aubrey Armento, MD, assistant professor of orthopedics, was featured in a report on CBS Colorado about the Female Athlete Program that she founded at Children's Hospital Colorado. The clinic addresses not only physical injuries but also underlying issues such as nutrition, hormonal imbalances, and mental health. "It's a very collaborative approach," she said. "If an athlete is not adequately fueling and is not having a regular period, that puts their bone health at risk."

Trevor Nydam, MD, professor of surgery and chief of transplant surgery, told Newsweek in August that patients in desperate need of transplants could be directly impacted if a trend of donor registration removals continues unabated across the country. "It's where it all begins," Nydam said of willing donors. "It's extremely critical."

Josh Williams, MD, associate professor of pediatrics, was quoted on CNN in July in a report about a record share of U.S. kindergartners missing required vaccinations last year. "There are more and more states where even the potentially achievable coverage that we can get by catching everyone up who's overdue is getting lower and lower," he said. "So, we are now in a situation where in many states, and certainly in many communities within certain states, there's simply not enough herd immunity to protect against outbreaks of these vaccine-preventable diseases, especially measles."

Janet Kukreja, MD

Janet Kukreja, MD, associate professor of surgery, was quoted in The New York Times in July in an article about performing surgery to remove an aggressive cancerous tumor from CU Boulder football coach Deion Sanders. "He is cured from the cancer," she said.

Ellen Burnham, MD, professor of medicine, was quoted in August in a Time article about poll findings that fewer people are drinking alcohol, noting that many Americans still drink and have alcohol-related health complications, and that alcohol consumption varies depending on geographic region. "I think it remains to be seen" whether the decline in alcohol consumption will continue, she said. "It's encouraging to see that some of the educational messaging is hopefully reaching an audience, and hopefully it's the audience that's engaging in risky drinking and is really rethinking about their drinking habits and how to diminish them or decrease them."

Yanjun Gao, PhD, assistant professor of biomedical informatics, was interviewed in August by the NBC affiliate in Denver about the use of an artificial intelligence tool to analyze patient records. "Clinicians, especially in ICU or emergency settings, time is critical, time is everything," she said. "So, we are making sure that these doctors and clinicians have the right information right away, but making sure that they are safe and accurate."

Ian Stanley, PhD

Naresh Mandava, MD

Ian Stanley PhD, associate research professor of emergency medicine and psychological health lead for the CU Center for COMBAT Research, was interviewed by CNN in July in the aftermath of the deadly July 4 floods in the Texas Hill Country. "First responders will often tell us that some of the memories that really stick with them are the recoveries of bodies of children," he said. "That's not what we expect with the natural order of things. And it really sticks with the first responders."

Jeffrey Jacot, PhD, associate professor of pediatrics and bioengineering, was quoted in the Washington Post in July describing research finding that amniotic fluid stem cells can be safely collected from vaginal fluid after childbirth rather than relying on more invasive methods that can pose some risk to the mother and fetus. "We can then turn those cells into beating heart cells and use them later in treating congenital heart defects," he said. "These results allow for an expanded and readily available source of amniotic stem cells beyond traditional collection through amniocentesis."

Cristin Welle, PhD, professor of neurosurgery, was quoted in a CBS News report about state laws that protect information generated by a person's brain and nervous system. She said that AI's ability to identify patterns is a game changer in the field. "But contribution of a person's neural data on an AI training set should be voluntary. It should be an opt-in, not a given."

Naresh Mandava, MD, chair of ophthalmology and interim senior associate dean for strategic advancement, explained to Ophthalmology Times the impact of a $40 million gift received by the department. "We have a tremendous opportunity to fuel our research enterprise, which is fundamental to clinical care," he said in June. "This gift will allow us to translate technology from the lab to the patient faster than before."

Amy Feldman, MD, MSCS, associate professor of pediatrics, was quoted in a June article in USA Today about a father who donated a portion of his liver for transplant into his 8-month-old daughter who had biliary atresia. "There are millions of healthy adults in the world who could be living donors, and yet, every year, about 40 children die across the United States, because no liver is available for them," she said. "I dream of a world where living donor liver transplant prevents any child from dying on the waitlist."

Lia Gore, MD, professor of pediatrics, was quoted in a report on the impact of federal research funding cuts that aired on Colorado Public Radio in May. "We are on the cusp of curing a lot of diseases that have never been cured before, not just in cancer, not just in blood disorders," she said. "We're going to go backward with cuts in funding. There is no question."

David Kao, MD, associate professor of medicine, was quoted on CNN in June in a report about how moderate caffeinated coffee consumption during midlife was associated with a higher likelihood of healthy aging 30 years later. The same link was not found for tea, decaffeinated coffee, or caffeinated sodas. "This would imply that coffee in particular has health preserving or promoting effects," Kao said. "As with other studies, they also appear to have found that coffee has a particular benefit over other caffeinated drinks."

Yoni Ashar, PhD, assistant professor of medicine and co-director of the Pain Science Program, was interviewed by WBUR, a public radio station in Boston, in May. "Pain is an alarm system that lets us know that something is wrong in the body, but sometimes the wiring in the alarm system can get sensitized, so the alarm is going off again and again, even though there's no fire," he said. "A false alarm is just as loud and obnoxious and annoying as a true alarm, so no one's making it up. But just this understanding that, 'OK, my body may actually be OK, intact, healthy and safe,' it can be a very powerful understanding for people to start to feel safe in their bodies again."

Maya Haasz, MD, associate professor of pediatrics, commented in June on National Public Radio about a study finding that states with permissive firearm laws saw a rise in gun-related deaths in kids. "What it's showing is that states that have overall stricter gun laws, we are not seeing the same increases of death as states that have permissive gun laws," she said. "This doesn't mean we should change all our laws at once, but it says, perhaps if we could look at these laws and see which ones are effective, then we could start moving towards safety."

Energizing Care for Young Female Athletes

The new Female Athlete Program changes the game with holistic care.

By Kara Mason

The Female Athlete Program at Children's Hospital Colorado fills a unique need: specialized care for young female athletes who need nutrition guidance, menstrual health expertise, and help with sports performance or injury-related care.

The program has been formally operating since late 2024, but the program's medical director and sports medicine physician Aubrey Armento, MD, assistant professor of orthopedics at the University of Colorado Anschutz School of Medicine, says it's something that has been top of mind for her for a long time.

"I still consider myself an athlete," she says. "I'm still a competitive runner. I run marathons and trail ultras, and I've been running since I was in high school. I struggled with irregular periods, disordered eating, and bone injuries when I was younger, so a lot of my passion for doing this work just comes from personal experience and struggling with the same things I see a lot of my young athletes in clinic struggling with."

The program commonly treats patients with the female athlete triad: the interconnection of menstrual dysfunction, low bone mineral density, and low energy availability — a mismatch in energy intake through food and energy burned with exercise.

Low energy availability also leads to a condition called relative energy deficiency in sport (REDs), which comprises multiple negative effects on the body, including bone and menstrual health, as well as sports performance impairments. A multidisciplinary team offers comprehensive care that meets the need of the individual athlete and their treatment plan for these conditions.

Athletes have access to an athletic trainer, a sports medicine physician, a sports dietitian, and a pediatric and adolescent gynecologist to ensure holistic care.

We sat down with Armento to talk about how the program came to fruition and what it means for female athletes across Colorado.

YOU'VE BEEN BUILDING A PROGRAM THAT MIGHT HAVE BEEN HELPFUL TO YOU AS A YOUNG ATHLETE. WHAT HAS CHANGED OVER THE YEARS TO MAKE THIS POSSIBLE?

Absolutely, 100%. When I was younger, I don't think the research was there as much as it is now on how to best care for the female athlete triad. It wasn't commonly talked about, and people didn't know the right questions to ask about nutrition, especially eating behaviors, or irregular menstrual cycles.

I wish I would have had access to the resources and knowledge we have now, but it just wasn't commonplace then.

WHEN DID YOU REALIZE THAT A PROGRAM LIKE THIS COULD BECOME A REALITY AND EVERYTHING WAS COMING TOGETHER?

The goal when I was hired was to ultimately build a Female Athlete Program, so I knew the direction I wanted to go when I was in fellowship here at CU because I found that I really like working with this patient population and wanted to dedicate my career to female athlete care.

I was fortunate that Children's Hospital Colorado hired a sports dietitian, Amanda McCarthy, around the same time that I was hired to come on as faculty who also was very interested in building a program like this.

Last year, we realized we were already doing the work and needed to name it and form a proper program. We connected with Dr. Lauryn Roth, a gynecologist who also had a lot of interest working in this field too, and she joined the team.

THE PROGRAM AIMS TO ADDRESS CARE AT MULTIPLE LEVELS. WHAT DO YOU FIND IS TYPICALLY MISSING OR OVERLOOKED FOR YOUNG FEMALE ATHLETES?

It does seem like the tide is changing as more awareness is being spread, but previously, female athletes losing their period or having irregular periods was just "deemed normal" if you were training at a high level, and that's not true. It's not normal for an athlete to lose their period, have a delayed first period, or have an irregular period. This has been a common reason for referral to our practice.

Fortunately, primary care doctors, athletes, parents, and coaches are realizing these experiences aren't normal, and athletes need further evaluation to understand what is happening.

The other aspect of this is what we call low energy availability, which is when somebody is not eating enough calories to support all their energy needs for exercise, plus all the energy that the body needs just to function optimally. When a person has low energy availability, one of the repercussions is that they can lose their menstrual period because the body suppresses hormone production. People commonly think that to have low energy availability, you must be underweight or demonstrate weight loss, and that's not necessarily the case.

AN IMPORTANT ASPECT OF THIS WORK IS SPORTS PERFORMANCE. HOW DOES THIS TAILORED CARE IMPACT HOW AN ATHLETE PERFORMS IN COMPETITION?

