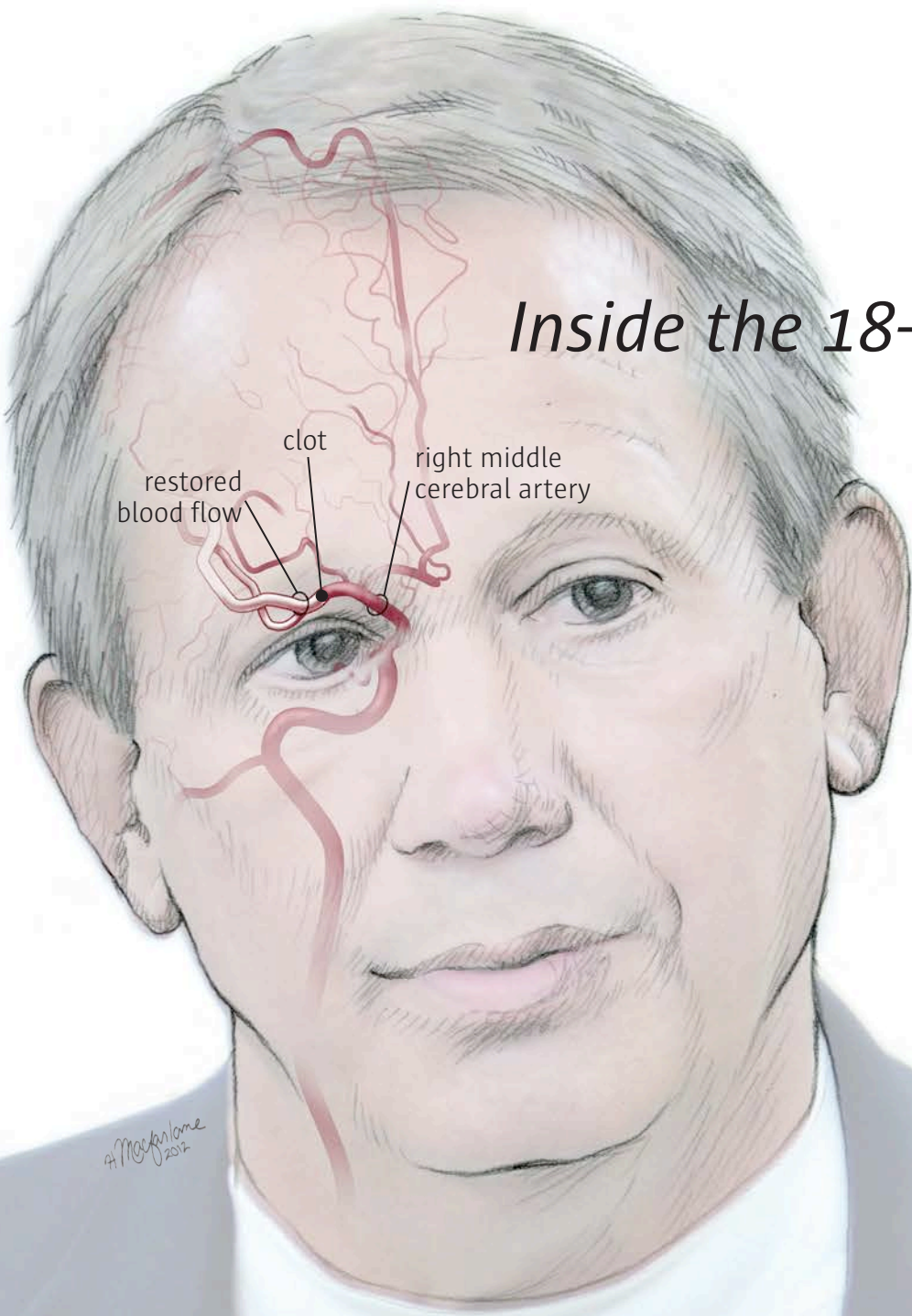


CUMEDICINE

Today



Inside the 18-minute man

A quality improvement project saved Rick Hamilton's brain from major stroke damage. Across the Anschutz Medical Campus, medical school faculty and others are joining forces to make medicine more effective and efficient.

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THANKS TO A QUALITY IMPROVEMENT PROJECT AT UNIVERSITY OF COLORADO HOSPITAL, RICK HAMILTON WAS ABLE TO RETURN TO THE HOSPITAL TO THANK DOCTORS AND STAFF WHO TREATED HIM FOR STROKE. THE STROKE PROJECT IS PART OF A CAMPUS-WIDE EFFORT THAT INCLUDES CHILDREN'S HOSPITAL COLORADO TO IMPROVE THE QUALITY AND EFFICIENCY OF HEALTH CARE.

On pages 14-18, CU Medicine Today details three successful initiatives that are saving lives.

Cover illustration by Helen Macfarlane

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Looking after each other in the wake of tragedy

In the early morning of July 20, a PhD student in our neurosciences program walked into a showing of “The Dark Knight” and opened fire on several hundred men, women and children in the movie theater. I suspect no one reading this anywhere in the world did not hear about this tragedy.

The deaths and injuries rippled through our community, including a young woman who made sandwiches for the Subway on our campus who was killed. This campus responded in many ways. We shared the pain of such a horrible event. We did what we could, offering counseling, holding a memorial service and engaging in a healthy, ongoing discussion about how we can best look out for one another.

Physicians, nurses and staff at our University of Colorado Hospital and Children’s Hospital Colorado, as well as others, performed wonderfully as waves of patients were unloaded, many from the back seats of police cars. (See the essay by an Emergency doctor on page 28.)

After a few weeks, we began to return to normal patterns. But the legal proceedings likely will take years. The spotlight will episodically glare, and the feelings of sadness and questions will resurface. CU couldn’t say much about the student because of a judge’s order and federal privacy protections for students and medical records.

The university has hired an attorney to review CU’s actions and procedures. You can track developments on our website at medschool.ucdenver.edu and on our Facebook page at facebook.com/CUMedicine.

Three weeks later, we welcomed our first-year MD students of the class of 2016 (the new PA and PT classes had already arrived). When you look at these remarkable people and their dedication to healthcare and community, you realize how lucky we are that our future is in their hands. The school website has student profiles and information about the White Coat Ceremony.

We have launched a strategic planning project designed to prepare the medical school for the significant changes expected in the next decade. We’re asking how we should be structured if we were starting over as a medical school, ready for the future but mindful of the strengths that made us successful. Aided by a consulting firm, we’re looking at the four pillars of the school: education, clinical care, research and community. Our affiliated hospitals will be part of the broad-based conversation. I don’t know what we will come up with, but I am sure it will be interesting.

Significant health care changes are already happening in Colorado. University hospital and the Poudre Valley Health System joined to create University of Colorado Health. Colorado Springs voters approved a plan for the new health system to run Memorial Hospital there. That deal includes funds for a branch of our medical school for clinical training in Colorado Springs, which I think will let us expand medical school enrollment.

Finally, in August the Fulginiti Pavilion for Bioethics and Humanities became the latest building to open on the Anschutz Medical Campus.

We will look forward to welcoming back the classes that graduated in years ending in 3 and 8 next spring; planning is under way for the class dinners that are always a highlight of the weekend.

With warm regards,

Richard D. Krugman, MD
Dean, School of Medicine
Vice Chancellor for Health Affairs
University of Colorado

IN THE NEWS

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

The New York Times, Washington Post and Denver Post reported on Down syndrome findings by Alberto Costa, MD, an associate professor in the Division of Clinical Pharmacology and Toxicology at the CU medical school. Costa found that the Alzheimer's drug memantine improved cognition for Down syndrome patients. In previous studies on mice, Costa found that memantine had an immediate, positive effect.

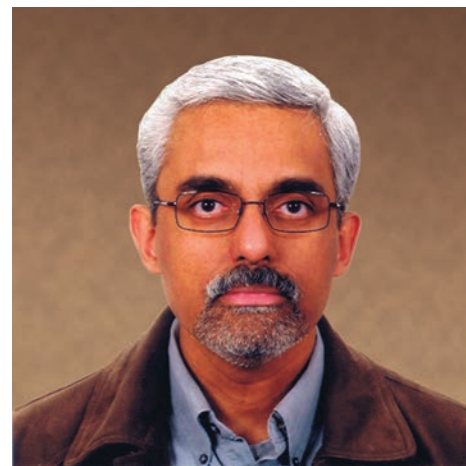
Philip Zeitler, MD, a professor of pediatrics, shared his expertise on diabetes with the Philadelphia Inquirer in an article about the American Diabetes Association conference in Philadelphia. The article focused on the growing problem of Type 2 diabetes—what used to be called “adult-onset diabetes”—in children. “[Children] seem to have a somewhat different disorder than adults,” Zeitler says. “They need to go on insulin faster than adults. And they have a more rapid appearance of complications.”

Staff members of University of Colorado Hospital, including medical school faculty members, who treated 22 victims of the Aurora theater shootings in July were featured in a New York Times article headlined “The Night the E.R. Staff Can Never Forget.” The article reads, “For the ... staff at the hospital the shootings were not only a trauma but also a test of their skills, their stamina and their teamwork.” Colorado Public Radio also did an interview on the subject. (See related article, page 28, by one of the doctors on duty that night.)

The Wall Street Journal reported on work being done by the Altitude Research Center that could lead to drugs that help with acclimatization and heart and lung diseases. The CU researchers “are studying molecular mechanisms of normal acclimatization in healthy people to gain new treatment ideas for people with chronic obstructive pulmonary disease, or COPD,” the journal notes. As part of the research, scientists tested subjects at sea level and then at a 17,200-foot peak in Bolivia.

ABC News interviewed Tim Byers, MD, MPH, about health problems associated with height. “One of the big surprises in cancer has been the potential impact of early life nutritional factors on long-term cancer risk,” said Byers, a professor of preventive medicine and biometrics at the University of Colorado Cancer Center. “I think height is an indicator of some risk factor, but we don't know what the mechanism is.” Byers said people, regardless of height, should follow beneficial behaviors such as eating well, avoiding tobacco and being physically active.

Great Britain's Daily Mail was one of dozens of publications, including several online science sites, that wrote about an international research team led by James Sikela, PhD, that discovered the key to understanding why the human brain is larger and more complex than that of other animals. Sikela, a professor in the Department of Biochemistry and Molecular Genetics, zeroed in on a specific unit within a protein—a “protein domain” called DUF1220—that is far more numerous in humans than in other species.



Alberto Costa, MD



Tim Byers, MD, MPH



See it as well as read about it

Three medical school videos premiere

Cardiologist Lawrence Hergott, MD, has checked up on a heart or two.

Some human. Some not.

Hergott leads a team of health care professionals who work with the Denver Zoo on a project to monitor the hearts of its gorillas. In the past the apes were anesthetized but now some are trained to do the echocardiogram while awake.

You can watch it happen and hear about the project on a video at med-school.UCDenver.edu/CUMedToday.

The secret to examining a gorilla that's awake? The zookeeper, from behind a fence, plies them with peanuts. The video stars Hergott, zookeeper Jody Hodges and several of the zoo's great apes. Watch for some serious chest beating!

This video is one of three new videos the School of Medicine produced with scholarship students at the College of Arts and Media, University of Colorado Denver.

Another video is about personalized medicine, which is coming into its own at the School of Medicine and Anschutz Medical Campus. You'll hear from leaders at the school who are using patients' genetic makeup to determine treatment or researching the genetic oddities that can lead to disease. "Personalized medicine is the next frontier in medicine," David Schwartz, MD, chair of the Department of Medicine, says.

The other video explores a program under which community leaders come to the campus to learn about what goes on there. Also, the program sends researchers into the nearby community to build bridges and learn about needs. "We go out into the community and work with the community to determine the health issues that they face in their everyday lives," Jack Westfall, MD, says.

A student from CU's College of Arts and Media videotapes gorillas at the Denver Zoo. University of Colorado. Doctors from the medical school, with staff from University of Colorado Hospital, volunteer to help watch over the gorillas' heart health.