A vital part of our work is treating patients with REDs. This includes the components of the female athlete triad, but also includes other body systems and sports performance impairments that could be negatively affected in the setting of low energy availability. Sometimes we see patients who experience fatigue, low energy, and report not being able to keep up in workouts or practices like they did previously. There may be other factors at play that we need to consider, but adequate nutrition is so important for sports performance, for recovery, and for injury prevention and rehabilitation.

DOES THIS CLINICAL WORK LEND ITSELF TO RESEARCH, TOO?

It does. A large part of my position here at the CU Anschutz School of Medicine is research, so I focus on bone health and physical activity behaviors in female adolescents with restrictive disorders. In many ways this work parallels what we're doing clinically in the Female Athlete Program, but we're still working on fully integrating those two worlds.

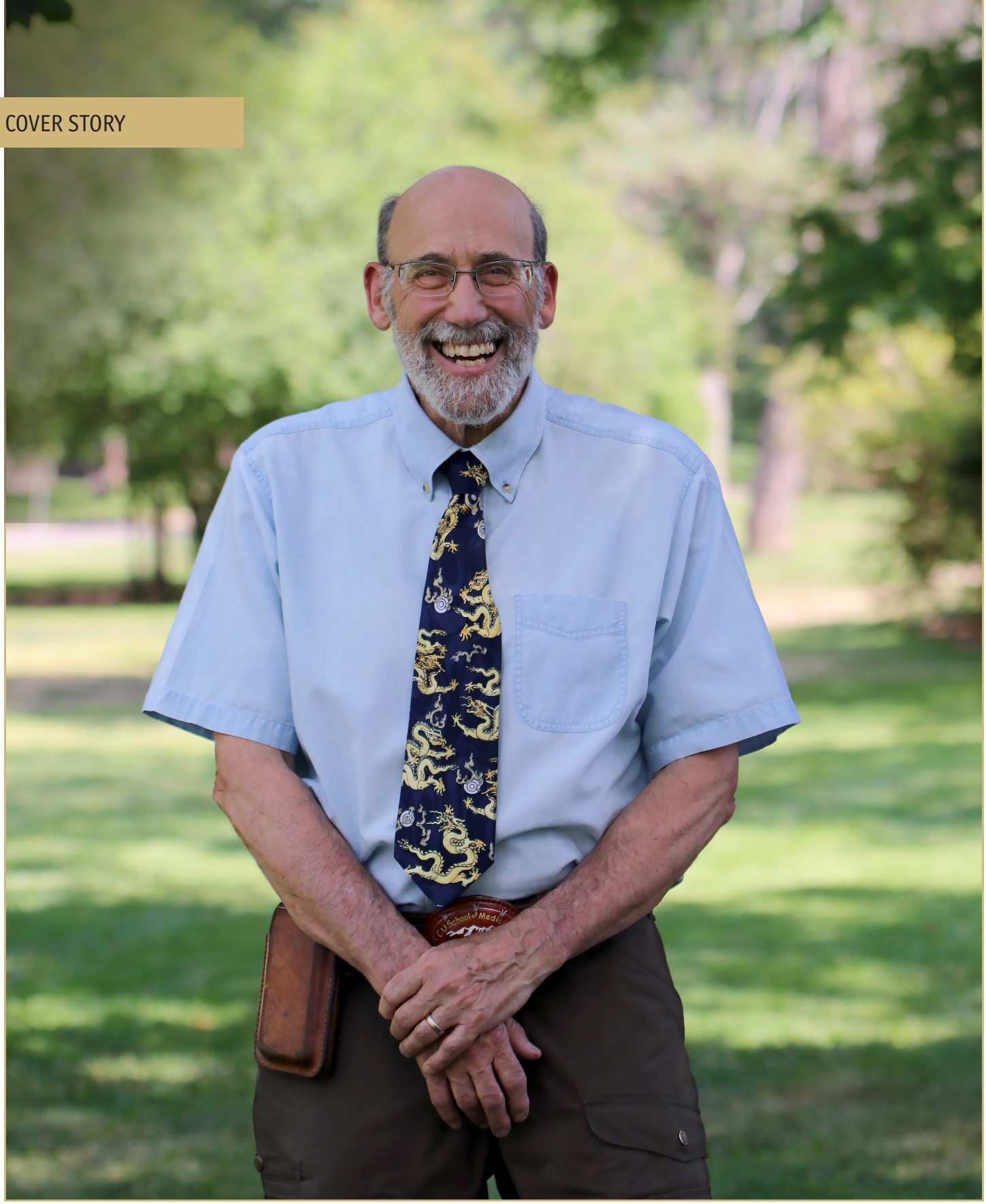
We see ourselves as being a platform to investigate these important questions.

WHAT'S YOUR HOPE FOR THE FUTURE OF THIS PROGRAM AND FEMALE ATHLETE HEALTH?

Our goal is to build environments that foster more open dialog about these topics, because it is really important, from the coaching level, to parents, to teachers, to athletes themselves. Athletes should feel like they can speak up, or their parents should feel like they can speak up, when they have concerns, and then know where to go and where the resources are to provide help in these cases.

"...a lot of my passion for doing this work just comes from personal experience and struggling with the same things I see a lot of my young athletes in clinic struggling with."

Aubrey Armento, MD, in the clinical space used by the Female Athlete Program. Photo by Melissa Santorelli.



Mark Deutchman, MD. Photo by Melissa Santorelli.

20 Years of Rural Medicine Training

Mark Deutchman, MD, saw an opportunity for students and rural Colorado, and it's paying off for the communities that need it most.

By Kara Mason

Rural living isn't for everybody, but for Mark Deutchman, MD, it always has been.

On a warm July afternoon, he stepped away briefly from an interview about his 20-year stint as the head of the University of Colorado Anschutz School of Medicine's Rural Program to finish up business with a handyman fixing a crack in the ceiling of the woodshop and living space he's refurbishing with his family in southern Washington.

This is what phased retirement looks like for Deutchman, who splits his time these days between the Columbia River Gorge where he practiced rural family medicine for 12 years and here in Colorado where he has worked at CU for the last 30 years. After two decades of carving a path for students to pursue their shared passion for rural medicine, the work isn't done yet. It never quite is.

There are discussions about the future of rural health care, meetings about program funding, and time spent strategizing community partnerships that make the training possible and the best part: participating in classroom and lab teaching with medical students and residents.

It all amounts to a big difference for the communities where these students train and then settle, especially as strains on rural health care resources intensify. Rural areas in Colorado are more likely to have insufficient access to primary care, maternity care, and mental health care.

For rural and frontier communities that work with Deutchman and the School of Medicine, the Rural Program is a lifeline and a chance to prepare the next generation of healers serving small towns across Colorado and the nation.

The beginning

Prior to joining the CU Anschutz School of Medicine, Deutchman took his first teaching job in Tennessee and before that he was a family medicine physician in rural Washington state. In academia, he started noticing there weren't enough resources for training students to work in rural communities, just as he had done.

"The problem was that once a student gets to the academic health center, the focus is very urban and subspecialty, and so there really wasn't anything that would identify people who are interested in rural health and nurture that interest through their training. So, 20 years ago, we came up with this idea of starting a rural track in the School of Medicine as an elective."

Deutchman and then-Associate Dean for Rural Health Jack Westfall, MD, MPH, wrote a grant to the Colorado Trust for funding that allowed extra time with students who were interested in rural medicine. The funding was granted, and the rural track was born, paving the way for other tracks, too.

Now, two decades later, the track is a full program with 68 students, comprising about 10% of each class of CU medical students. In 2025, the Rural Program matriculated 15 students into residency programs and accounted for 44% of CU's overall family medicine match.

"We identify students through the admissions process who are interested in pursuing a career in a rural area, and we get together with them through their pre-clinical years. We talk about how health care is provided in rural places and bring a rural focus to what they are learning in medical school," Deutchman says. "We work particularly on getting them additional rural clinical experience during their clinical time."

"We're not trying to be for everybody, we're just looking for the people who want us," he adds. "Gradually, this idea grew in enthusiasm, and then when the School of Medicine changed to a new curriculum, we became a program rather than just a track."

Beyond the clinic, into the community

Rural program students have the same learning objectives as those based full-time at CU Anschutz – "bread and butter medicine," as Deutchman calls it. But the clinical focus set the program apart.

"Our students tell us that they get increased clinical responsibility because they're basically part of a smaller team," he says. "Students have an opportunity to follow patients through transitions of care because they're in a smaller system. If a patient comes into the clinic and gets sent to the hospital or is seen in the emergency department and is sent to the clinic or has surgical consultants involved in their care, our students can be involved in the continuum of care quite readily."

With the program, students spend nine months in one of 20 rural communities where they get their core clinical experience. They work in hospitals and clinics from La Junta on the eastern plains to Cortez near the Four Corners, Wray in Eastern Colorado, and Craig in the Northwest.

Mark Deutchman, MD, shows off custom made Rural Program belt buckles, which he makes with students each year. Photo by Melissa Santorelli.

Michael Nocek, who did his clinical training in Gunnison in 2024, is already dreaming of days when he gets to call mountain town medicine his full-time job.

"It's my goal to come work somewhere on the Western Slope. I like orthopedics. I like sports medicine, so I'm just trying to set myself up for that path," says Nocek, who is currently taking a research year in Vail.

Rural medicine often goes beyond the clinic or hospital. For Nocek, it led to new experiences, friends, sitting on a local nonprofit board, and becoming part of a community.

"In my first weeks, I went to a local football game with the pediatrician I was working with because I wanted to get involved in the community," he says. "My fiancé was visiting and we were both just like, 'Wow, I wish we could fast forward,' because this is what it could be like when we're done with training. That's been the motivation. It was validating that I could see the end product and that it felt right."

That enthusiasm from students is evident to community partners. Contagious, even.

Arlene Harms, CEO at Rio Grande Hospital and Clinics in Del Norte, says having Rural Program students takes away some of the recruiting burden, because they already want to be there.

"When we do general recruitment to bring a physician in, if they're from a bigger town, rarely do they understand the difference in rural living. For us, it's always harder to find that person that will be committed and as passionate about the community and that their spouse and family will be as comfortable living here, too," she says. "So, it does become extremely difficult sometimes."