Q & A



Q&A with Dr. Richard Johnson

By Michele Conklin

Richard Johnson, MD, just published his book *The Fat Switch*, which reveals what he and his research team suggest could be the mechanism behind a worldwide obesity and diabetes epidemic.

The CU medical school professor and chief of the Division of Renal Diseases and Hypertension has investigated health mysteries around the globe, from cobalt poisoning in the Andes to kidney disease in Tibet and Venezuela to lung fluke infections in Indochinese refugees. But it's his book that may have the most widespread effect.

In the following interview Johnson tells a tale of fat storage, evolution, the perils of fructose and a potential solution to the obesity epidemic.

Q: Tell me about *The Fat Switch*.

A: *The Fat Switch* is a pretty grand story. At the heart, it tries to identify the cause of obesity and diabetes, and it also hits a lot of other diseases like celiac disease, Crohn's disease, attention-deficit disorder and others.

Q: You believe it all comes down to eating sugar?

A: Yes, fructose, in particular, as well as some other types of foods.

Q: Why is your theory different than what we already know?

A: Historically, most of us think we get fat because western culture encourages us to eat large portions of food and to exercise less. According to this, we are to blame for poor habits.

However, our work shows that obesity is triggered by a "switch" in our metabolism that makes us want to eat more and want to exercise less. I

should make clear that none of these discoveries would have been made without major contributions by my colleagues and collaborators.

Q: What's the story behind this team discovery?

A: Well, I am a kidney doctor, so this is a very good question. In essence, we were studying high blood pressure, in which it is known that the primary problem is a defect in the ability of the kidney to excrete salt. In the process we concluded that this defect in salt excretion resulted from disease of the small blood vessels in the kidney. What caused that?

We discovered that a major contributor was the effects of a high serum uric acid. We then looked for what was driving uric acid levels up, and eventually this took us to fructose. We found that fructose was not only driving high blood pressure, but also other features of metabolic syndrome. When we lowered uric acid in fructose-fed animals, we not only blocked high blood pressure from developing but also other features of the metabolic syndrome. This led us to study fructose in more detail.

Q: You studied animals first. The same thing happens in humans?

A: Yes. Fructose is a major component of the American diet, and is primarily in table sugar (sucrose) and in high fructose corn syrup. Intake of these sugars is associated with increased risk for high blood pressure, and for obesity, diabetes and fatty liver. And those sugars also are associated with higher uric acid levels and the problems that causes.

Q: How did that translate into obesity?

A: Our most recent studies suggest that one of the major ways fructose increases fat is by its unique ability to raise uric acid inside the cell. In the liver, for example, we can show that fructose is a major factor driving fatty liver, and that this is driven in part by the uric acid.



Photos by Helen Macfarlane

The uric acid works on the energy factories in the cell, the mitochondria, and preferentially blocks their ability to degrade fat while at the same time reducing the energy output. When a cell has less energy, it communicates to the brain to eat more. At the same time, the inability to burn fat leads to fat accumulation. Soon you have fatty liver.

Q: You looked at fat in people and other animals. What did that tell you?

A: Weight is normally tightly regulated among animals. They tend to gain weight to help survive during periods of food shortage or famine. When they do this, they develop fatty liver, they'll increase the fat in their blood and their abdomen, and they even become insulin resistant. So they develop all the features of metabolic syndrome.

It's clear that what people are calling metabolic syndrome is actually a form of fat storage. The difference is that humans continue to store and accumulate fat, whereas an animal gains fat and loses it in a regulated way.

Q: So uric acid signals the body to gain weight?

A: Yes. One of the first clues came from studies of starving animals. Uric acid was the factor that goes up in the starving animal, and we believe it signals to the animal to try to reaccumulate fat. In our society sugar turns out to be a major way for activating this switch. Soon we realized that the activation of this metabolic switch might be very important in the cause of obesity in humans.

Q: In your book, you also discuss the evolution of humans and of sugar in our diet.

A: As we looked for what could activate this switch in animals and we realized that fructose was a big way to activate it, we then started looking at humans and saw that this mechanism we had discovered could actu-

ally account for a lot of the obesity in humans.

We further linked the susceptibility of humans to fructose to a mutation that occurred 15 million years ago during a period of famine. The mutation resulted in a greater increase in uric acid in response to fruit, and thereby allowed us to increase our fat stores more easily in the setting where fruit availability was decreasing. Thus, this mutation likely acted to protect us during periods of famine in our past.

However, sugar was not available then, and as sugar was gradually introduced into society, suddenly there was much more fructose available than in the past. Then we found that there are other foods that can activate the switch, though not as much as fructose.

Q: Such as?

A: Umami foods, the type of food that's called savory, such as gravies and shellfish. However, beer is the greatest culprit after sugar. We realized that you can activate the switch a number of ways. Then we looked at what happens when the switch gets activated and how it might play a role into not just diabetes and obesity, but a lot of other diseases, including celiac disease, food allergy and attention deficit.

The book makes the case that the fructose/uric acid switch is probably the underlying major mechanism for the obesity epidemic. It's very controversial. But the data is the data. I use everything, from anthropology and evolution and comparative physiology to biology and molecular biology and history, to put together the total argument.

Q: Do you believe this could be the breakthrough to end this health crisis?

A: I believe the book provides major insights that could lead to not only how to prevent and treat obesity, but also one day to curing obesity.

Health care know-how dispensed at Broadway center

Students offer guests guidance, cough drops

By Tonia Twichell

The first guest of the evening is a thin middle-aged man wearing a torn white T-shirt who greets the medical students like old friends and asks for vitamin packs for himself and his girlfriend.

By the time he leaves a few minutes later, he's asked about adding fiber to his diet ("Fruits and vegetables? No, man, it's got to be quick"), gotten advice on foot calluses ("I tried wrapping them in duct tape but it didn't work") and is offered cream for a problem he's whispered into Dr. Christopher Colwell's ear (Don't be embarrassed, Colwell counsels, "We see it all the time").

It's Thursday night at the Broadway Assistance Center west of downtown Denver. That means a free meal, clothing, groceries and toiletries. Plus, you can talk about your health concerns with CU medical students and a medical professional. Tonight the latter is Colwell, director of emergency services at Denver Health and a School of Medicine professor.

He's also the founder of the health care portion of the center and greets all comers with an easy, upbeat manner. "How ya doing?" he shouts to those hovering at the threshold, waving them into the room.

Organizers are quick to caution that this is not a clinic, and the people who visit are not patients. This is more like triage, says fourth-year student Paul Cheung as he checks supplies before guests start arriving. It's a preliminary step before seeing a doctor—or maybe avoiding it altogether if a problem is caught early enough, says another fourth-year, Jason Yost.

Most guests come in looking for a specific item; a lot of ibuprofen and acetaminophen go through the door. Almost everyone leaves with

a pack of vitamins. Cough drops are popular. Colwell started the endeavor about 10 years ago when he and his wife signed up to help serve meals. But the director steered him toward providing some sort of medical know-how for her guests, most of whom have no health coverage.

"She said handing out food is wonderful, but 'We have plenty of people to do that.'"

At first he and his wife, a paramedic, provided all the services, but later he began searching for assistance. He knew a medical student, who knew others, and soon the Broadway Assis-

"She said handing out food is wonderful, but 'We have plenty of people to do that.'"

tance Center Health Resource Center was born. It's not an official student group, but is run by fourth years who hand it off to their succeeding younger class each year.

Usually between 45 and 75 visitors come each week; many are regulars.

"They simply want to check in because we know them and know the state of their health," says Eric Brown, a fourth-year student who estimated that they recommend someone go di-

rectly to Denver Health about every two weeks for a serious condition.

Through donations and a small grant, the group fills a large vertical cart with bins of medicines labeled *Skin, Feet, Dental, Musculoskeletal, etc.*

It's easy to run out of popular items. On this Thursday it was glucosamine, eye drops, pregnancy kits and reading glasses.

But students like the idea of spending as much time as they want with guests.

"When you work for a preceptor you're in and out in 10 minutes; you don't get to talk to the patient about their life," Brown says. "You can't ask things like 'Are you taking vitamins, eating vegetables?'"

Many guests hang around to talk. One man tells the students about meeting his father for the first time, while a woman talks to Cheung about male menopause. Another man shows scars from stabbings and a run-in with a train.

"Some don't have much opportunity for conversation the rest of the week," Colwell says. "Many of the same ones come in week in and week out. We let them talk, and that might do as much good as helping them with their medical problems."



Medical student Jason Yost listens to a client at the Broadway Assistance Center.

New AMA chief Jeremy Lazarus “engages everybody” Denver psychiatrist takes reins at critical time

By Jenny Deam

Last spring, not long before he took the reins as president of the American Medical Association (AMA), Dr. Jeremy Lazarus returned to his beginnings, taking rounds with a group of New York medical students to get the pulse of the next generation of doctors.

One of the students piped up, challenging him on the need for the nation’s largest and most storied medical association. “Why don’t you do something big?” the student asked.

Lazarus was taken aback. He thought the AMA *had* done something big: controversially backing President Obama’s Affordable Care Act and pushing the individual mandate (the AMA prefers to call it “individual responsibility”) to expand health care coverage.

“We staked our reputation on it,” he replied, explaining to the students that whether they agreed with the legislation politically or not, there was no denying the AMA had taken a bold stance.

Lazarus then told the student that the AMA would have his back in major health care policy matters and help him individually as he entered his practice.

“I think I signed one up,” Lazarus says with a grin.

But Lazarus, who has been a Denver psychiatrist for 40 years and is a clinical psychiatry professor at the CU School of Medicine, knows that this is no laughing matter. He will serve during one of the most volatile times in decades, and not just because the country remains divided over health care reform.

AMA membership has been declining, though the organization has welcomed a rebound in the last two years. In the 1950s close to 75 percent of U.S. physicians were full members. Now, excluding medical students and residents,

the figure is about 15 percent according to a 2011 estimate by the Canadian Medical Association.

Lazarus sees improving the message of the AMA as one of his missions: “You can’t say, ‘Join just because.’”

Younger doctors, he says, need to understand the power they hold in these shifting times in everything from shaping public health policy to better serving returning veterans to making billing and insurance procedures more efficient. Lazarus recognizes that “there’s a fair amount of physicians out there who are unhappy.”

His own son is one of them. Dr. Ethan Lazarus, a 1996 CU medical school graduate who is now a family doctor in Denver specializing in the treatment of obesity, says he often discusses with his father the frustrations he feels in negotiating the health care system. But no matter what the topic—from a gripe to an exciting new treatment—he says his father always listens thoughtfully, then asks the same question: “Yes, but how is that going to benefit the patient?”

Ethan, along with his sister-in-law, nominated Jeremy Lazarus for the presidency. Ethan calls his father his role model, adding: “Dad completes what he starts.”

That would be an understatement. Lazarus has competed in 13 Ironman Triathlons and run 13 marathons. He is an accomplished saxophonist, violinist and guitarist. He also sings. (He worked his way through college singing at weddings and bar mitzvahs.)

Lazarus has a deep love for the arts and says his choice of psychiatry is linked to his fascination



Jeremy Lazarus, MD

with literature. Why, he would ask, did characters do what they did?

His longtime friend, Dr. Mark Levine, another volunteer professor at the CU medical school, jokes that Lazarus would give the bearded guy in the Dos Equis beer commercials a run for his money as “the most interesting man in the world.”

Levine says his friend is the right man for the AMA job because he has the gift of listening to all voices equally.

“He engages everybody,” Levine says. “I don’t think you could do that by starting from one preconceived answer.”

In the coming year Lazarus will be logging thousands of miles, traveling far and wide as he tries to open the tent of the AMA so all will feel welcome. The way health care is being delivered is changing, and, he says, even though there are different views and voices it is important that physicians work together.

“Doctors,” he says, “can’t go it alone.”