Harms spent a year hiring for an emergency department physician and seven months recruiting for a position in South Fork, a small community about 16 miles from Del Norte. Rio Grande Hospital serves a population of about 30,000 in southern Colorado, which is three times the permanent population, because it counts people during peak season in the summer. The surrounding mountains in the San Luis Valley bring in tourists who also need medical care.

> ***“ When a physician moves from predominantly seeing patients to teaching, they lose the satisfaction of seeing patients and seeing their outcomes.***
>
> ***For me, that was delivering babies and seeing the kids grow up. What replaced that is the students. I have students instead of patients. I’m seeing students grow up.”***

Today, there are four rural program graduates on staff at the hospital in Del Norte. For Deutchman, this is part of his legacy. Previous students are now becoming mentors in rural communities across Colorado and growing the Rural Program the way Deutchman always hoped for.

“When a physician moves from predominantly seeing patients to teaching, they lose the satisfaction of seeing patients and seeing their outcomes. For me, that was delivering babies and seeing the kids grow up. What replaced that is the students. I have students instead of patients. I’m seeing students grow up,” he says.

Tackling challenges head-on

The Rural Program is often a bright light in an era of dim news for Harms and others who manage and work in small communities across Colorado.

The American Medical Association estimates that about 65% of rural areas have a shortage of primary care physicians. Financial constraints, low patient volume, and recruitment all make difficult circumstances even more challenging.

“Essentially, all rural and frontier counties are facing primary care shortages,” the State Office of Rural Health reported in 2024. “This is compounded by the difficulty of recruiting and retaining providers to practice in rural communities and a large portion of rural doctors nearing retirement.”

Michael Nocek, left, and Rural Track alum Kelly Stewart, MD, at Gunnison Valley Health, where Nocek spent his integrated clerkship. Photo courtesy of Michael Nocek.

The communities face other challenges, too.

Two-thirds of counties in Colorado are considered rural or frontier, based on population, and experience higher Medicaid and Medicare rates, fewer insurance options, higher drug overdose rates, more maternal care deserts, and a host of other challenges, like education and economic stability, that make it more difficult to obtain health care.

Colorado lawmakers have acknowledged these challenges. In 2022, the legislature passed the Colorado Rural Healthcare Workforce Initiative, legislation that Deutchman and his team wrote with the help of the CU legislative team.

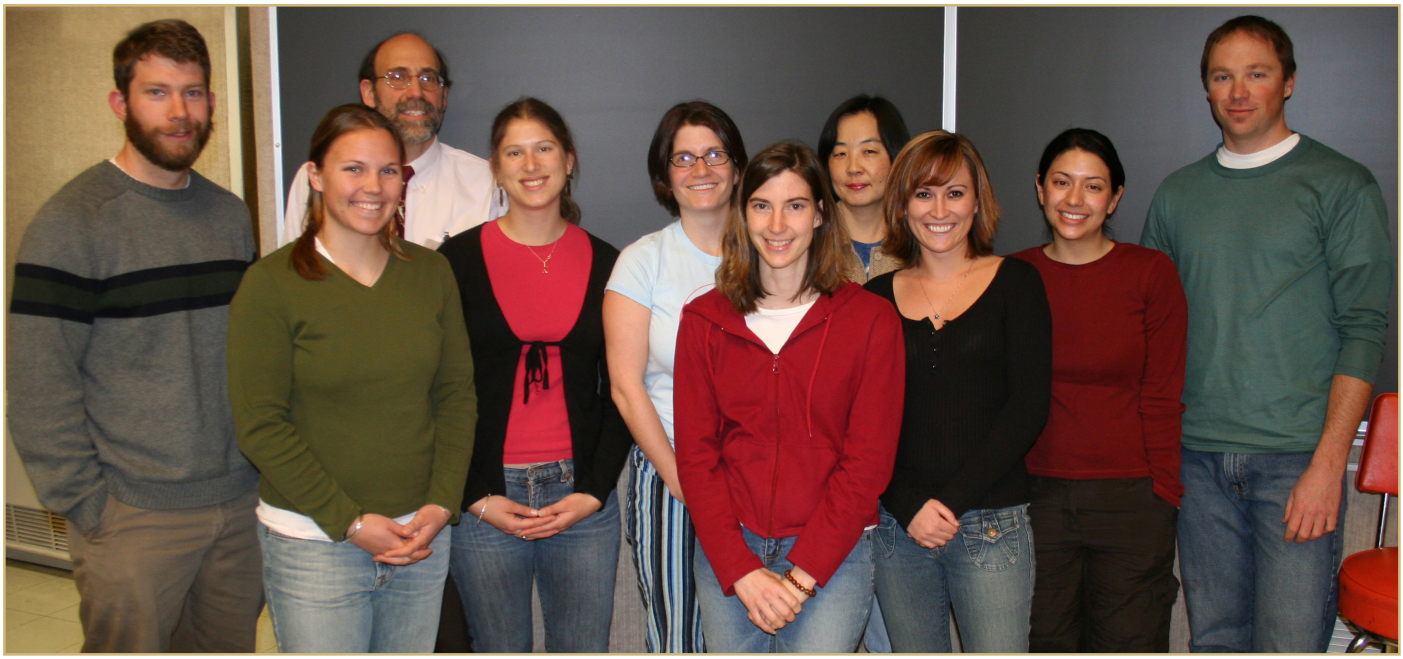
The Initiative shares the successful practices developed by the Rural Program with 14 other health professions training programs at public institutions across Colorado. These include the physician assistant program, public health, dental medicine, one behavioral health program and nine nursing programs. Lawmakers guaranteed $1.2 million annually to support the initiative, which is directed by the Rural Program team faculty and staff. The Rural Program also receives significant funding through the CU Anschutz School of Medicine, the Department of Family Medicine, and has received philanthropic gifts from organizations such as the Colorado Trust and Colorado Health Foundation, federal grants, and private supporters.

Still, finding additional funding has become a top priority for Deutchman. When asked what his vision is for the future of the Rural Program, he says: "We have a terrific group of faculty and staff and support from the Department of Family Medicine and the School of Medicine to continue the educational work. The next step is to establish a center for rural health at CU to expand our advocacy, community engagement and research efforts.

Advocacy for rural health care is important.

Urban areas depend on rural areas for food, air, water and recreation. Urban dwellers expect health care to be available to them when they visit a rural community. Health care is always a significant economic driver in small communities and one of the biggest employers. The Colorado Rural Health Center estimates that one rural physician's employment creates nearly $1.4 million in income from the clinic and hospital and creates approximately 26 additional jobs.

"Few people have been as committed as Mark to continuing access, and good access, in places like this," Harms says of Deutchman. "These students give us hope for the future."



A group photo of the first Rural Track class.

Rural Track Class of 2009

"They're committed and they know what they want, which is to be part of the community and to help. They jump in and learn," she adds.

As Deutchman steps closer to a full retirement, the challenges that face rural Colorado don't become any less – but he's increasingly confident, as is Harms, that communities will be better off thanks to students who are preparing to be an integral part of their smaller communities.

"History has shown that frontier and rural hospitals will do everything they can to remain sustainable for their communities," Harms says. "These places are seldom money over mission, and so when the money gets tight or the reimbursements get tight, we just have keep focusing on giving good care to our patients. I'm always proud that the students we receive from the Rural Program understand that and how well grounded they are when they get here."

Mark Deutchman, MD, teaches in a suture lab.

Time in a Bottle

Campus library's exhibit of medicine bottles offers a window into medical history.

By Kara Mason

In 1900, a young George Hausman incorporated the Hausman Drug Company in Trinidad, Colorado. The company manufactured common pharmaceuticals to be sold around the region and sometimes even developed its own tinctures, including one product called "Mexican Oil," which consisted of, among other ingredients, 70% alcohol and 1-3/4% opium, according to historical documents. The over-the-counter medicine was thought to cure stomach aches, relieve minor burns and bug bites, and help muscle aches and pains.

Hausman's business venture produced and sold medicine and various elixirs for 90 years. Today, remnants of the Hausman Drug Company still exist. A small bottle with a blue and white label that reads "Aceite Mexicano Marca De Hausman" sits on display at the Strauss Health Sciences Library at CU Anschutz.

The bottle was never completely emptied. A thick, dark goo lines the bottom of the container.

At some point, Robert Shikes, MD, professor emeritus of pathology at the CU Anschutz School of Medicine, acquired the bottle for his collection of medical artifacts, which were donated to the library a few years before his death in 2020. A portion of the more than 1,000 items of the collection are now on display as part of a library exhibit showcasing antique medicine bottles. Others are in storage, and some can be viewed in the library's digital repository.

"We're proud to have this collection," says Wendy Kisicki, a technical services specialist who helps develop the library's artifact exhibits. "To see the different kinds of bottles and containers is quite interesting, because you can imagine walking into a pharmacy in the early 20th century and see these line the walls. There's a lot you can learn about the historical development of pharmaceuticals and medicine by examining the various containers and their content labels."

A historic image of the Hausman Drug Company, located in Trinidad, Colorado. Photo courtesy of History Colorado.

Beauty among the history

The glass medicine bottles on display range in size and shape. Some of them are dark in color — this is because sunlight can sometimes alter some medications, and dark glass was used as a protective measure. Many containers showcase uniquely designed labels or hand-written labels if the medicine was mixed by a pharmacist on-site.

The library's first floor installment of the Shikes collection is dedicated to Colorado bottles. Items hail from all four corners of the state, including Julesburg, Pueblo, Durango, Telluride, Cripple Creek, Cañon City, Fort Collins, and Denver.

Researchers can date glass medicinal bottles back to 2250 B.C., but they became especially popular in the 17th and 18th centuries. Glass didn't react with many of the ingredients in the medicines, so it was considered a more stable option than other materials.

Over the years, glass bottles evolved, and some were patented for their unique designs. By the 1950s, plastic packaging was on the rise and over the next several decades, glass bottles would be phased out almost completely by the bright orange bottles that are common today.