Darrell Kirch is another person with CU medical school connections who’s playing a leadership role in medicine. Kirch, who received his medical degree from CU in 1977, serves as president and chief executive officer of the Association of American Medical Colleges (AAMC). The group represents the accredited U.S. and Canadian medical schools, and hundreds of teaching hospitals, health systems, and academic and scientific societies. For a recent profile of him, go to medschool.ucdenver.edu/CUMedToday.

An anesthesiologist's life after football

Greg Myers keeps winning awards, now from residents

By Jenny Deam



Now an anesthesiologist at Denver Health, Greg Myers, MD, was an All-American college football player who turned pro.

The number of college football Hall of Famers turned pro safety, turned accomplished anesthesiologist and assistant medical professor would make for a very small huddle.

But at Denver Health there is someone in those rarified ranks: a likeable, laid-back doctor who pads through the hallways in baggy surgical sweats, sporting designer stubble.

Few at the hospital or on the CU School of Medicine faculty know the whole story about their colleague, who has already had one dream-come-true career and is now embarking on Chapter Two.

And that's exactly how Dr. Greg Myers wants it. "Nah," he says with a shrug and a grin, "I don't tell people."

But the record books do.

His football legacy is remarkable, especially for someone who always said playing ball was just "a journey, not the path."

Plucked from a 2A high school football team in small-town Windsor, Colo., he played for the Colorado State University Rams where he was twice named an All-American. As a senior, in 1995, he won the Jim Thorpe Award as the best defensive back in the nation.

Also a standout in the classroom, he remembers sitting in an advisory meeting as an incoming freshman at CSU, talking about entering the pre-med program. The advisor warned him: "It's going to be very difficult to do this and play Division I football."

Myers thought about it for a moment and said, "Oh, OK."

He earned Academic All-American honors in back-to-back years, was named the Western Athletic Conference best overall student ath-

lete, the Honda Scholar Athlete of the Year and received an NCAA post-graduate scholarship.

Born in 1972 in Florida, he came to Colorado with his family when he was a toddler. After his parents divorced he was mostly raised by a single mother who worked long hours as a seamstress, though his dad was in the picture.

Money was tight, his mother Carol Myers admits. She remembers that even as a small child Greg had the gifts of determination and perseverance, announcing a goal and then making it happen. Once, when he was about four he told her not to look out the window until he said it was OK. Of course she peeked and watched her son teach himself to ride a bicycle.

By age 12, sitting in the emergency room with a broken arm, he looked around the hospital and announced, "I'm going to be a doctor, Mom."

Myers traces his work ethic to his annual summer visits to his grandparents' farm in Kansas. At age 8 his grandfather took him out on the tractor, showed him once how to drive it and then hopped off. "You're on your own." To this day Myers can conjure the fear, the excitement, the pride of driving that tractor through the fields. By age 10 he was driving a combine.

"I think working on the farm had a big impact on me," he says.

At CSU, he juggled academics and sports, having to take fewer class credits during the season, then making them up later. He met his wife, Kara, his freshman year. She was skeptical at first, having no use for football players; but in the end he won her over. They have been married 12 years and have two children.

By his junior year it seemed likely that he might play pro football. In 1996 he was drafted in the fifth round by the Cincinnati Bengals. He was the 144th player picked overall, lower than expected. Myers can't help but wonder if rumors of his medical ambitions might have

cooled some interest.

“I got a call from the Bengals and they said, ‘You’re not going to medical school are you?’ They didn’t want to waste a draft pick.” He could honestly say no because he already had arranged a deferment for medical school admission.

“He never lost sight of wanting to be a doctor,” his mother says of her son’s pro years, adding that he never got sucked into the idea of celebrity. She said he saved most of his salary for medical school.

“Football never really defined him,” agrees longtime friend Dr. Ed Nortier, an anesthesiologist who first met Myers when he was an athletic trainer for the CSU team; they studied together. In those days, at that school, it was not uncommon for football players to have ambitions beyond the playing field.

“Maybe it’s different at the big-time football programs,” Nortier says, “but at CSU football was fun.”

Pro ball was different. Myers felt disillusioned by the business side of it, how players were seen as commodities. After four years with the Bengals he was released after a tendon injury. He returned to Colorado and worked as a night manager at an ice rink in Steamboat Springs for a boss who could not figure out why someone with Myers’ resume would take a job that included scrubbing bathrooms.

Then, in mid-season, he was picked up by the Dallas Cowboys. He played out the rest of that year and ended his

football career in 2000. Then came the medical school education he’d long delayed. He graduated from the CU medical school in 2006.

“It wasn’t a hard transition,” says Myers, now 39. Maybe because he was older and married, or maybe because he had already had a taste of a different life, his priorities were clear. He first considered family medicine but then his friend Nortier suggested anesthesiology.

His football days prepared him for life in the operating room at a Level One trauma unit, he says. He thinks fast on his feet, and can anticipate potential problems just as he once sized up an opposing team’s offense.

“I’m always trying to think two steps ahead,” he says. “It makes me a better doctor.”

Myers, an assistant professor at the medical school, still is collecting awards. He was voted 2012 Outstanding Teacher of the Year by the anesthesiology residents.

“I consider it a huge honor,” says the man whose life has been

filled with honors.

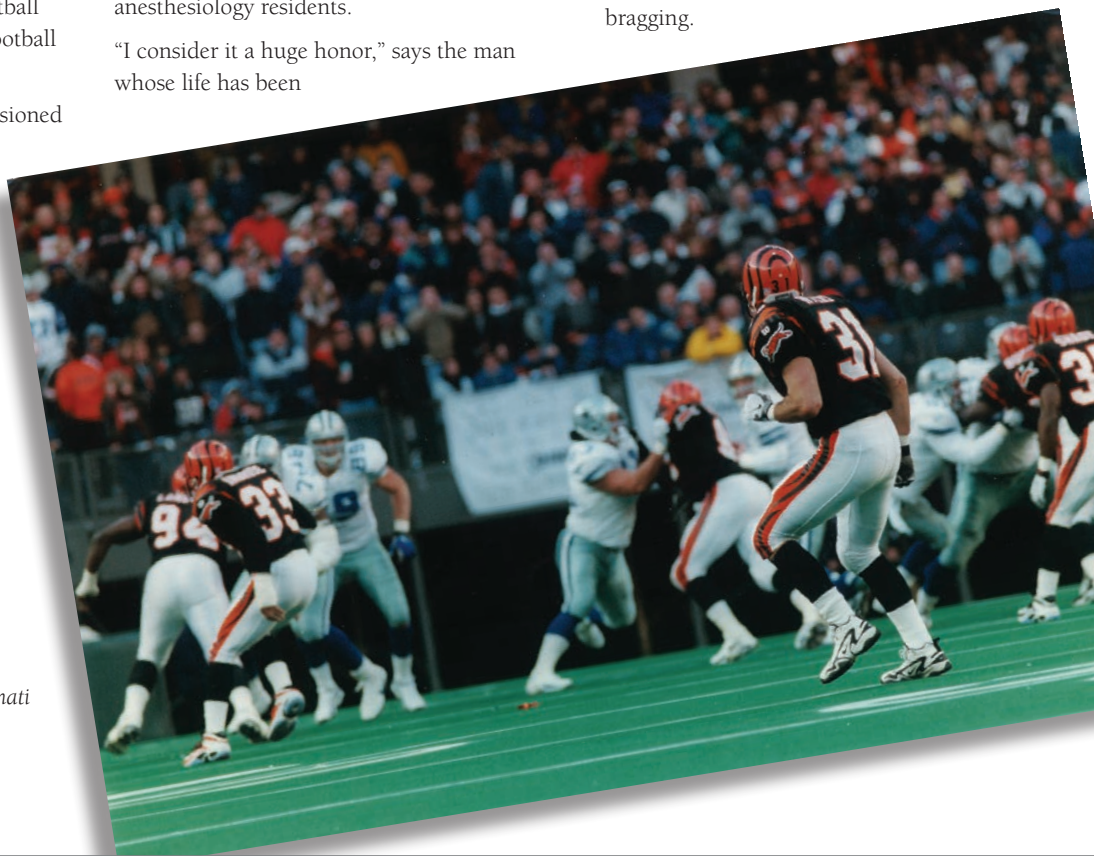
But there was still one more to come.

In May a package landed on his front porch. It held a football and a letter that began: “Congratulations. . . .” He had just been named to the college football Hall of Fame and will be honored at a ceremony in December in New York. CSU marked the event at halftime of a recent football game.

It was a reminder of a past that he’s mostly put behind him. He doesn’t even watch football on TV. For years, his trophies had been stashed in a box in the garage.

Only recently, after moving to a house where he finally has an office, he pulled out those accolades and displayed them. At least for now.

“It’s strange to look at them. It feels weird,” he says. He says he may take them down again. He doesn’t want to look like he’s bragging.



A scholar and athlete, Greg Myers played football for CSU and then with the Cincinnati Bengals, right.

Oral health takes hold for MD students and Anschutz Medical Campus

By Tonia Twichell

Physicians and dentists went their separate ways in the mid-1800s, divorcing the care of mouth from the rest of the body for well over a century.

Until a U.S. Surgeon General's landmark report *Oral Health in America* in 2000, there had been little reason to consider reconciliation.

"When I was in school we weren't even taught to look at teeth," says Mark Deutchman, MD, professor of family medicine and Colorado Area Health Education Center (AHEC) associate director for multidisciplinary education. "There wasn't anything we could do about them. They were just things that got in the way when we looked at the tonsils."

But the report broke ground by calling for oral health education for all health providers to combat problems that today are considered entirely preventable: escalating numbers of children with tooth decay and adults with periodontal disease.

Children are getting a lot of the attention because the need is reaching crisis levels, Deutchman says. Dental disease is the nation's most common chronic disease in children.

"The number one use of the operating room at Children's Hospital is total mouth reconstruction," says Anita Glicken, former associate dean of CU's Child Health Associate/Physician Assistant Program.

That surgery costs between \$8,000 and \$12,000, Deutchman says, pointing out, "You can buy a lot of prevention for that."

Even so, why would non-dentists be tapped to perform oral exams? Keeping oral care in the realm of dentistry would work if not for the fact that a large percentage of the U.S. population doesn't visit dentists except in emergencies. Forty percent of Coloradans do not have dental insurance, and few children have a dental home by age 1, which health care providers recommend, Deutchman says.

But, the report reasoned, if other providers from physician assistants to nurse practitioners and physicians were able to recognize decay, they could stop the disease process early by providing oral exams, hygiene and diet advice, and a fluoride varnish.



The report set in motion changes that still reverberate in health care campuses around the country, particularly at the University of Colorado Anschutz Medical Campus, where:

- Dental students teach all medical and physician assistant students how to perform a basic oral exam and apply a protective fluoride varnish.
- Oral health care is offered as part of the curriculum in three of four years for medical students and all three years for physician assistants.
- Medical school faculty members teach dental students how to identify broader health issues like diabetes, HIV and cardiovascular problems through oral exams.
- The Frontier Center, funded by Delta Dental of Colorado Foundation at the School of Dental Medicine, encourages interprofessional oral health education for all health sciences students.
- Through Cavity Free at Three, a Colorado-based program with roots in CU's AHEC program, physicians and students teach health care workers around the state how to perform oral care checks on children and pregnant women. Training includes oral screening, identifying disease, a risk assessment and a fluoride varnish; instructional pamphlets have been translated into nine languages including Russian, Arabic and Chinese, says Karen Savoie, AHEC director of education.
- Smiles for Life, a national initiative, offers free tutorials on recogniz-

ing oral disease in all populations; Deutchman, one of its authors, wrote two of the eight educational modules.

Glick said she'd never thought about teaching oral care to students until she was invited to a conference by Deutchman, who was already introducing oral care into the School of Medicine curriculum.

"It took me about two hours to realize the incredible gap in dental care," she says. "Two years ago I knew nothing about this. Now four national PA organizations are engaged."