"The beauty of these old bottles is something that we've lost in the plastic containers," says Lori Micho, a special collections librarian at Strauss. "It's easy to understand why, but that's the one thing you get to experience looking at and studying these antique bottles. There are many interesting shapes, sizes, and colors. They're beautiful."

Reminders of medicine's past

The bottles also offer a glimpse into an era of the medical world that can seem far different than today's.

One tall, dark bottle of the Shikes collection reads "Anti-Auto Tox," a concoction marketed to improve liver function and relieve constipation. Autointoxication theory, which took off in the early 20th century and was later discredited, proposed that the body could be poisoned by its own intestinal waste. While researchers largely debunked the theory by the 1930s, autointoxication and the trends that evolved because of it still serve as a point of reflection for researchers who today recognize the connection between gut health and the rest of the body.

Other bottles on display are examples of patent medicines, which were non-prescription drugs that were trademarked, but didn't disclose ingredients. Among them was the popular "PE-RU-NA," a remedy for catarrh, sometimes defined as an excess of mucus. Samuel Brubaker Hartman, the Ohio doctor who developed PE-RU-NA, found success in marketing his patent medicine by defining catarrh as the root of almost any disease, including tuberculosis, many forms of cancer, and indigestion.

An arrangement of bottles from the Shikes Collection on display at the Strauss Health Sciences Library. Photos by Kara Mason.

An expose on the patented drug industry published in 1904 revealed the concoction was a half pint of 90% proof spirits, one-and-a-half pints of water, and a flavor cube. The revelation pushed Congress to pass the Pure Food and Drug Act of 1906, which created the Food and Drug Administration and fundamentally altered what patent drug makers could say about their products.

Each bottle of the Shikes collection holds a story, some of Colorado history — like the Hausman Drug Company, which grew to two pharmacy locations in addition to the manufacturing shop over the course of nearly a century — and others of medicine's evolution, from unsubstantiated and deceptive snake oils to today's powerful and highly-regulated pharmaceutical market.

"The bottles in this exhibit offer a glimpse into how much has changed over the past 100 years. What is more remarkable is that this exhibit is housed in a place where groundbreaking work is happening every day — work that will propel us into the next era of advancements in medicine and human health," Micho says.

"To see the different kinds of bottles and containers is quite interesting, because you can imagine walking into a pharmacy in the early 20th century and see these line the walls. There's a lot you can learn about the historical development of pharmaceuticals and medicine by examining the various containers and their content labels."

Visit the exhibit

See the permanent Shikes Colorado Bottle Collection on the first floor of the Strauss Health Sciences Library and the supplemental antique bottle exhibit on the third floor.

More information on items in the collection can be found in the CU Anschutz Digital Collections.

Visit the website: ***library.cuanschutz.edu/about/exhibits/permanent/shikes-colorado-medicine-bottles***

MIBH staff work with a patient at the institute's clinic at CU Anschutz.

Treating Traumatic Brain Injuries

CU's Marcus Institute for Brain Health on the front lines of care.

By Kara Mason

Slow is smooth, smooth is fast. This mantra has roots in military training, particularly among special forces units that regularly perform high-stakes tasks involving speed and precision.

It's also often heard around the Marcus Institute for Brain Health (MIBH) at the University of Colorado Anschutz Medical Campus as a helpful reminder to patients recovering from traumatic brain injuries (TBIs) and psychological conditions.

The institute was developed specifically for former and current military personnel and first responders who often endure TBIs that are complex and interfere with everyday life. For some, a major combat event can cause a brain injury that spawns symptoms for years. For others, smaller, repetitive blasts may lead to damage that compounds and creates cognitive and physical impairments. Researchers are working to better understand the latter.

"For too long, traumatic brain injury has been misunderstood and poorly treated. TBI is often misdiagnosed as mental health conditions such as post-traumatic stress disorder (PTSD), leading to ineffective treatment that fails to address the underlying injury," says Brig Gen Kathleen Flarity, DNP, PhD, visiting professor of emergency medicine at the CU Anschutz School of Medicine and executive director of the institute.

Each year, nearly 2.8 million Americans sustain a TBI and may experience life-altering functional effects. These TBIs can often be invisible, but their impact can be significant.

"For military service members, veterans, and first responders, the impact is even greater," says Flarity, who is also the deputy director of the Center for Combat Medicine and Battlefield (COMBAT) Research, which seeks to solve the U.S. military's toughest medical challenges. "Mild traumatic brain injury is a signature wound of the Operation Iraqi Freedom and Operation Enduring Freedom wars, with blast-related injuries being particularly unique."

Flarity adds that it's important for the military and veteran community to understand that effective treatment exists.

"The treatment process takes time, but individuals can regain quality of life with the proper support," she says. "No one should feel like they have to struggle alone. Seeking treatment isn't a sign of weakness — it's the first step toward healing, and the Marcus Institute for Brain Health is here for them."

"No one should feel like they have to struggle alone. Seeking treatment isn't a sign of weakness — it's the first step toward healing, and the Marcus Institute for Brain Health is here for them."

Interdisciplinary therapy

The institute features a three-week intensive outpatient care program that combines conventional medical treatment with complementary and alternative therapies. Patients experience individualized treatment from a blend of speech-language therapy, cognitive therapy, neuro-physical therapy, counseling and psychological services as well as art therapy and equine therapy.

Clinicians say the unique nature of the program allows patients a seamless approach to recovery and a chance for therapists with specialty expertise to easily work together.

"We try to collaborate and pull things in from other disciplines," says speech language pathologist Shaylin Schundler, MS, CCC-SLP, CBIS, instructor of physical medicine and rehabilitation. "If I'm working on a cognitive issue, I fully acknowledge that they might not have just an attention issue, they may also have a history of dissociation on top of that."

TBIs can cause speech difficulties, anxiety, and balance issues—symptoms that often overlap and complicate recovery. Regardless, the team works to develop treatment modalities to address them.

In neuro-physical therapy, Kayla Crowder, PT, DPT, NCS, instructor of family medicine, focuses on the neurological system and how brain injuries impact patients in their day-to-day lives.

"I focus on sensory integration, which is how effectively the brain can process all the sensory input the world throws at it," Crowder says. "One sensory input is vision, particularly ocular motor function, where we assess how well the eyes coordinate and move together. This includes binocular vision, which is crucial for tracking moving objects and reading. Another important sensory input we examine is the vestibular system, which helps with balance and stability."

Balance issues may cause a variety of other symptoms, such as feeling overwhelmed or overstimulated in a busy environment.

Symptoms may also overlap with psychological health. Katie Gionet, PsyD, clinical neuropsychologist and senior instructor of psychiatry, works with patients to address that aspect of their treatment.

"While PTSD can be a symptom of traumatic brain injury, it is important to treat all psychological symptoms regardless of if they onset before and after the TBI, as they significantly impact functioning and rehabilitation," Gionet says.

A model for civilian care

While designed for veterans and first responders, Flarity sees the intensive outpatient program model as something that could be beneficial to nearly every TBI patient, regardless of their career or reason for injury.

"Many individuals, both military-affiliated and civilian, face challenges related to brain injuries, post-concussion symptoms, or neurological conditions that affect their daily lives," she says. "An integrated multidisciplinary approach that combines neurology, mental health, rehabilitation therapies, and wellness strategies could lead to significant improvements across all communities, not just within the military."

Primed for impactful research

The unique nature of the institute allows critical TBI research, especially in military and first responder populations. Among the most urgent needs in brain injury research is establishing a deeper understanding of conditions like repetitive blast injuries and low-level cumulative blast.

"We are just beginning to comprehend the long-term effects of repeated exposures and how they differ from other forms of TBI," Flarity says. "The hope for the future is that this research can lead to earlier detection, more targeted treatments, and, ultimately, better recovery outcomes."

Currently, the institute is working to learn more about emotional irritability and how those feelings relate to standing balance and auditory processing. A study is actively enrolling veterans, both with and without a history of TBI.

Flarity says the institute is well-positioned to take on these big questions of brain health and TBI recovery.

"With access to a unique patient population, advanced diagnostic tools, and an integrated care model, we're equipped to explore unresolved questions and drive innovations in treatment," she says. "Ongoing research will enhance care for service members and veterans while also benefiting civilians who experience similar injuries from sports, accidents, or occupational hazards."

A MIBH patient works with a therapy dog.

Reading the Signals

New technologies improve care for Parkinson's disease patients.

By Kara Mason

This spring, faculty from the University of Colorado Anschutz School of Medicine made a big step forward in the world of Parkinson's disease treatment. On March 21, they were the first in the country to complete deep brain stimulation programming using new electrode identifier (EI) and adaptive deep brain stimulation (aDBS) technology.

Deep brain stimulation is a surgical treatment that places electrodes into specific regions of the brain to disrupt diseased networks that cause Parkinson's disease symptoms, such as tremors and stiffness. The electrode is connected to a battery positioned just below the clavicle, similar to the workings of a cardiac pacemaker.

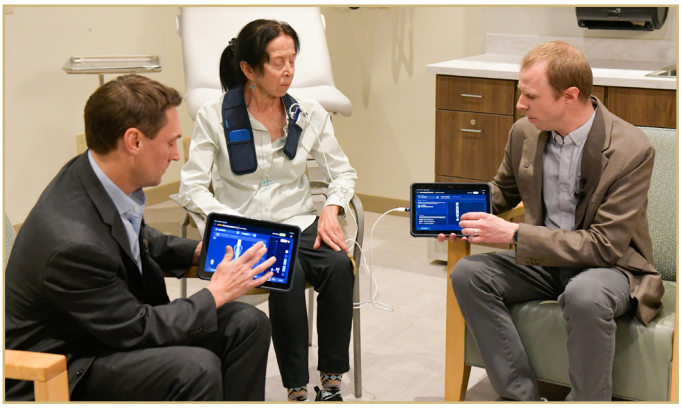
In February, the U.S. Food and Drug Administration (FDA) approved the aDBS and EI applications. The latter allows the clinician to use the patient's own brain signals to quickly localize the area to deliver therapy.