Providers are paid extra by Medicaid for including these services in well-child visits, but in some cases they have to refer patients to dentists, though it can be a challenge to find one who is willing to see children.

"We try to encourage general dentists to see little kids since there are so few pediatric dentists, particularly outside the Front Range," Deutchman says. "As doctors, we don't examine little kids in a chair. We do knee-to-knee exams between parent and doctor. We're teaching dentists to do that, too."

Historically, dental schools have focused more on repairing disease than on prevention, say Deutchman and Diane Brunson, director of public health at the School of Dental Medicine.

"The School of Dental Medicine is now at the forefront of teaching interprofessional care, increasing exposure to pediatric dentistry and preparing future dentists with an emphasis on prevention," Brunson says.

Getting children's oral health under control is important so they don't become adults with oral health problems, Deutchman says.

"Baby teeth are the predictor of adult oral health," Deutchman says. "Dietary and hygiene habits are passed down. If the parents don't brush their teeth, will they make their children brush their teeth? Plus parents colonize their children with their own bacteria."

For adults, the problem is less about cavities and more about gums and what their condition means for overall health.

"For example, a gum inflammation can be related to vascular disease," Deutchman says. "A lot of diseases have oral manifestation or could be worsened with oral disease."

The first exposure most CU medical students have to oral care comes in their second year of school with a lecture on the connection between oral health and overall health. Later, they spend a morning with dental students who teach them the basics of an oral exam.

"The medical students leave here varnished ear to ear," Brunson says. "But just as important as learning the basics of oral health is the idea that different disciplines should work together."

Now medical and dental students volunteer to run a drop-in clinic at the National Western Stock Show each January. They also travel to Fort Morgan to work with children in the Somali population through Cavity Free at Three.

And dental and medical students are starting a student interest group to serve needy communities, says fourth-year medical student Dave Baumgartner, who, like Deutchman, is the son of a dentist and who says the idea of expanding oral care impressed him as "logical and intuitive. I jumped right on board."

The students' interest is gratifying for Brunson, who came to CU after 15 years with the state Department of Health and Environment.

"It became evident to me that I might be able to have more impact here on campus," Brunson says. "At the state I was trying to change the behavior of existing practitioners ... But then I realized that students practice what they learn in school and this is the place to be."

Mark Deutchman, MD, advises medical students as they learn oral health basics at the School of Dental Medicine, left. A dental student coaches physician assistant students in oral health exams, below.



Palliative care program pioneers national research

Statin study seen as first of many for national group

By Dan Meyers

Pills, pills, pills. Enid Straub was weary of taking pills for her ailing heart and other issues.

So she was glad to ditch one of them, the statin she was taking to reduce her cholesterol. Especially if this step was in the name of science.

"It's one more pill to get away from," Straub, 87, says. "If it's not necessary, why take it?"

Straub's statin status is nice for her—and part of a ground-breaking national effort led by the University of Colorado and Duke University.

Narrowly, the study seeks to determine if patients with a life-limiting illness can do without statins. Did dropping the drug help or hurt patients' survival?

That alone will be good to know. But there's more going on.

"It's not just a study; it's a foundational effort," says Jean Kutner, MD, the University of Colorado School of Medicine professor who helped organize the effort. "It's a study that needed to be done, but this is an investment. By no means is the study itself the be-all and end-all."

The end-all is expanded, cooperative research in the field of palliative care, which was recognized as a subspecialty only in 2006. The study will look at statin use and also, its leaders hope, will demonstrate that national cooperation in palliative care can work, as it does in other fields.

"We look toward the cancer cooperative groups

as a model, but also the primary care-based research networks, intensive care research groups and others," says Amy Abernethy, MD, an associate professor with tenure in the Division of Medical Oncology at Duke University School of Medicine and director of the Center for Learning Health Care at Duke.

The genesis goes back a few years. Prior to 2010, palliative care research was more disjointed and limited.

A paper Kutner, Abernethy and others wrote that year in *The Journal of Palliative Medicine* recounted reasons for that, including logistical issues such as the fragmented health care system, and also the nature of palliative care itself.

Patients in palliative care are considered vulnerable, fragile, with limited time left to live.

There was sensitivity about enlisting such

patients in research projects.

Kutner and others reasoned that those patients deserved the same research support as any other group. So in January 2010 some 20 researchers from around the country gathered in Denver for a day and a half to ask a key question about palliative care research, summed up by Kutner this way:

"Is there a *there* there? Is the field actually ready and are there enough interested investigators?"

The answer was yes. The result was the Palliative Care Research Cooperative Group (PCRC).

"The cooperative is a huge milestone," Kutner says. "It's an idea people have talked about for at least a decade. The field has finally matured enough to support it."

Abernethy calls it "a substantial step forward for palliative care, palliative care research and better care of people with serious illness."

The cooperative began with a definition: "Palliative care focuses on relief of suffering and on achieving the best possible quality of life for individuals confronting advanced illness; goals include alleviating physical symptoms, ameliorating psychological distress and promoting spiritual well-being for patients and their caregivers."

They declared that they would work together. But on what?

"One of the operating principles was to address questions that were immediately clinically relevant," Kutner says. Questions such as whether being on statins, or off them, affected how long



Doctors Jean Kutner of the University of Colorado, left, and Amy Abernethy of Duke, right, are coordinating a national effort, the first of its kind, to determine whether statins are a benefit to palliative care patients.

a palliative care patient would survive.

Statins reduce cholesterol by inhibiting the enzyme called HMG-CoA reductase, which controls cholesterol production in the liver. The drugs are widely used and usually have minimal side effects (although rarely they cause muscle, kidney and liver problems, or don't play well with other drugs).

The PCRC did a survey and found a wide variety of approaches to statins supported by little research—all the more reason for a study.

The statin question, and the cooperative itself, interested the NIH/National Institute for Nursing Research, which provided a \$7.1 million grant to CU and Duke to develop the group and lead a study that now involves nine other sites. The grant runs through September 2013 and the research sites are enrolling patients such as Straub.

"There are high stakes to make it work, as many are watching," Abernethy says, "including the naysayers who said it isn't doable and the champions who want it done yesterday."

It's the first such national palliative care study and could lead the way to more, Kutner says, "so I have a real sense of responsibility to not screw this up!"

Getting patients can be tricky sometimes. To be in the study, the patients have to be on statins and have less than a year to live.

"Some equate the introduction of the study as a discussion about withdrawing therapy," Abernethy says. "Maybe you have been told, 'You are going to be on this medicine for the rest of your life' and then we are asking 'can the medicine be stopped?'"

Others, Abernethy adds, "look at this as an opportunity to leave a legacy, to contribute to the knowledge about better care of people in the future."

"In palliative care, you have someone who may be in pain. They have a life-limiting illness,



Enid Straub, one of the patients in the statin trial co-led by the University of Colorado medical school, talks with Marlene McKenzie, who is clinical research coordinator for the national research project.

something severe," says Rachael E. Bennett, MA, program director for the cooperative. "They often are in a vulnerable emotional state. Yet we find that the patients often are willing to participate in the study. They do it out of the goodness of their hearts."

Enid Straub was one of the willing. She was eager to take fewer pills and, more broadly, to repay a debt she feels she owes to health care.

As Straub tells it, she was 14, in her home economics class in rural Indiana, when she got so weak she fell off a stool. She was hospitalized with pneumonia for about three months. Because her family was poor, the hospital didn't make them pay.

"I'm grateful," Straub says. Without the doctor, whose beard and big smile she still recalls, "I wouldn't be here."

Each week, Straub gets a call from Marlene McKenzie, clinical research coordinator for the statin trial.

McKenzie asks Straub how she is feeling. Straub never gripes about her heart, which has leaky valves and may not hold out much longer.

"These are things that happen," Straub explains. "My heart is like an old car transmission. It's about done. There's no sense in moaning and groaning about it.

"I think life's pretty good."

570 million neurons saved (*and counting*)

Stroke treatment part of the push for quality improvement

By Dan Meyers

Five years before Rick Hamilton arrived at the emergency room at University of Colorado Hospital, Dr. Ethan Cumbler already was thinking about how to help stroke patients by treating them quicker.

Lucky, as it turned out, for Hamilton.

Cumbler knew strokes kill some 1.9 million neurons per minute. Time and brain function are inversely linked.

So Cumbler and a University of Colorado Hospital (UCH) multidisciplinary team, which included a medical student, began to work on cutting the stroke treatment time—"door to needle" in stroke talk—to less than an hour. The result was an award-winning success.

"When we say the project cut a half hour off of stroke treatment time, that means there's a patient who didn't lose 57 million neurons," says Cumbler, an associate professor of medicine at the CU School of Medicine. "Quality improvement processes are invisible but the impact is on real patients."

It gets no more real than Hamilton.

A salesman who lives in southern Illinois, he had a stroke on Halloween, 2011, on a flight from St. Louis to Salt Lake City. His airplane detoured to Denver. Paramedics were waiting for the plane. They rushed him to UCH, which recently had been putting the stroke-treatment plan into action.

The hospital was ready, Rick Hamilton's door-to-needle time—the point at which the clot buster, tissue plasminogen activator (tPA), was 18



minutes.

The dot is at 18 minutes. That's exceptional but the trend is unmistakable. UCH used to hover at about 87 minutes' treatment time. Now the average is about 40.

Cumbler loves the math of it. In a three-month stretch, he notes, 570 million neurons were saved.

The stroke project is an example of the many efforts going on at the Anschutz Medical Campus that come under the heading Quality Improvement (QI). UCH and Children's Hospital Colorado have their own projects and the School of Medicine is leading a campus-wide effort to make clinical care more effective and efficient.

Along with the UCH stroke effort, two examples from Children's are part of this report—dramatic reductions in codes called outside the intensive care unit and in central line infections.

Success, judging by these case studies from the two hospitals, often

Businessman Rick Hamilton, left, thanks University of Colorado Hospital healthcare workers who treated his stroke in record time.

lies in basics. Teamwork between disciplines is a constant factor for success. So are inclusion and shared responsibility, vigilance regarding data and even little touches such as a Walmart stopwatch or a packet of candy as a reward.

And at a deeper level, improvement appears to be the result of a culture shift, a belief that doctors, other health care professionals and hospitals as institutions should aim high and reject the status quo.

"Part of it is a mindset that says a lot of harm that occurs in hospitals is preventable. Let's reduce it," says Dan Hyman, MD, chief quality officer at Children's.

Training, too, is part of the plan.

Key players on the Anschutz Medical Campus have teamed up to create the Institute for Healthcare Quality, Safety and Efficiency (IHQSE) to improve clinical and educational aspects of patient safety.

"The institute is an imperative step in our clinical transformation," says Jeff Glasheen, MD, who as part of this effort was named associate dean for clinical affairs for quality and safety. (Read about the institute at medschool.ucdenver.edu/CUMedToday/Features. Click on this story, then QI Institute on the left side of the page.)

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Breaking the "code" for emergency response

By Dan Meyers

There's a lot of data to support changes Children's Hospital Colorado made in how it calls and responds to "codes," that is, when a patient needs emergency help to breathe.

But the charts and numbers really add up to this:

"We figure we saved six lives this year," says Emily Dobyns, a professor of pediatrics at the University of Colorado School of Medicine and medical director of the ICU at Children's Colorado.

Dobyns, co-chair of the hospital's code committee, knows that in the relentless math of emergency response, the more codes there are outside the ICU, the more kids who die. On the other floors at the hospital, about one in four survive the conditions that led to a code. In the ICU, about four out of five make it.

So the idea is to get the kids at greatest risk of a code into the place where they have the best chance of surviving it.

Children's, in the last three years, has cut the number of codes outside the ICU by more than half, from 0.6 per thousand admissions to 0.24. That translates into those lives Dobyns figures were saved.

How'd the hospital do it? It adopted numerous changes in structure, rules and culture. Also those candies called Lifesavers proved to be true lifesavers—but more on that later.