Upgrading from traditional DBS systems

CU's Advanced Therapies in Movement Disorders team — led by Drew Kern, MD, MS, FAAN, associate professor of neurology and neurosurgery and John Thompson, PhD, associate professor of neurology, neurosurgery, and psychiatry — played a critical role in trials that evaluated the safety and effectiveness of the EI technology. Twenty-three U.S. centers, including CU, were selected to roll out these new updates first.

The causes of many cases of Parkinson's disease remain unknown, but researchers do know that abnormal brain signals are at the root of movement symptoms. Disrupting those abnormal signals through implanted electrodes has been shown to lessen symptoms. For some patients, it decreases their need for some medications.

"All DBS systems traditionally have all been an output, meaning all they do is deliver electricity to the brain, but an electrode can also be an input and a recording device," Kern explains.



Drew Kern, MD, left, points out harmful spikes in brain signals being detected by the aDBS electrodes implanted in patient Kate Goes In Center's brain. Photo by Cyrus McCrimmon, for UCHealth.

"This new system, in conjunction with our efforts, has made this a recording electrode so it can record and better inform the clinician how to program the electrode," he says. "The clinician can then make the system have an output that directly responds to the needs of the brain. We can finally listen to what the brain is telling us to do to improve the person's symptoms all the while in the outpatient setting."

The new EI and aDBS technology is delivered to patients with specific existing deep brain stimulation hardware via a software update.

Delivering personalized care

The new EI technology greatly reduces the time required to program the device and helps the clinician to identify patient-specific biomarkers. When the biomarker is very high, indicating greater symptoms of Parkinson's disease, the device delivers more stimulation. When the biomarker is low and the individual does not need much stimulation to control symptoms, it reduces stimulation.

Thompson says that the use of EI holds great promise for patients during initial programming and reduces the time required for clinicians to devise more complex symptom specific configurations.

"It will be exciting to see how this closed-loop system improves many other aspects of Parkinson's disease and other movement disorders," Thompson says.

New frontiers for research

Kern and Thompson, along with medical engineers, were part of sensing studies that tested the identifiers in the new aDBS system. Now, they're looking to what those recordings could mean for research and patient care.

"There are many motor and non-motor symptoms, including gait, sleep, and cognition in Parkinson's disease that are currently being investigated in the context of aDBS – many of which contributed to the recent approval and were supported by NIH BRAIN Initiative funding," Thompson says.

Ongoing research is investigating what factors impact the fluctuations of the brain signals that induce tremors and movement symptoms of Parkinson's disease.

Following the release of the EI and aDBS system to clinics across the country, Kern and Thompson expect there will be a flood of new research studies asking questions that couldn't be answered with previous technology.

"It's an exciting time for researchers, clinicians, and patients. This moves us forward in treating and learning more about Parkinson's disease in ways we could only have imaged," Kern says.

From the Clinic to the Big Screen

CU pediatrician shines a light on epidermolysis bullosa.

By Kara Mason

Normally, red carpet events are filled with actors, performers, and celebrities. This summer, however, a documentary premiere at the Tribeca Film Festival, featured two different kinds of stars: 10-year-old Rowan Holler and her pediatrician Jamie Feinstein, MD, MPH, professor of pediatrics at the University of Colorado Anschutz School of Medicine.

Rowan has epidermolysis bullosa (EB), a rare genetic condition that causes the skin to easily blister and develop wounds. Rowan, her family, and Feinstein took to the red carpet for the release of "Matter of Time," a documentary that chronicles the efforts to find a cure for EB and musician Eddie Vedder's dedication to the cause. Rowan and Feinstein both appear in the film, which premiered June 12 in New York City.

"The goal is treatments, the goal, ultimately, is a cure," Vedder, famously known as the frontman of Pearl Jam, says in the documentary. "It brings a sense of hope and feels just like a matter of time."

The documentary, directed by Matt Finlin, follows Vedder through two sold-out performances in Seattle in 2023 to raise funds for EB research. He and his wife Jill Vedder, founder and chairwoman of the EB Research Partnership, took an interest in finding a cure for the disease, which is often fatal, when a close family friend's son was diagnosed with EB.

Vital treatment

Feinstein has been treating children with EB for over 15 years, but it's only been in the last two that there have been major treatment breakthroughs. His work began alongside Stephen Berman, MD, a professor of pediatrics and founder of the Children's Hospital Colorado EB clinic, who died in 2023, just a few months short of seeing the first treatment approved by the U.S. Food and Drug Administration.

"Children with this condition often spend hours a day being carefully wrapped in bandages by their parents," Feinstein explains. "Any friction can cause their skin to blister, leading to incredible pain, anxiety, and the risk of infection. It's a relentless condition that invades on every aspect of a child's life — yet these are the strongest, most resilient, and wisest children I have ever met. My heroes."

Jamie Feinstein, MD, MPH, left, poses for a photo with musician Eddie Vedder, Igor Kogut, PhD, middle, Kogut's son, right, and Ganna Bilousova, PhD. Photos courtesy of Jamie Feinstein.

Considering the rarity of this disease, specialized multidisciplinary clinics like the one Feinstein co-directs with professor of pediatric dermatology Anna Bruckner, MD, MSCS, have become critical for the care of children and adults living with EB. Twice a month, a team of physicians sees four to six patients with EB.

In the documentary, Feinstein shares his experience as a physician caring for children, including Rowan, and how the treatment landscape has evolved.

"For so long, this has been a condition we've had to manage in a palliative manner—reactively treating wounds, pain, and infections as they arise," he says. "With the FDA approval of three new treatments in the past two years, we are light-years ahead, but it's still not enough."

'Team science at its best'

Even with these new treatments, the Vedders, EB Research Partnership, and the EB community remain laser-focused on improving patient outcomes, and, ultimately, finding a cure.

"Meaningful progress requires funding talented scientists across the world to do their best work," Feinstein says. "That includes scientists right here on campus, like Dennis Roop, PhD, Igor Kogut, PhD, and Ganna Bilousova, PhD, at the CU Gates Institute. The effort to raise global awareness ultimately helps accelerate research and, most importantly, offers real hope to patients and families who've been waiting for treatments for far too long."

The documentary itself is an ode to what it takes to move the needle in rare disease research.

"'Matter of Time' is a stunning showcase of team science at its best," Feinstein says. "And that scientific team includes the ever-so-humble, thoughtful, and dedicated Vedder family. It's a beautiful reminder of what can happen when everyone comes together with a shared vision and uses their unique talents for good."

Fighting Lung Cancer Turns Personal

In 2022, D. Ross Camidge, MD, PhD, learned of his own diagnosis.

By Jessica Cordova

In his 20-year research career in Colorado, University of Colorado Cancer Center member D. Ross Camidge, MD, PhD, has published nearly 400 academic papers. But perhaps none have been so personal to him as a May 2025 analysis, published in the Journal of Thoracic Oncology, on how clinical researchers describe the side effects caused by new anti-cancer treatments.

"If a treatment is so horrible that a patient can't handle it, then it is not an advancement in care," Camidge says. "We don't treat laboratory models or even patients. We treat people with lives that the cancer is in the way of."

In the article, Camidge notes that "using terms such as 'tolerable' or 'acceptable' places the investigators running clinical trials in the untenable position of determining whether a patient's experiences with toxicity are 'tolerable' or 'acceptable' to the patient. Similarly, words such as 'encouraging' or 'favorable' used in efficacy reporting may reflect the enthusiasm of the investigators to continue development of a treatment but may be interpreted very differently by the people considering receiving the treatment."

It's research he hopes will help other lung cancer doctors and all oncologists to better treat their patients, but it's also research that reflects his own personal experience.

What few of his colleagues knew at the time the paper was published was that Camidge — one of the world's leading lung cancer researchers — had himself been diagnosed with aggressive lung cancer in 2022. Earlier this year, he had a progression that led to treatment that was harder the second time around.

"The chemotherapy was a little different this time around, and it was really tough on me," he says. "It was the closest thing to being completely incapacitated I've ever been. Sometimes I was just lying there, and the only function of each day was for it to finish so that the next day I might feel a little bit better."

For the past three years, Camidge has only revealed his diagnosis to a small group. But after the recent progression, he feels it is time to reveal that he is also a patient.

"I didn't want to end my life like that and have people say, 'And oh, by the way, he had lung cancer.' There's the potential for some good to come out of this dual role, expert and patient, and I thought this might be the time to share."

Could it be?

It started with a wheeze and a little pain in his back, which Camidge originally thought could have been due to a pulled muscle. But after a few weeks, he decided it was time to see his doctor.

"As a good paranoid oncologist, I thought, 'Let me just go to my primary care physician,'" says Camidge, the Joyce Zeff Chair in Lung Cancer Research in the CU Anschutz School of Medicine. "During that appointment on June 10, 2022, I said to them, 'Oh, by the way, I am a lung cancer oncologist, so could we get a chest x-ray?' They rolled their eyes, but they ordered one."

"I went and got the chest x-ray on the way back to my office. Then I pulled it up on my computer a short time later. As soon as I saw my chest x-ray, I knew. I've seen thousands of people with lung cancer, and you see the chest x-ray, and you go, 'That's lung cancer.'"

His doctor then scheduled him for a CT scan the same day. His wife Windy and young daughters were boating up in the mountains at the time. "I told Windy what was going on and that I was worried but that they should finish their day on the lake."

"Later the same day, I was looking at the CT scan myself, and I could see that there were deposits in both lungs, in bones, and it turns out they were in my brain as well. So, I knew on the same day I had gone in with just a wheeze and a pulled muscle that I had cancer and that it was advanced and incurable," Camidge says. "I moved into professional mode."

A bronchoscopy to get a biopsy from his lungs provided the last piece of the puzzle to confirm Camidge had advanced non-small cell lung cancer driven by a specific acquired genetic change in the tumor cells — one of the types of lung cancer he has spent his career researching and treating.