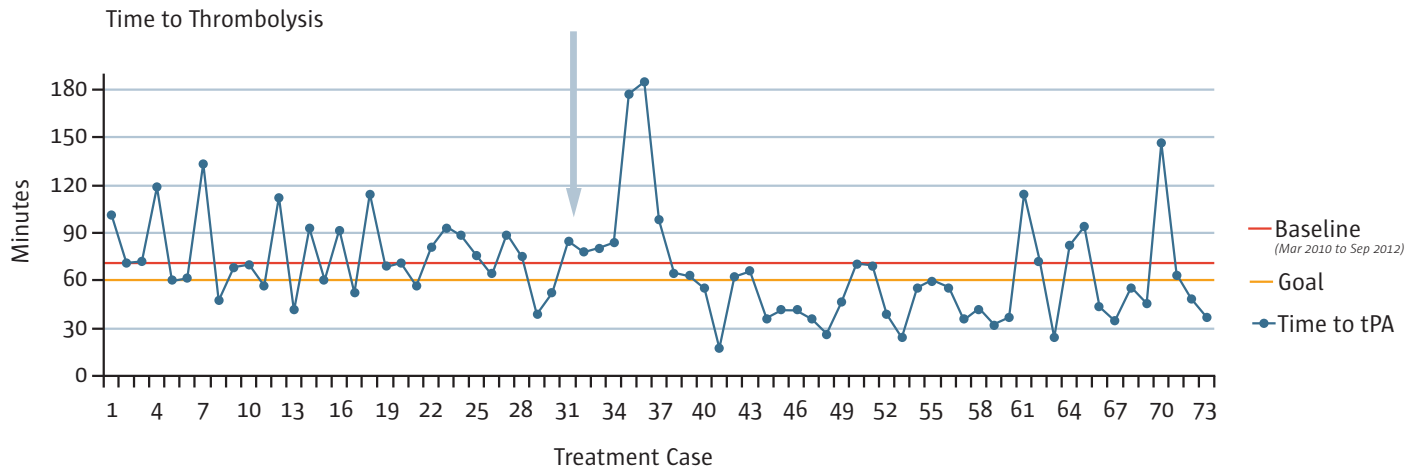
Five years ago, Children's began a systemic effort to reduce code rates. That was helped along by a national effort by the Child Health Corporation of America, a business alliance of children's hospitals, to push nationally for improvements in pediatric health care.

Out of all this came the hospital's Rapid Response Team: a group with the expertise needed to treat patients who may be heading for a code.

The code literally is what comes across the pagers of the team when its needed: "Code blue,

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Treating strokes faster



When staff at University of Colorado Hospital began a new approach to stroke treatment, marked above by the blue arrow, the time it took to treat patients initially rose but then dropped dramatically. Further changes helped keep the “door-to-needle” times low.

The stroke treatment initiative got its start in 2006 when a patient of Cumber’s suffered a stroke.

“I got the overwhelming sense that the system then wasn’t working like the well-oiled machine it needed to be,” he says. “The time elapsed before evaluation was the issue.”

That led to a series of projects including creation of a stroke rapid response team to go anywhere within the hospital. Improvements followed, Cumber says, such as reducing the stroke evaluation time outside of the Emergency Department (ED) from 271 minutes to just over an hour. But the ED time was less than half an hour.

Clearly there was room to do better.

“We wanted to redesign the system to make sure the unreliable became reliable and previously slow steps could be completed rapidly,” Cumber recalls. “We restructured the system for in-hospital stroke until evaluation times were comparable no matter where in the hospital you were having stroke symptoms, from the ED to the general wards.”

The Society of Hospital Medicine awarded the in-hospital stroke project its 2012 national quality improvement award. The hospital QI team then applied those same tools to the entire process, from the 911 call for stroke to delivery of clot-busting medicine in the ED.

The process was data-driven and laborious—in a good way. Nearly a dozen members of the stroke QI team mapped every step in the stroke-treatment process by watching and interviewing everyone who “touched” the patient.

When the team broke it down they saw that for treatment in the first hour, a stroke patient in the ED would require coordination of at least 13 people from seven departments. There was a lot to figure out but also a lot of places to save time without crimping safety.

Pharmacy, for example, didn’t always know a stroke patient was going to

need the clot-busting medicine until late in the process.

“We gave them one of the stroke team pagers so they would get that alert from the beginning,” Cumber says. “They were brought into the stroke team. A person who was a participant becomes a teammate.”

The team devised ways to get patients through Radiology faster. They found an imaging protocol that typically gobbled up a big chunk of the first hour but did not appear to affect outcomes. It was jettisoned. They tried to create an environment of healthy competition. Best treatment times were posted for all to see.

The team even made it simpler to call a stroke alert, saving more time, and tightened the criteria for when an alert should be called, focusing effort where it was needed.

Minutes mattered. So second-year medical student Marissa Hudak, part of the team, bought six Walmart stopwatches and glued them to clipboards—“brain boards,” Hudak calls them—used by the stroke team.

The UCH team also assigned Hudak to hunt for hospitals that treated strokes quickly and ask how they did it. Their success is called “positive deviance” in QI lingo; they’re different because they’re better.

Those other hospitals told Hudak they did not do elaborate brain imaging first. Most did point-of-care lab testing or none at all, rather than send blood to the lab. Most of the hospitals also relied on interdepartmental teamwork, accountability and friendly competition, approaches the stroke team embraced.

“We thought, how do we apply those concepts to build on existing culture,” Cumber says. “Some changes were a little uncomfortable. But we could say in response that we talked to the best-performing hospitals.”

Hudak threw herself into the stroke project, a student pushing different UCH departments and personnel to get with the new stroke program.

“I sure learned how a hospital works,” she says with a laugh. “I was a

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Making central line infections nearly disappear

By Dan Meyers

A few years ago, the Neonatal Intensive Care Unit (NICU) at Children's Hospital Colorado recorded a central line infection every two weeks or so.

In the last nine months, the NICU has had *one*.

"None of us ever anticipated getting to this point," says Susan Dolan, RN, the hospital epidemiologist.

The sweeping improvement in central line infections came about through a widespread hospital effort that, as Dolan notes, exceeded expectations and was achieved not through fancy medical machinery but with small, vital steps.

To understand what happened, let's go back about three years. The hospital was looking at its central line infection rates, which are tracked by state and nationally.

"We recognized the rates were fairly high, although we thought perhaps they were appropriate because with the hospital's capabilities we might get the tougher cases," says Theresa R. Grover, MD, an associate professor of pediatrics and medical director of the NICU.

The NICU, a high-performing part of a hospital consistently ranked among the top 10 pediatric hospitals nationally, decided to lead an effort to knock that rate down.

"We didn't think the infections were completely preventable," Grover says. "We never thought we would get rid of nearly all of them."

Central lines—typically a peripherally inserted central catheter, or PICC line—are used to deliver antibiotics, nutrition and more over extended periods of time. Infections are always bad but especially so in the vulnerable newborns in the NICU.

The hospital knows a central line infection is likely to keep a child in the hospital longer, require antibiotics and cost perhaps an additional \$40,000 for care. Infection is a risk factor for poorer neurological outcomes, especially in preterm babies. A bloodstream infection in the NICU increases the odds of the baby getting meningitis, Grover says.

Children's began assessing. The hospital found that some basic steps could make a difference, such as:

- Hand-washing before and after every contact with a patient. "Secret shoppers"—incognito observers—were deployed to see what the

reality was and the staff made this basic step an even higher priority.

- Cleaning the catheter properly and consistently. Was everyone doing it right, prior to accessing the central line? They set a standard: Scrub the hub of the catheter for 15 seconds with alcohol and friction and wait for it to dry before entering the central line.
- Changing central catheter dressings carefully and consistently. A small team of nurses was trained to do it, and to do it in a uniform way to avoid problems.
- Using the lines less frequently. The hospital sought to minimize use of central lines by substituting oral medications and removing the line as soon as possible.

Children's also stepped up efforts to detect infections, so staff could catch problems earlier. And the hospital made it a team thing; everyone pitched in and set high goals.

"We had accepted for so long that some of the infections were just part of our unit," Dolan says. For example, two-thirds of the infections were in babies with altered intestinal linings, mostly from intestinal failure, resulting in bacteria getting into the blood. "We thought we could never get rid of those," Dolan says.

The result of the new steps kicking in? A 40 percent reduction in central line infections in the first year.

Then Children's joined a group of 25 pediatric hospitals working on quality improvement and sharing ideas.

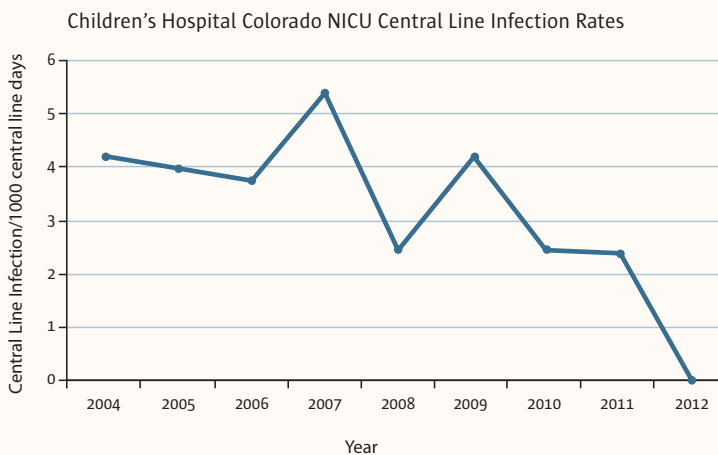
The infection rate dropped again. From mid-November 2011 to last July it was zero. Since July, one (as of CU Medicine Today press time).

Where does Children's go from there?

Other ICUs within the hospital are adopting those procedures or similar ones. Dolan and the epidemiology team scour hospital infection data daily. Home care nurses receive the same training to address infections outside the hospital and to reduce readmissions. Hospital staff work with parents on prevention steps such as hand washing and proper line care in the home setting.

They also began writing it down for staff to easily see progress. On a board outside the staff lounge, the number of days since the last infection is posted. Nobody wants to be the one to break the streak.

"Now," Dolan says, "it's about sustaining it."



Through a team effort, Children's Hospital Colorado greatly reduced the number of central line infections it recorded.

50 million neurons continued from page 16

pain. I was always around, explaining the new rules.”

The QI team got buy-in for those new rules. The hospital began its new stroke approach over the summer of 2011.

And, briefly, things got worse.

“We had a stable process and then we destabilized it,” Cumbler explains. “But we stuck with it and continued to make changes. And then we reached a tipping point. I think that happened because the system got used to the new process. Suddenly the times changed for the better.”

The tipping point has a name: Rick Hamilton. His 18 minutes, on top of already improving times, was an aberration but a clear marker that the new system worked. More importantly his case demonstrated what was possible.

The success has proved to be durable. The American Stroke Association recognized the University of Colorado Hospital as one of the Target Stroke Honor Roll hospitals. Hudak, the student, has given presentations nationally on the work.

“We were able to create a culture shift to include every person who is involved in caring for an acute stroke patient,” says Alexandra Graves, a nurse practitioner in the Department of Neurosurgery and clinical director of the Stroke Service. “They all feel a part of the team. Whether

you are the person greeting the patient in Emergency or the neurologist ordering the clot busting medication, everyone’s role is important and key to treating in 60 minutes or less.”

But the achievements raise a question. With stroke treatment time, how low can you go without cutting corners as well as time?

Not all time treating a stroke victim is wasted. A doctor wants a good history. You don’t want to rule out all testing. You want to root out unintended consequences (the QI team is looking at that).

As for the 18-minute patient, Hamilton has since learned that he benefited from a systemic change in the hospital’s procedures. But he knows something else too.

Hamilton sells banking software; he’s familiar with introducing new systems

and knows they’re only as good as the people who use them.

“When I was in the hospital I was struck by the personal nature of the care I was getting. From the nurses to the physicians, they were compassionate and empathetic. You felt like they truly cared,” says Hamilton, who returned to UCH last summer to thank his care team with words and cookies.

“You can put in the processes but if you don’t have the right people, all those can fall apart quickly.”

From the nurses to the physicians, they were compassionate and empathetic. You felt like they truly cared.

Breaking the “code” continued from page 15

hospital room ...” That text produces a purposeful scramble. Its recipients know that a patient likely will require measures including chest compression, electric shock and/or advanced airway support.

But the hospital broadened its efforts beyond that team. Among those changes:

- Nurses on the inpatient units were better trained to pick up signs of trouble.
- The hospital began to dig into codes to see if they were preventable.
- Children’s adopted what it calls a Pediatric Early Warning System that rates patients on a scale of 0–3 in cardiovascular, respiratory and neurological function. A total score of four or more triggers the Rapid Response Team. The hospital analyzed its data

and found a four or more meant the child was 30 times more likely to need a code than a three. So four and above requires a visit from the rapid response team.

- The family of a patient can activate the team if they see their child doing poorly or if they feel their concerns are going unheard.

Debriefing after a code proved to be hugely valuable, and not just for squeezing out errors.

“You realize how hard it is on the younger providers when a code happens,” Dobyms says. “You go into this to make a difference and help kids. You think, ‘Where did I screw up?’ It’s reassuring when they realize they didn’t, or that next time this happens they can approach the issue in a different way.”

While the hospital’s results are good, they can’t

be taken for granted. This year, the code rate edged up, though only about a third of the events were preventable.

“I think we’ve been successful,” Dobyms says. “We’ve made some huge interventions that saved kids.”

And the Lifesavers?

“We found there was resistance to calling the rapid response team,” Dobyms says. “Some people looked at it as sign of their own failure. So we went out and got rolls of Lifesavers. We put ribbons on them plus a note that said ‘Thank you for being a lifesaver.’”

Call for the team, get a roll of Lifesavers.

“I thought that was the stupidest thing we could possibly do,” Dobyms says with a laugh. “But it worked. It made a huge difference.”

Buddy system

Second-year peers guide new students

By Tonia Twichell

What textbook should I buy?

When am I ever going to find time to work out?

How do I study for this test?

Is there good Thai food in Aurora?

Answers to these important questions can be hard to find for first-year medical students. There's not much time to do extraneous research when you're immersed in memorizing things like the difference between a sacrum and a scaphoid. So having an easy source of information is really helpful.

Enter the School of Medicine Buddy System.

For several years, second-year student leaders have paired their classmates with first-year students to help the newcomers navigate their immersion into medical school.

"Just the sheer volume of material that you have to learn in the first two years can be extremely overwhelming," says Christina Osborne, a third-year student. "It's nice to know someone older who has been through the same thing, so when you become frustrated you can ask, 'How did you deal with this?'"

The pairing occurs toward the end of matriculation week in August.

"We try to match personalities but it can be kind of random," says Osborne's buddy, Rebecca Thomson, who, as a co-president of the Medical Student Council 2015, was part of a team charged with matching the incoming class with members of her own class.

"We asked things like if they drank, so if you wanted to go out for a beer with your buddy you could. We also matched people with families. It can be professional, too. If we know someone who is dead-set on orthopedics, we have plenty of people to pair that person with."

In Thomson's case, her buddy became a friend during the interview process when Osborne offered to host her during her stay.

"We went out to dinner, and she spent the night at my apartment ... I guess she enjoyed her time with me because she requested me as a buddy."

The two socialize together and both are involved in student council.

"She would give me study materials, let me borrow books; I could ask her questions about Denver because I'm not from here," Thomson says. "She was there for whatever I needed. I was really lucky to get matched with her."



Christina Osborne, left, and Rebecca Thomson, right, (as a penguin) at a costumed bicycle awareness ride.

Some matches work better than others, both Osborne and Thomson agree.

"Some go out every week or have family dinners together," she says.

Others don't make it very far.

"Sometimes a first year will talk to me, and I'll ask who their buddy is and think 'How did we pair you two up? You're not similar at all,'" says Osborne, who has two buddies besides Thomson.

And while the system is set up for second years to help first years, sometimes it goes the other way.

This spring the first years put together care packages as second years took off to study for the Step 1 exam. "We put different things in like snacks, gift cards, drinks," Thomson says.

Osborne says she's benefited from her time with Thomson as much as the other way around.

"She taught me a ton about how to go through medical school and be successful because she has such a positive attitude. The curriculum can be so rigorous that sometimes it's hard to keep a sunny outlook and know that at some point you will become a doctor and you will help people. She always has that focus."

The Buddy System will soon be expanding by developing eight advisory colleges in which students would be matched with faculty and students. This will expand the number of mentors available and better organize information a new student might need.

"The best part about that is that no matter what your interests are, you have a family of people who have the same allegiance. I think that can make the transition easier," Osborne says.

Gertie's gift

By Helena Winston, MSc, MPhil



“Human Anatomy”—two simple words that launch the medical education of almost all future doctors in the United States. Bland words, words that are obvious. Of course. Medicine concerns the human body on the most basic level. But behind the lexis, woven into its etymology, is a darker side. Anatomy is more than just the structure of the human being. Its origin is from the Greek word *anatome*, from *anatemnein*, to dissect or to cut.

To cut—a verb that has so many meanings and relies on many contexts. We all know what “to cut” is—it is to wound, to pull apart, to injure. This is what all medical students *know*. The sanctity and completeness of the body will be repeatedly breached by needles, tests, blood draws, operations and exams. We will wound again and again. But we are blessed, because the first wounding is blunted, as the first patient is no longer among the living.

The cadaver is a deferred shock. One day we are meeting new classmates, trying on our white coats and stethoscopes, and playing dress-up in front of loved ones who proudly photograph us at our white coat ceremonies. Some of us feel childlike again, giddy and naive. And then suddenly, Human Anatomy.

As students we speculate why we start dissection within the first week: It is done so that we don't have time to worry about it, to ponder what it will be like. I once saw a sticker plastered to the side of a pharmacy counter in Tanzania; it was slightly frayed and had a stylized figure jumping off a cliff. The text read: “Jump First. Get the Courage After.”

That's what anatomy is—you get it *done*, and after you're done, you realize you can do it. In a way, this experience prefigures and gives us insight into what we will soon learn about some aspects of cognitive behavioral therapy: confront your fear, emerge on the other side and only then realize you can live through and with it.

I was not in favor of naming the cadaver, a practice that some dissection groups commonly adopt. I went to see the body before we began and it was terrifying lying in its black body bag. It was something dead that should be put away, below the ground or out at sea or in the air, not on the top floor of an educational building, lying rigid in a steel humidor coffin.

Medical student Helena Winston, shown in the anatomy lab, was powerfully affected by her experience there. Photograph by Dan Meyers.

There was a party that night. I cried a little, probably due to the disconnect between a celebration of the beginning of med school, young and middle-aged men and women dancing and chatting excitedly before the start of class, and the image of that remnant of life. Not naming it seemed prudent, appropriate, distancing. There was a line between life and death.

But weeks later, our group had somehow named her Gertie. We didn't know her real name, but we knew she was elderly; her skin was weathered. I think we all pictured our own grandmothers. I'm not sure how it happened, but we were protective of her. Dead object had been born again as something in between, something that could instruct and give to the living. Although none of us ever consciously discussed it, I believe that through dissection we came to terms with the four major principles of medical ethics as outlined in the Belmont Report.

We are taught those elements (nonmaleficence, respect for autonomy, beneficence and justice) with respect to living persons.

We examined a sample clinical trial proposal and analyzed it to see if it accounted for all of the principles adequately. The process seemed sterile: follow the four principles and apply them to clinical and laboratory research, experiments and trials. But with Gertie, the principles were embodied and became material.

In anatomy, we did harm to the body but no one was hurt. Whether or not one believes Gertie had a soul—and I do—it had departed. Her will, her intent to give her body, her autonomy, were preserved. It is unknown whether her family and close friends approved of her decision, and whether we, through dissection, somehow offended or harmed them psychologically—an externality never intended or wished for. But we knew that Gertie was never alone. She was always a node in a network, and we imagined her family and hoped they approved.

In our haste to complete assignments, Gertie occasionally became just an object, something we were working on while thinking of something else. But we constantly returned to beneficence. She was covered and kept safe in her sleeping bag. We made sure to do the best we could at finding all the structures we needed to know. Strangely, we always said “Hi, Gertie,” and “Bye, Gertie,” even “Goodnight, Gertie!” Of course we knew that there was no need to talk to such a being, but she came to exist in a liminal ground in which destruction was done, but life was acknowledged.

We hit a snag with regard to justice, for there is no fairness of distribution of benefit (or burden) in the gift of dissection. Gertie herself will never receive the benefit of what we learned. And this presents an ethical

problem: What do we do when benefit is unidirectional and cannot be directly returned?

Anthropologist Marcel Mauss's 1954 treatise, *The Gift*, mainly concerning the gifting activities of the peoples of the Melanesian Islands, provides insight. Mauss noted that two types of gifts (necklaces and armbands) always circulated in opposite directions, and that these objects are seen as extremely important; “Mere contact with them passes on their virtues,” he wrote. Just so with Gertie. Instead of being a taboo, she became a friend who had unique things to teach.

Mauss observed that a gift must always be accepted, returned and reciprocated. It serves as a tie between people. The receiver of a gift both cherishes and abhors the present, for it means the receiver is now in debt to the giver. This debt, an ethical and monetary term, necessitates that one pass on the gift in order to be free of it and to honorably repay the debt.

Weeks later, our group had somehow named her Gertie.

Gertie represents both a gift given freely and a gift that is never without strings. We

must act to pass on our knowledge or use it to benefit others. Why Gertie donated her body we will never know. In her gift she willingly became an object, and objects mediate, enact and pave the way for social activities, for the doctoring we now must do.

And so I return to that directive of Human Anatomy, “to cut.” Beyond wounding, to cut can be to create, as we do when we are children—cutting construction paper into shapes and gluing them together into less perfect, but more meaningful patchwork wholes. We each carry with us images of the structures of the human body that we learned from Gertie. Every future patient, every diagram in a book, will in some way always refer to her. She has become a mother, a progenitor and a gift that extends ever outward.

About the author:

Helena Winston, MSc, MPhil, a second-year medical student at the University of Colorado School of Medicine, is interested in the intersection of the arts and sciences. Previously, she was an art-book editor for the Guggenheim Museum in New York. She has an MSc in material anthropology from Oxford University and an MPhil in art history from the Graduate Center of the City University of New York.

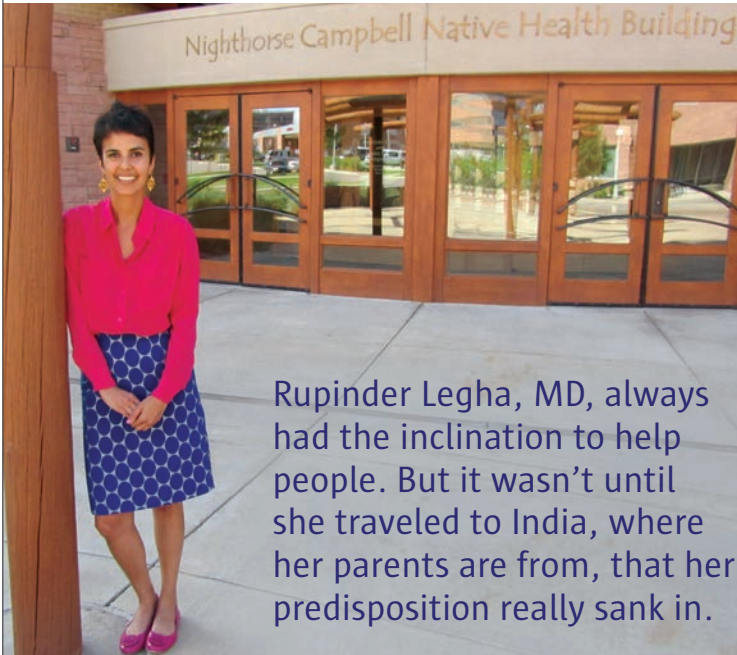
This article originally appeared in slightly longer form in the *American Medical Association (AMA) publication, Visual Mentor*. The viewpoints expressed in *Visual Mentor* are those of the authors and do not necessarily reflect the views and policies of the AMA.