He went from visiting his primary care physician to receiving a full diagnosis, complete with body and brain scans, a biopsy, and molecular testing, and starting targeted therapy all within four days. The process normally takes about two weeks, Camidge explains, "I didn't call in any favors. I think my colleagues just stepped up to the plate for one of their own. However, to me it also shows this timeline is possible, and we should try to do that for everyone."

Once Camidge was through all of the necessary diagnostic procedures and the treatment had started, the professionalism faded, and the reality hit him.

"Two things would make me cry repeatedly for multiple days," he says, "One was anyone being nice to me. The other was any thought about my children, in terms of what their future is and whether I'd have a role in that."

Camidge has two daughters. At the time of his diagnosis, Sophie was 12 and Alex was 10. "They were still so vulnerable. I didn't want to go away. I didn't want to not be there to help them through all the challenges of life."

D. Ross Camidge, MD, PhD, and his daughters. Photo courtesy of D. Ross Camidge.

Starting Treatment

It was clear that the tumor was not something that could be cut out, so Camidge went to one of his former trainees and colleague, CU Cancer Center member Tejas Patil, MD, to ask if he would be his oncologist.

"One of the things that I thought about when I was taking care of Ross was that this is not going to be a traditional doctor-patient relationship," Patil explains. "This is really going to be like a coach relationship. Thinking of the way former Swiss tennis player Roger Federer had a coach, I was always wondering what the coach could possibly teach Roger Federer, who's the best in the world at what he does. But I think coaches act as a mirror and can help point out things that sometimes get missed. I viewed my relationship with him like that."

Camidge, who was 55 at the time of his diagnosis, was able to start treatment right away with a daily pill of targeted therapy directed towards the genetic change driving his cancer. Then he started chemotherapy for 12 weeks, followed by weeks of on and off radiation therapy to everything his colleagues could still see on the scans.

"It was the most aggressive thing we could have done," says Patil, adding that three years later, this combination is now almost the standard of care, though it was not at the time.

After finishing his chemo and radiation around the holidays of 2022, Camidge entered a phase where he would continue his daily pill and get scans of his body and brain, as well as blood work, every 90 days.

"When you start with those scans, you enter this period of time for about a week before the scan where you go a little crazy, and you get very angry with people if they talk about anything in the future," says Camidge. "You can't even plan for next week."

Every time his blood work and scans were completed, Camidge would head to his office and look at the reports and the images himself. His experience let him know the outcome of his treatment right away. The medication, the chemotherapy, and the radiation shrank everything down, and for years, there was no further cancer growth.

"With each good scan, then this weight that has been building up just comes off your shoulders. And I know this sounds like 'The Wizard of Oz,' but the colors are a little brighter, and the birdsong is a little louder, and you just feel very happy."

90-Day Challenge

"It became clear that I didn't want the time between scans to just be me waiting until the next bit of bad news," Camidge says. "I wanted to be able to look back on each of those 90-day periods and say, 'I did X.' So, we created the idea of the 90-day challenge, which we spilled over into the patients, the staff, and everyone else."

The goal was not to climb Mount Everest, he says, though it could be if you wanted. The idea behind the challenge was to do something you have been putting off or always wanted to do, to help the time between scans become more than just waiting.

"It initially started with me wanting to get my fitness back, so I was going to do a couch to 5K, which actually took me two sets of 90 days to get to the 5K."

"But then I would do other things," he adds. "I went to yoga classes for the first time." He also learned how to draw and do watercolor, went to a restaurant he always wanted to try, bought a twenty-year-old convertible, rejuvenated his garden, tried archery, and many other new things.

"It doesn't have to be monumental. Just have an answer when asked, 'What did you do in those 90 days?' It could be, 'I went to see great Auntie Gertie,' but you did something."

Progression

In February 2025, nearly three years after his diagnosis, Camidge had his first progression. His quarterly CT scan showed that everything was fine, but his blood-based markers had gone up.

"Then we did a PET scan," says Camidge. "And there was a little strip lighting up at the back of my right thorax, in what's called the pleura, the outer lining of the lung."

Although some lung cancers are caused by smoking, Camidge was never a smoker, and this type of acquired mutation in his cancer is not caused by cigarettes.

"So somewhere along the 50-odd years of my life, I breathed something in, and it landed on one of my lung cells. That caused a change in the DNA and the genetic material in that cell, and it became a cancer," he says.

The progression of his cancer this year meant that Camidge had to start chemotherapy and radiotherapy again, this time adding an additional antibody-based treatment to the chemo.

"Early on, when I told a close friend of mine that I had lung cancer, I said, 'Maybe the cancer gods are just sick and tired of me making progress, and they're getting their own back.'

And she replied, 'No, you were diagnosed now because it was the right time to be diagnosed. And the cancer gods were saying, look, you've made this progress, now you are ready to take on this burden.'"

Coming out of this progression, Camidge's appearance has changed. "I have more freckles on my face, and I have scabs on my head and have lost some hair too."

Camidge is also in a different mental place going into his next set of scans coming up in a few weeks. He says he has less anxiety about what the scans will show.

"There's an element of the first progression event being something that you're most terrified of, that's the worst pre-scan anxiety, because it's potentially the first bell ring of mortality," he says. "You're not immortal, that scan could announce. You're not going to be the exception. You're not going to be the one who never progresses. That's what you're afraid of."

He says he is going into the next set of scans after having heard that ring already, "not with as much fear, almost with an acceptance."

Sharing the news

When a patient is diagnosed with lung cancer and comes to Camidge for care, he tells them it is important to "figure out who you're going to tell, what you're going to tell, get your finances in order, and figure out what's important to you in terms of, 'If you only had a certain amount of time left and you had the flexibility to do it, what do you want to do with that time?'"

Camidge took his own advice. When he was first diagnosed, Camidge decided he was not going to go public with the diagnosis. For treatment, he went to a satellite clinic in Cherry Creek to avoid running into his own patients. He shared with his team but kept the diagnosis within a small group.

"One way to protect yourself was not telling people, then they don't have to be nice to you or treat you differently," Camidge says. "They could just be as ornery and unpleasant as they normally are, and that's totally fine."

He also did not want to take the focus away from his patients and wanted to continue to make progress in the thoracic oncology space. "I debated whether I should still see patients or take on new patients. I got my clinic team to promise to tell me if they thought I was acting differently, and so far, the years of professionalism are still winning through. Although I try and build the clinics of my colleagues with most of the new patients that enter the program, as I should, I have continued to see my patients, because I believe, I am still adding value."

"We had just bought a new house, which we'd been doing up, and financially I didn't want to suddenly not be invited to this, that, and the other thing where I am paid for my expertise."

Now, multiple necessities are set in place. His finances are stabilized, and there are new faculty members to take his patients if he gets to a place where he needs to stop practicing. He feels if, "other opportunities go away, or people don't want to see me, simply because some people now know something they didn't know for the last three years but I'm still performing at the same level, then so be it. If people embrace an expert with a lived-experience of what they are an expert in, maybe some good could come of that too."

His daughters growing up over the past three years has also played a role in how much he has begun to feel comfortable about publicly sharing his condition.

"By the end of the year, our children will turn 16 and 14, they're full-on teenagers, but when I was diagnosed, I felt they were just little girls," says Camidge. "Over time, they can process things differently. Windy had looked up the best way to break this sort of news to children, and we told them about the diagnosis within about a week. Pretty much once I'd started on treatment. We didn't sugarcoat things. We didn't say this is curable or is going to go away. But we highlighted that I was on a treatment and also how well Daddy's patients usually do. Over the years, they've met some of my patients at various functions, and they often look pretty good."

Becoming an expert

At age 19, long before he became an internationally recognized lung cancer researcher, Camidge, born in 1966, started his medical career as a student at the University of Oxford. Going into his third year of medical school, when you normally start clinical work, Camidge decided he was not done with his scientific training and so went to Cambridge to get his PhD in molecular biology.

He then returned to Oxford Medical School with a few more years of maturity under his belt and began his clinical training. He ended up choosing to pursue oncology because it combined molecular biology and patient care.

During the time he was working at cancer centers in England and Scotland, Camidge elected to pursue a training attachment with AstraZeneca to learn about drug development directly as an industry physician. Following completion of his training in the UK, he then decided to follow his career in academic oncology to the United States.

"While I was at AstraZeneca, that was when the first targeted therapies were being developed, and some of the best responses were being seen in patients with lung cancer. I felt this was an area that was about to explode. I also really liked the patients with lung cancer that I had met. They were often a little beaten down and humble, and their lack of demands made me want to step toward them even more," explained Camidge on why he decided to focus his career on lung cancer.

He went on to explain, "Lung cancer kills more men and women than breast cancer, bowel cancer, pancreas cancer, prostate cancer – combined. And yet people only think it affects heavy smokers, which is not the case."

In October 2005, Camidge decided CU was the place for him after learning more about the growing amount of drug development taking place there.

Eventually, he became director of CU's Thoracic Oncology Program, helping to grow it into a nationally and internationally recognized center that accrues about 40% of lung cancer patients into clinical trials – more than double the rate of the next best academic lung cancer program in the country and more than 10 times the national average.

"The research I am most proud of is when we saw something first and reported it first, even though it was under everyone's nose," says Camidge.

When looking at his own diagnosis and treatment plan, he could see developments that he had helped put in place.

"There was an element of, 'Oh, I'm benefiting from some of the research that I've done myself. That's cool.'"

Fellow lung cancer oncologists have recognized Camidge's work, which has led to multiple awards over his career. One of the honors Camidge received was the Bonnie Addario Lectureship Award from the Addario Lung Cancer Foundation in California.

"I was lucky enough to get the Addario award pretty early in my career. I had to set up a lot of things in Colorado without much senior input or feedback. So, when I looked at past winners of this big award, who were all very distinguished, I felt that maybe I wasn't terrible at my job and that keeps you going," Camidge says. "It included having your photo up in Times Square for a microsecond — long enough to get a photograph of it, which I still have."

But his favorite award he received was in 2014, from Claremont University, for being "an exemplary mentor in the positive development of junior colleagues in the profession."