Winston thanks her anatomy professors.

Rupi Legha practices and researches psychiatry for the underserved

“The strengths and resiliency and culture in these communities are inspiring”

By Dan Meyers



Rupinder Legha, MD, always had the inclination to help people. But it wasn't until she traveled to India, where her parents are from, that her predisposition really sank in.

“It was seeing how different my dad's life had been,” she says. “I'm one generation removed from poverty. I am aware of how lucky I am and aware of how limited the resources are for others.”

Now a fourth-year resident in psychiatry at the University of Colorado School of Medicine, Legha—“Rupi” to her friends—is bringing that awareness to medicine. She hopes to achieve what she had seen in her oncologist father's practice: “A real potential to change people's lives.”

After graduating from Duke University and Harvard Medical School, Legha was drawn to the work being done by members of the CU medical school's Department of Psychiatry at the Centers for American Indian and Alaska Native Health.

“I feel very lucky to be here,” Legha says. “My education has been world class and CU is a continuation of that.”

Motivated by that early drive to help, she is working on two projects. One is a psychiatry clinic for refugees, held at the Anschutz Medical Campus.

Take the usual strains of life and illness. Add the horrors of war and oppression in Iraq, Iran, Afghanistan and some African countries. Mix in the baffling bureaucracy, culture and language of a new country and you get the trauma, depression and post-traumatic stress disorder Legha sees in many of her patients.

“For them,” she says, “coming to this country can feel like coming to a different planet.”

It was on a Fulbright scholarship, teaching English in South Korea where Legha learned firsthand the challenges of arriving in a new country and learning a new culture and language. “As the daughter of South Asian immigrants, I had some understanding of what it means to immigrate to a new land. But experiencing it firsthand gave me a deeper appreciation.”

“I can help by just being there and listening and talking,” she says. “I've had patients who experienced unbelievable trauma. Hearing it, sharing in the grief and sadness, I think that is invaluable to people because they don't have to do it alone. At least for an hour.”

But, really, Legha gives patients far more than office time.

“Large-scale social factors shape the progression and outcome of illness and disease,” she says. “As a physician, I feel responsible for addressing those social factors to provide meaningful treatment. For me, that means helping people get housing, get vocational rehab, making sure their food stamps are in place.”

She says she's made maybe 10 phone calls to ensure that a patient could get her prescription. Not only does that solve a medical problem, Legha says, “it shows people how to traverse barriers on their own.”

Legha's other big CU project involves bringing “telepsychiatry” to Native American communities with limited resources, and evaluating its success. The program, which links patients to psychiatrists electronically, is run by doctors Douglas Novins, a professor at the medical school, and Jay Shore, an associate professor.

The challenges in Native American communities can be great because of poverty, isolation and cultural differences, she says, “but the strengths and resiliency and culture in these communities are inspiring.”

Part of this effort involves trying to weave western practices with approaches drawing upon traditional Native American healing. Legha and Novins published a paper in July 2012 in *Psychiatric Services* on the role of culture in substance abuse treatment programs serving these communities.

“A lot of the issues in these communities are related to rural health,” she says. “There are places where there are only a handful of psychiatrists in the state. People have to travel hours to get to a psychiatrist. Studies have shown telepsychiatry makes a difference.”

Baseline data may be sketchy. Legha's analysis of this program will help provide a more solid statistical foundation to support this work. But Legha says there's another way to gauge success.

“Success,” she says, “is spelled out if communities, including local providers, tell us it's worthwhile.”

To read Legha's paper on culture and treatment go to medschool.ucdenver.edu/CUMedToday/Profiles.

The challenge of being on both sides of the exam room

Sara Selig becomes a doctor and the spouse of a patient

By Dan Meyers

Sara Selig was in her final year of medical school at CU when her husband, Gregg Stracks, came back from a run complaining that the road had seemed “wavy.”

An eye specialist took a look.

“You’ve got a bump,” Selig recalls Dr. Kenneth Hovland gently saying. The doctor softly and supportively gave Gregg his diagnosis: cancer of the eye.

“I had never heard of ocular melanoma,” says Selig, who graduated from the School of Medicine in 2007.

And so began a courageous, challenging journey for Selig, then 29, and her 34-year-old husband. At a time when she should have been celebrating her marriage and her residency at Harvard’s teaching affiliate, Brigham and Women’s Hospital, Selig had to live on both sides of the exam room.

She was a doctor. And she was the spouse of a cancer patient.

Selig winces when she says it, but she and Gregg met on J-Date, an online service for Jewish singles. Her grandmother staked her to the \$19.99 it cost to sign up. She and Gregg found each other quickly.

Within a year of meeting Gregg, she took time off from medical school to go to Kenya on a Fogarty-Ellison Fellowship. She was part of a clinical research team in Nairobi, caring for and researching HIV-infected children and their families. Gregg, with his University of Denver doctorate in psychology, accompanied her to Kenya, where he applied his skills to improve the psychosocial care of children and families affected by HIV/AIDS.

When she returned to medical school two years later, Selig spent part of her final year working in a hospital on the Navajo reservation, which she has continued in residency.

“I was always interested in global health,” she says. “My idea of global health includes my own backyard.”

Then came the mixed messages of the wavy road and the Harvard acceptance. In Boston, within a year, the cancer had metastasized to Gregg’s liver. Doctors gave him maybe six months to live.

Ocular melanoma is rare enough that the Stracks-Selig team had to do a lot of the work on their own.

“If a doctor says, ‘I can’t offer you anything,’ that’s not good enough,” Selig says. “We wouldn’t accept that.”

Along the way, the couple cofounded Community United for Research and Education of Ocular Melanoma, or CURE OM, an initiative of the Melanoma Research Foundation. The purpose: “To increase awareness, education, treatment and research funding of ocular melanoma.”

That refusal to quit, which Sara and Gregg shared, bought time. The young man who had been given six months battled for four years, passing away in January 2012. Five years after medical school, at 35, Selig was a widow.

At a recent fundraising event in Denver that Selig helped organize, several OM patients were honored. One of those awards was given posthumously. It went to Gregg Stracks.

“I know we won so many battles in between Gregg’s diagnosis and his passing,” says Selig, who grew up in Denver. “I have no doubt that we will win many more battles against this disease.”

Now this recent CU graduate, who completed her residency in June and soon will receive a master’s degree in public health,

CU medical school graduate Sara Selig holds the award given to her late husband, Gregg Stracks, “for his strength and bravery in his fight against melanoma.” Selig helped found the group CURE Ocular Melanoma.

has to figure out what to do next. Some things, she knows. She’ll continue the OM work. She will be an associate physician at Brigham and Women’s Hospital, Division of Global Health Equity and an instructor at Harvard Medical School.

She’ll try to embody the lessons of her experiences, including the kindness Hovland, a volunteer faculty member with CU, showed her and Gregg.

Too much has happened for anyone to be sure-footed again quickly.

But Selig is getting good advice, even if it is unspoken.

“Gregg would tell me to go right on, go have an impact, go change the world,” Selig says. “That’s who he fell in love with. I think I’ll be able to do that in time. I want to be that person again, and I’ll take all of my experiences, and Gregg, with me.”



ALUMNI CORNER

Medical Alumni Association Awards

The CU Medical Alumni Association awards this year honored three graduates who represent the best of our school, the community and the practice of medicine. The Silver & Gold Award was presented to Nathaniel Stinson, Jr., MD, a family practice physician from the Class of 1981. The association also recognized Gerald Rainer, MD, a thoracic and cardiovascular surgeon, and Rudolph deLuise, MD, a retired family physician who practiced for 36 years in Golden, Colo.

SILVER & GOLD AWARD



The Silver & Gold Award, the association's highest honor, is presented annually for outstanding service to the community and contributions to the science and art of medicine. Stinson was chosen for his dedica-

tion to underserved communities and his work to combat health disparities.

Stinson's notable contributions started in medical school, his goal from the beginning to practice medicine for underserved populations. His first effort to this end was helping faculty develop a rural health curriculum, which was followed by many more works that allowed him to accomplish his goal on a national platform.

After medical school, Stinson started his career with the U.S. Public Health Service working as a medical officer and later as clinical director at a Navajo Reservation in Chinle, Ariz. He served on several deployments for emergency response, including those to Louisiana after Hurricane Katrina, St. Thomas of the Virgin Islands after Hurricane Marilyn, Florida after Hurricane Andrew and Guantanamo Bay in Cuba to provide medical care to Haitian refugees in 1992. He also was president and CEO of the Health Literacy Foundation in Chicago from 2004 to 2007.

Currently the director for the National Institute on Minority Health and Health Disparities Intramural Research Program at the National Institutes of Health, Stinson provides over-

sight for special institute programs such as the Bioethics Initiative, Caribbean Global Health Initiative and Rural Health Initiative.

Because of his dedicated work, Stinson has received numerous awards from the U.S. Public Health Service, including the Surgeon General's Exemplary Service Medal, an Outstanding Service Medal, the Crisis Response Service Award and an award for National Emergency Preparedness Service. He has also been presented twice with the Health Director's Award and the Health Merit Award from the National Institutes of Health.

DISTINGUISHED SERVICE AWARD

This year's Distinguished Service Award, given to graduates who have contributed outstanding service to the Alumni Association and to the School of Medicine, went to deLuise to honor his lifelong support of the University of Colorado.

In addition to serving on the Medical Alumni Association Board of Directors and on the School of Medicine Admissions Committee, deLuise established the Dr. and Mrs. Rudolph L. deLuise Award for Medical Students as well as the George N. Steinhauer Memorial Scholarship in engineering at CU Boulder in honor of his father-in-law. He also was one of three members who started the Class of 1956, 1957, 1958 Scholarship Fund.

"CU gave me the opportunity of a lifetime,"

deLuise says. "The best way to give back is to give to the school."

DeLuise completed his undergraduate degree at CU Boulder and graduated from the School of Medicine in 1957.

DISTINGUISHED ACHIEVEMENT AWARD



Rainer was recognized this year with the Distinguished Achievement Award, which is given to those who have made outstanding achievements benefiting their communities, the practice of medicine, the pro-

vision of health care, the Alumni Association and/or the School of Medicine.

Rainer served on the medical school's Clinical Promotions Committee for 13 years, and has served on the Medical Board of the University of Colorado Hospital and the Advisory Board of the Bioethics and Humanities Institute as well. He has authored more than 40 articles in publications like *The Annals of Thoracic Surgery*, *The American Journal of Surgery* and *Archives of Pediatrics and Adolescent Medicine*. He also was the first Colorado surgeon to serve on the American Board of Thoracic Surgery.

Completing his residency at CU in 1959, Rainer spent his career in private practice in thoracic and cardiovascular surgery in Denver. For the past 12 years he has served as a distinguished clinical professor of surgery in the medical school.

A TONIC FOR DOCTORS

I've discovered a tonic that I can enthusiastically recommend to just about any physician, especially one who might be struggling with the Am-I-Really-a-Doctor-Anymore Syndrome.

You know the feeling—all this talk about “maximizing throughput and optimal monitoring of outcomes in an accountable pathway paradigm” (Are we manufacturing oil filters or trying to take care of people?); days when we spend more time doing data entry, serving an EMR, rather than taking care of patients; billing and pharmacy dilemmas (“Yes, that credit card—the one you so freely swipe for smokes, your daily \$5 coffee, triple-extended cell phone service and spring break trips—will work just fine at the pharmacy, and at our office”).

The tonic? Spending time with medical students in almost any setting.