Training the Next Generation

Even after diagnosis, Camidge continues to prioritize being a mentor.

"You get to a point in your career where another presentation, publication, or award doesn't have the tingle it used to. But seeing people you have helped find their version of success still does that for me," says Camidge.

One of the trainees who has worked closely with Camidge for the past two years is thoracic oncology fellow Alec Watson, MD. Camidge told him about his diagnosis within a few days of his arrival. If anything, it has deepened Watson's experience learning about treating patients and research techniques from one of the world's experts in thoracic oncology.

"Ross has an ability to turn a problem around and to ask questions that haven't occurred to other people, or if they occur, we don't think that's something feasible to answer," Watson says. "But he has such a curious mind and is able to parse a problem and look at it from a different angle that leads to these very insightful questions that are important for practice."

Watson says that in the clinic, Camidge also has much to share.

"The way that he approaches and builds relationships with his patients is something I plan to emulate as best I can and incorporate into my practice," Watson says. "He has an ability to connect and to care for his patients that goes beyond the medical side. I think that is what a lot of people are looking for in their physicians, especially caring for something as impactful as a cancer diagnosis."

After his diagnosis, Camidge started a podcast with OncLive, How This is Building Me, interviewing many different people around the world who have experience of, or who work with, cancer across the full spectrum of life experiences. Again, he did not tell the organizers of the podcast, or any of his guests about his diagnosis.

"I remember one episode where I interviewed a hospice chaplain," Camidge says. "Some of the questions I am asking are clearly coming from a different place of knowledge than the audience really appreciates."

It's all part of Camidge's new reality — the irony of being the lung cancer expert who is now facing a terminal diagnosis of his own. The patient he wrote about in his article about unendurable side effects is no longer hypothetical.

"Early on, when I told a close friend of mine that I had lung cancer, I said, 'Maybe the cancer gods are just sick and tired of me making progress, and they're getting their own back,'" he says. "And she replied, 'No, you were diagnosed now because it was the right time to be diagnosed. And the cancer gods were saying, look, you've made this progress, now you are ready to take on this burden.'"

Tackling Obstructed Sleep Apnea

CU medical students at CSU contribute to sleep study.

By Kara Mason

Research by medical students and faculty members associated with the University of Colorado Anschutz School of Medicine at Colorado State University finds that college football players are more likely to have obstructed sleep apnea.

OSA, as it is called, is a sleep disorder caused by the collapse or obstruction of the upper airway that interrupts breathing during sleep. It is often associated with a high body mass index (BMI), large neck size, and narrowed airway. Those diagnosed with OSA also tend to be older in age and male.

The research, published in the Journal of Clinical Sleep Medicine, reveals even people who are young, lean, and still undergoing physical development can experience OSA, which is associated with cardiometabolic diseases.

"This is not a condition we typically associate with younger individuals," says sleep researcher and lead study author Josiane Broussard, PhD, an associate professor of Health and Exercise Science at Colorado State University and adjoint faculty in the Division of Endocrinology, Metabolism, and Diabetes at the CU Anschutz School of Medicine. "That may be a reason college football players often fly under the radar and remain undiagnosed."

'Validating' results

The study recruited 58 CSU football players to wear a device, called the WatchPAT 300, that captured data to form an apnea-hypopnea index (AHI). These measurements and other data, helped researchers determine OSA prevalence in this student athlete population. Notably, to participate in the study, the players had to be free of any known cardiovascular disease and type 2 diabetes.

Based on the WatchPAT 300 data analyses, 35% of participants had clinically defined mild to moderate OSA. This prevalence is notably higher than the estimated rate of 9-25% in the general population, but "consistent with reports of higher OSA prevalence in professional football players in the National Football League," the researchers say.

The players who were determined to have OSA had higher BMI, but neck circumference was generally the same as the players who didn't exhibit OSA symptoms.

"There have been a couple of studies in the last few years that have looked at college football athletes and the data showed similar findings, so it was validating to see these results," Broussard says. "We often think of this population as especially healthy because they exercise so much and have high muscle mass, but they're still at an increased risk. It's something to think about because if they're 18 or 20 years old and are never screened for OSA, they may go on to live with the condition without treatment for another few decades and it could have been addressed early on."

Raj Trikha, MD, MS, a co-author of the study and a recent graduate of the Fort Collins branch of the CU Anschutz School of Medicine, echoes the importance of sleep and the research behind it.

"Untreated OSA leads to increased risk in virtually every chronic disease, including heart disease, cancer, and dementia," he says "I chose to work in Dr. Broussard's lab during medical school because her research is vital and this presented a unique opportunity to learn more about sleep's impact on health."

"I chose to work in Dr. Broussard's lab during medical school because her research is vital and this presented a unique opportunity to learn more about sleep's impact on health."

Listening to Warning Signs

For many people with OSA, it might not be obvious to them that they have the condition.

"Many people discover they have OSA because of their bed partner," Broussard says. "It can be alarming to witness—someone appears to stop breathing during sleep, and it often sounds like they're struggling to breathe but just can't."

Those episodes, which can happen as often as 60 times per hour in serious cases, lead to physiological changes, including increases in heart rate and stress hormones, "and the person may have little to no awareness that it's happening," Broussard says. "You could have someone who believes they're getting eight to nine hours of sleep each night, yet they still feel exhausted during the day."

Some of the CSU football players in the study scored high on the Epworth Sleepiness Scale, but didn't meet the criteria for excessive daytime sleepiness. The finding, the researchers say, may explain why most participants reported taking regular daytime naps.

The methods used in the study — implementing a wearable device and questionnaires — might lead to earlier treatment.

"What busy college athlete wants to take a half-day to get screened for a disease they might not believe is actually affecting them?" Trikha says. "Combining the questionnaire with the wearable device may be a revolutionary tactic to help screen young athletes — or really anybody at all — for their risk of OSA in hopes of preventing the sequelae of diseases later in life."

Colorado State University Rams defeated the University of Northern Colorado Bears Sept. 6, 2025. Photo courtesy of CSU Photography.

ALUMNI CORNER

Dr. Seidi

Congratulations to the Class of 2025

The University of Colorado Anschutz School of Medicine Hooding & Oath Ceremony took place May 19, 2025, at Boettcher Commons. Nearly 180 graduates, along with their families and friends, gathered in person to celebrate this significant milestone in their medical journey.

The CU Medical Alumni Association and the CU Anschutz Alumni Relations Office extend heartfelt thanks to our graduating student representatives on the CU Medical Alumni Association Board of Directors: **Catherine Alder, MD '25**, and **Kylene DeSmith, MD '25.** We are deeply grateful for their dedication and contributions to the board, and we wish them continued success as they begin the next chapter of their careers in medicine.

Ways to Get Involved:

Many CU alumni choose to "pay it forward" by donating their time. There are many ways for alumni to get involved with the school, current medical students, and housestaff. A few ways to get involved include:

- Joining the CU Medical Alumni Association Board of Directors
- Becoming part of the engagement and activities committee, fundraising committee, or awards and nominations committee
- Mentoring a medical student and helping their community project through the Scholarly Service Grants initiative
- Becoming a FirstUp mentor for a medical student
- Admissions Interviewer Volunteering – Interview prospective students for the School of Medicine
- Specialty Speed Networking Events – Speak to current medical students about your specialty and current practice setting
- Becoming a preceptor – Preceptors encourage problem-solving and reasoning skills in their student while teaching biomedical sciences as a conceptual basis for understanding clinical phenomena.

For more information or to get involved please contact CU Anschutz Alumni Relations at *healthalumni@cuanschutz.edu*.

CU Anschutz Alumni Relations and the Office of Advancement would like to thank the CU Medical Alumni Association Board of Directors who continue carrying out the mission of the association by helping to advance and influence the interest of our alma mater, supporting current medical students on their journey to becoming physicians, and providing opportunities and programming for alumni to connect with each other and the School of Medicine in order to develop a lifelong alumni experience. We would also like to welcome Shawnecca Burke, MD'22 (Residency), John Papillion, MD'81, Mark Robinson, MD'02 to the Board of Directors.

Dennis Battock, 1964, MD
John Bell, 1965, MD
Shawnecca Burke, 2022R, MD
Michael Carius, 1973, MD
Allison Costello, 2022R, MD
Laurence Chan, Faculty, MD
Audrey Corson, 1982, MD
Mark Goncalves, 1982, MD
Srinivas Iyengar, 2001, MD
Maura Lofaro, 1993, MD
Diana Lujan, 1985, MD
William Maniatis, 1965, MD
Sarah Milliken-Glabe, 2008, MD
Jennifer McLellan, 2007, MD
Nia Mitchell, 2010R, MD, MPH
Gina Nelson, 1994, MD, PHD
John Papillion, 1981, MD
Michael Piel, 1969, MD
Jessica Parr, 2016, MD
Robert Rigg, 1982, MD
Mark Robinson, 2002, MD
Matthew Rustici, 2008, MD
Douglas Scott, 1981, MD
Taylor Triolo, 2013, MD
Linda Williams, 1984, MD

Medical Student Board Representatives:

Kyle Jamar, MS3
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Katherine Berrian, MS2
Ananya Shah, MS4
Garrett Healy, MS4

White Coat & Matriculation Ceremony

On July 25, 2025, the University of Colorado Anschutz School of Medicine proudly welcomed 184 new medical students during the annual White Coat & Matriculation Ceremony. Alumni, proudly wearing their own white coats, carried on the cherished tradition of presenting stethoscopes generously donated by CU medical alumni to the next generation of CU physicians.

Each first-year student received a CU Medical Alumni Association-branded stethoscope, a meaningful gift they'll carry with them throughout their medical education. This tradition not only marks the beginning of their journey but also reflects the enduring support of our alumni community.

A heartfelt thank you to all alumni who make this moment possible year after year. If you're interested in donating a stethoscope to a future physician, please contact Keiley Jaszczak, Philanthropic Advisor in the Office of Advancement at *Keiley.Jaszczak@cuanschutz.edu*.