At the Matriculation Ceremony, the class of entering students was publicly introduced. An amazing assembly of human talent and brainpower walked across the platform, ready to begin the rigorous course of study required for our profession.

Represented were a wide variety of degrees and fields of study, a full range of undergraduate and graduate institutions, and diverse interests, backgrounds and achievements. These are very bright, committed people, ready to be doctors-in-training in these uncertain times. Already they are an inspiration—accomplished, energetic, enthusiastic—and an excellent tonic for anyone needing a reminder about why we wanted to do this in the first place.

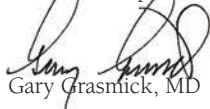
As physicians, we have many occasions for involvement and contact with this tonic: serving as a preceptor for medical students at all levels or dropping by some of the events that provide opportunities for students to explore residency options, consider specialties and meet doctors in current practice. The alumni office can help connect you.

We all can benefit from the energy and enthusiasm of these dedicated future doctors, and hopefully we can leave them a profession intact, centered on patient care.

Cuisine. Over the next few months, we'll assemble what just might be the greatest, healthiest, most interesting cookbook ever known to mankind—a compilation of recipes from the medical school alumni.

There are many gifted chefs, cooks and wine connoisseurs in our midst, so please submit your favorite or most interesting recipe to healthalumni@ucdenver.edu. This will be an assembly of delicacies, and just a fun way to share good grub! Publication details to come.

“Food is cheaper than medicine.”—old Eastern Colorado Proverb.


Gary Grasmick, MD

MEDICAL ALUMNI ASSOCIATION

Thank you to our 2011–2012 donors!

Your contribution helps us accomplish our mission of preparing physicians who will serve the public by aspiring to excellence in patient care, research, education and community service. Find a list of our partners at <http://medschool.ucdenver.edu/donors>.

Membership in the Medical Alumni Association is based on fiscal-year giving to any School of Medicine fund. To find giving opportunities, visit <http://medschool.ucdenver.edu/giving>.

Membership Type	Donation Level	Membership Benefit
Medical Student	\$0 (students only)	Membership benefits packet distributed at orientation and invitations to participate in alumni-sponsored student events and programs
White Coat Member	\$0–\$99	CU Medicine Today
Stethoscope Society	\$100–\$249	Above, plus Membership benefits card and letter; CU football game discount
Century Club	\$250–\$499	Above, plus 2 tickets to the Century Club cocktail reception
Faculty Circle	\$500–\$999	Above, plus Anschutz Medical Campus tour
Dean's Circle	\$1000+	Above, plus 2 tickets to the Silver & Gold Banquet

Friendly reminder

SAVE THE DATE
Reunion 2013
May 23-25, 2013
at the Anschutz Medical Campus

Reconnect with your classmates at the 2013 Med School Reunion! This year we celebrate class years ending in 3 and 8.

Find more information at
www.ucdenver.edu/somreunion

 School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS



Marks wins Women in Business award

Lilly Marks, former senior associate dean for administration and finance in the School of Medicine and executive director of UPI, was named the Denver Business Journal's Outstanding Women in Business in the category of Education, Government and Nonprofits.

Now Marks is vice president of Health Affairs at the University of Colorado and executive vice chancellor of the Anschutz Medical Campus. At UPI she instituted and suggested approaches to business that saved or generated hundreds of millions of dollars for the school, UPI and the university.

Jandel Allen-Davis, a director on the CU Foundation Board of Trustees and a School of Medicine clinical faculty member, won in the Health Care category. She is vice president of Government and External Relations for Kaiser Permanente Colorado.



New center's goal is bringing effective preventive services into practice faster

The School of Medicine houses a new national center created to improve preventive services in primary care practice. The Center for Research in Implementation Science and Prevention (CRISP) is one of three new national centers funded by the federal Agency for Healthcare Research and Quality.

Part of its mission is to help reduce the time it takes research to translate into practice. CRISP brings together expertise in implementation of preventive services, practice-based research networks and national authorities in innovative health information technology.

Current projects focus on adult cardiovascular disease prevention and pediatric obesity prevention, and on ways to increase pediatric immunization rates. "Increasing the number of interventions that translate into practice can have a direct and positive impact on the public's health by increasing access to approaches that have been demonstrated to improve health in diverse populations," the CRISP website explains. Allison Kempe, MD, MPH, directs the center.

Branching out



The School of Medicine has plans to branch out. In August, voters in Colorado Springs gave the OK for University of Colorado Health to lease Memorial Hospital.

Wrapped into the deal is the promise of \$3 million a year for 40 years to the School of Medicine from University of Colorado Hospital for a branch in Colorado Springs for clinical training.

The city of Colorado Springs will retain ownership of Memorial's buildings while the organization's employees and operations will be transferred to CU Health. Additionally, Memorial Hospital for Children will now be operated by Children's Hospital Colorado as part of the change.

CU Health is a merger, completed early in 2012, between University of Colorado Hospital and Fort Collins-based Poudre Valley Health System. The system now spans Colorado's Front Range and recently entered into a management agreement with Ivinson Memorial Hospital in Laramie, Wyo.



Fulginiti Pavilion for Bioethics and Humanities opens

In September university officials opened the Fulginiti Pavilion for Bioethics and Humanities on the Anschutz Medical Campus. It is named after the Health Sciences Center's former chancellor Vincent Fulginiti, MD, who, with his wife Shirley, is committed to the ethical and humanistic implications of health care. They attended the dedication ceremony in August.

The Fulginitis helped create the Center for Bioethics and Humanities, which will be housed in the two-story building along with the inter-professional education programs. The new building is located at the north end of the education quad, serving as a backdrop for medical school matriculation and graduation.

"The building is done. It's time to build the program," Dean Richard Krugman says.

GENIUS

Eric Coleman, MD, a geriatrician at the University of Colorado School of Medicine whose work focuses on helping patients transition from hospital to home, has won a \$500,000 MacArthur Foundation "genius" fellowship. A CU professor who practices at University of Colorado Hospital, His work focuses on an area of health care that has been embraced nationally as part of health care reform — reducing the number of patients released from a hospital only to be readmitted. Those readmissions are costly, increasingly likely to be penalized by Medicare and, for the most part, preventable. Through studies piloted in Denver, then exported to other cities, Coleman showed that coaching patients in the transition out of a hospital, and then following up, helped keep them from having to return quickly. His approach, using practical information such as lists of medical warning signs and follow-up appointments, is called Care Transitions Intervention.



MISSION STATEMENT

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Final Thoughts

The patients heal us

By Comilla Sasson, MD



I wasn't even supposed to work that night. I had finished a long day of meetings, and found out at 6:30 pm that a colleague had influenza. Could I fill in for him?

"Just power through until 8 am," I thought. "Nothing too bad happens on Thursday nights."

The Emergency Department (ED) was full, with another 10 patients in the waiting room.

We were on "divert," meaning ambulances would bypass University of Colorado Hospital and head elsewhere.

Then at about 12:30 am a call came in over the dispatch radio. There'd been a shooting at an Aurora theater. Nine minutes later, we received a frantic police call. Multiple shooting victims. Not enough ambulances. Officers would haul patients to hospitals, including ours. So much for divert.

The first police car showed up at 1:06 am. It looked like a crime scene, with blood splattered throughout. As we pulled the first two victims out of the car, another arrived. And another. And another. In total, nine police cars and an ambulance rolled in within 45 minutes.

I had done my residency training in emergency medicine at the only Level One trauma center in Atlanta. But nothing had prepared me for that night. The sheer number of patients and the seriousness of their wounds left us no time to think. We had no information on the patients before they arrived, but they were lucky that the police decided to take action quickly.

This was a night of adrenaline and instinct.

As the attending ED physicians, Dr. Barbara Blok and I stationed ourselves in the ambulance bay so that we could assess patients. We were in official disaster mode. Operating rooms were opened, surgeons and nurses raced to the ED, along with residents who'd been paged by one of their quick-thinking colleagues.

We were running a chess game—coordinated chaos as we rotated the nine most critically injured patients in and out of resuscitation so we could place them on ventilators or put tubes in their chests to drain their lungs of blood.

We cared for victims with bullets through the head, chest, abdomen, neck and extremities. Each resident had one or two patients and reported back every five minutes. Bullet wounds are tricky; a slug into the shoulder can wreak havoc in the abdomen. It was crucial for us to monitor vital signs to make sure nobody was crashing.

In total, 23 patients arrived within two hours of the incident. Our amazing team worked all night and morning with these patients, most

of whom were between 16 and 30 years old. Many of us were thinking that if we hadn't been working that night, we too might have been at that movie theater.

I am proud that every single patient who arrived with a pulse that night, 22 of the 23, is still alive today. People talk about the "Aurora massacre," but to me, considering how many seriously injured people were saved, it was the "Aurora miracle."

Many of us were unable to sleep later. When we closed our eyes we saw intestines dangling and chest tubes draining, and heard the beep of ventilators. We are "hardened" ED folks. Compassion, empathy and extreme sadness are not emotions we routinely discuss in the ED. But after that night, we have come together as a family to debrief and to cry.

What haunted us most was that our emergency patients were ... gone. Who were they? Had they survived?



Police cars carrying shooting victims roll up to the emergency room at University of Colorado Hospital after a gunman opened fire in an Aurora theater.

A few days later, a group of us from the ED went upstairs to visit with victims. When we walked into the room of the first patient, she recognized some of us and, through her pain, said, "Give me a hug." We all started sobbing. She was alive and able to smile, her family surrounding her.

That vision, and others like it—*those* have replaced the horrific ones from that night.

The patients we helped are now healing us.

Comilla Sasson, MD, MS, is an attending physician at the University of Colorado Hospital and assistant professor in the Department of Emergency Medicine at the University of Colorado.

Tour the new campus in your slippers

Many of you graduated from the School of Medicine before it moved to the Anschutz Medical Campus in Aurora, Colo.

Well, now you can take a stroll around our campus—from the comfort of your home.

We've created a “virtual tour” of the campus, and you can find it online at medschool.ucdenver.edu/CUMedToday.

It starts at the old Fitzsimons Army hospital, which has been converted into an administration building and is where the medical school now is headquartered. As you look at the rest of the campus, keep in mind that the hospital building was the only major structure there until a few years ago.

For a dramatic contrast, click on one of the “research quad” buildings. For fun, see the 360-degree views.

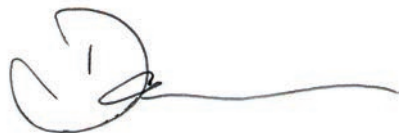
We hope you enjoy your tour of our (relatively) new home.

Also there are other ways to connect with the medical school. One is through our Facebook page, where we post news and photos. Go to www.facebook.com/CU-Medicine to check it out. To stay connected and help the school boost its online visibility, click “like” at the top of the page.

For other ways to keep in touch, go to medschool.ucdenver.edu/CUMedToday where you'll find:

- Dean Richard Krugman's State of the School speech
- The school “Facts and Figures” book, with lots of data and other information; it outlines changes in undergraduate and graduate medical education and the school's finances, among many other things
- The growing collection of videos (see description of the latest ones on page 3) about research, activities and people at the medical school

And, as always, we welcome your comments, story ideas and other suggestions about our Facebook profile or any aspect of this magazine.



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Advancing Science and Improving Care UNIVERSITY OF COLORADO SCHOOL OF MEDICINE

IS CU MEDICAL SCHOOL A FAMILY AFFAIR FOR YOU?

More than three decades ago, Ned Calonge and his father Guy shared the joy of Ned's graduation from the University of Colorado School of Medicine. The occasion was made even more special because Guy, too, had gotten his medical degree from CU in 1951.

Ned became chief medical officer of the Colorado Department of Public Health and Environment and now heads The Colorado Trust. Guy, who has since passed, was a general practitioner/family doctor in La Junta, Colo.

We think there may be hundreds of parents and children who, like the Calonges, shared CU as their medical *alma mater*. That's why we've created the CU Generations society. Are you one of these family combinations? Let us know by emailing tessa.carlson@cufund.org.