CU Medical Alumni Association Awards

Congratulations to the following alumni on being selected for the 2025 CU Medical Alumni Association Awards:

Howard Weiner, MD '69
Silver & Gold Award

Nia Mitchell, MD, Resident '10
Richard Krugman Distinguished Service Award

Greg Feinsinger, MD '68
Humanitarian Award

Adam Seidl, MD, Resident '14
Recent Graduate Achievement

These awardees will be recognized at the Silver & Gold Alumni Banquet on November 13, 2025. If you are interested in attending this event, please contact *healthalumni@cuanschutz.edu*.

Quieting a Heart's 'Electrical Storm'

CU Surgeons helped Mark Musil when he was the 'sickest he could have been.'

By Greg Glasgow

Mark Musil suspected something might be wrong when he felt a "twang" in his chest one night while lifting weights. He had always been healthy; he exercised, ate well, and walked a lot, so he dismissed it as a pulled muscle.

Three days later, he awoke in the middle of the night with an intense pressure in his chest, "like somebody was standing on top of me," says the 61-year-old. A trip to the ER in his hometown of Castle Rock, Colorado, resulted in a diagnosis of a minor blockage in his arteries. He was given a prescription for a new medication and sent home. He and his family thought the worst was behind them.

The next day, Musil began passing out repeatedly. His family knew then that he was seriously ill.

"We took him back to the ER and got him checked in, and once we got him into a room, he passed out four times," says Mark's wife, Gabrielle. "We thought he was just passing out, but each time he passed out, his heart was actually stopping. So they brought us into a different room and hooked him up to a defibrillator. Every time his heart stopped, it would put it back into rhythm."

Mark Musil

ECMO to the rescue

Doctors in Castle Rock installed a pacemaker — a small, implanted medical device that helps regulate the heart's rhythm by sending electrical impulses to the heart muscle — but it wasn't enough to correct the problem. Musil was soon transferred to UCHealth University of Colorado Hospital, where Muhammad Aftab, MD, associate professor of cardiothoracic surgery in the CU Department of Surgery, hooked him up to a extracorporeal membrane oxygenation (ECMO) machine, which keeps blood pumping and oxygenated when the heart and/or lungs are unable to function adequately.

Michael Cain, MD, assistant professor of cardiothoracic surgery and one of the surgeons who treated Musil, explains that Musil was having episodes of ventricular tachycardia, or what surgeons call "electrical storm," a medical emergency involving repeated episodes of abnormal heart rhythm.

"He kept having electrical activity of his ventricles in a way that they weren't squeezing in a perfusing rhythm," Cain says. "He was in this really fast rhythm that doesn't eject blood effectively out of his heart, so he wasn't circulating enough blood volume to perfuse his other organs. He was put on ECMO because it circulates blood for people whose hearts aren't squeezing enough to perfuse all their organs. It often doesn't fix the problem, but it supports someone until a diagnosis and treatment can be provided. It gives people time."

Musil was eventually diagnosed with cardiac sarcoidosis, an inflammatory condition that creates scars in the heart tissue and can cause these abnormal heart rhythms. He remained on ECMO for six days, and it became clear to doctors that the damage done to Musil's heart was too extensive for recovery.

On November 6, 2024, Cain performed a life-saving heart transplant David Raymer, MD, assistant professor of cardiology, explained it to Musil in a follow-up appointment.

"He said, 'Mark, you were as sick as you possibly could have been.' It took me a while to understand. I woke up, and my wife told me I had a heart transplant. That never even remotely crossed my mind as something I would ever need."

Mark Musil, an avid hunter and angler, was diagnosed with cardiac sarcoidosis, which can cause abnormal heart rhythms. He needed ECMO for six months before receiving a heart transplant. Photos courtesy of Mark Musil.

Recovery continues

Musil returned home nine days after his surgery, with Gabrielle by his side — just as she had been throughout his health crisis.

"She was a great support," Cain says. "He was very sick and pretty well-sedated, but she was a really good advocate for him and supported him through his recovery. That's a big part of what helps people do well after transplants, is if you have a support system and family that can help you manage the recovery afterward. We encourage people to rally their troops to help them through the recovery. It really does make a big difference."

Musil, an avid hunter and fisherman, hasn't been able to return to those pursuits yet; nor has he been able to return to his job as a construction superintendent. But he hopes to get back to both soon as his recovery allows.

"I'm still weaker than I was, but I'm making progress every day," he says. "People don't realize how much muscle mass you lose after something like that. When I got home, my exercise routine would be to go up the stairs to our bedroom, and then back down, and that was an event at the time. I had my two sons with me, one in front and one in back, as I pulled myself up and lowered myself down on the rails. Four or five days later, I could do it by myself."

Musil is in a cardiac rehab program and goes in for regular checkups with the CU cardiology team, but so far, his recovery is going well as he adjusts to his new heart.

"Everyone is thrilled and impressed and happy with the progress that I'm making," he says. "I feel fantastic, and I have no pain. I still get a little tired after exercising, but I've walked as far as four miles without stopping."

Talented team

Cain says Musil, like many patients who are treated by Department of Surgery providers, benefited from the experience of the team that took care of him and their ability to implement advanced treatments early and get him to transplant quickly.

"Between his treatment and his recovery, there were dozens and dozens of people who cared for him," Cain says. "When somebody is this sick, and they need multiple types of mechanical support before they can ultimately get a transplant, there is no way to do that without a big team that works seamlessly together to get them to the next therapy. Mark is a good example of how, when that team works effectively together, you can have a good outcome."

"When somebody is this sick, and they need multiple types of mechanical support before they can ultimately get a transplant, there is no way to do that without a big team that works seamlessly together to get them to the next therapy. Mark is a good example of how, when that team works effectively together, you can have a good outcome."

Understanding Second Opinions

CU research offers ways to retain patients

By Greg Glasgow

It's customary for a patient to seek out a second opinion when evaluating surgical options for breast, colorectal, and pancreatic cancer. In fact, many surgical oncologists encourage the practice.

But what makes a cancer patient stick with that second-opinion surgeon for their treatment rather than the surgeon who gave the initial treatment plan?

It's a question that Alec McCranie, MD, a first-year resident in the University of Colorado Anschutz Department of Surgery, sought to answer in research recently published in the Journal of Surgical Research.

"We noticed we were getting a number of patients coming to us for a second opinion, meaning they had seen a prior provider, gotten a treatment plan, and were interested in seeing what the other options might be," says McCranie, a graduate of the CU Anschutz School of Medicine.

"We wanted to know what influenced the patients to stay at our institution, rather than staying with their original provider. We wanted to look from both a clinical and systems-level perspective to see how we can improve patient experience and resource allocation."

"...research found that access to the advanced or potentially curative options available at an academic medical center such as CU was a significant factor for patients remaining for their care after receiving a second opinion."

Why patients stay or go

Under the supervision of his research mentor Sarah Tevis, MD, associate professor of surgical oncology, McCranie analyzed 18 months of patient data, finding 237 patients who came to CU for a second opinion after being seen by another provider. Though he didn't interview patients directly about their experiences, he found several aspects of care that increased the likelihood patients would remain at CU for their treatment.

In pancreatic and colorectal cancer, the research found that access to the advanced or potentially curative options available at an academic medical center such as CU was a significant factor for patients remaining for their care after receiving a second opinion.

The data around breast cancer patients revealed more opportunities to adjust the circumstances around a patient's second opinion.

For instance, McCranie found that breast cancer patients were almost 90% more likely to remain at CU for their care if a plastic surgeon was part of the multidisciplinary clinic (MDC) that evaluates new patients during their first visit.

"We think that's because it allows for more of an informed decision on reconstruction," he says. "They like having more of that education and feeling like there's an end to what they're going through — starting with the surgery, then ending with reconstruction."

Similarly, McCranie's research found, having radiation oncology involved in the breast cancer multidisciplinary clinic helped retain patients as well.

Spanish-language support

One of the biggest growth opportunities McCranie saw in his research was that non-Hispanic patients were more likely to stay at CU after a second opinion than were Hispanic patients.

"That showed us a big opportunity to be able to involve more of the Spanish-speaking Hispanic population," he says. "We've now gotten more Spanish-speaking medical assistants and more Spanish-speaking faculty, which is something that patients seem to appreciate. All of our consents now can be in Spanish, and we have a lot more translators available as well."

Improving the second opinion

The Department of Surgery is acting on the research in other ways, too, encouraging plastic surgeons to meet with patients during the MDC or shortly thereafter and working with plastic surgery schedulers to ensure that the plastic surgeons patients meet with initially are the same ones who will perform their surgery down the line.

"We want to make sure that the surgeons they're seeing are going to be the ones who can help with reconstruction," he says. "A lot of times, the first phase of reconstruction can happen the same day they get a lumpectomy or a mastectomy, so we want to make sure the surgery is aligned timewise."

Now that the research is published, McCranie says, other cancer centers may use the findings to implement similar changes at their institutions.

"It's about understanding what drives patients to choose a treatment provider and being able to take that information and design health systems to be more efficient in allocating how they how they use their resources, or look at what they can change to increase their retention," he says.

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From Classroom to Community, Your Gift Makes It Possible

The CU Medical Alumni Association and CU Medical Student Council Scholarly Service Awards equip students to apply classroom learning to real-world health challenges. Last year's ceremony featured 22 projects, with 18 new awardees launching this year and four sharing completed work. These student-led projects improve lives across Colorado, and thanks to your support, students grow as leaders while making a lasting difference in the communities they serve.

To support future medical student projects, visit giving.cu.edu/medinnovations or contact **Keiley Jaszczak**, at **keiley.jaszczak@cuanschutz.edu** or **303.724.8317**.

"Funding from the CU Scholarly Service Awards has empowered me to deliver free hearing screenings at rural events, integrating clinical tools with public health research. This support strengthens my commitment to addressing rural health disparities and gives me the confidence to create impactful solutions beyond the classroom."

- August Richter, MD Candidate (2028)
CU Anschutz Rural Program
Principal Investigator, Over Hear! Project

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