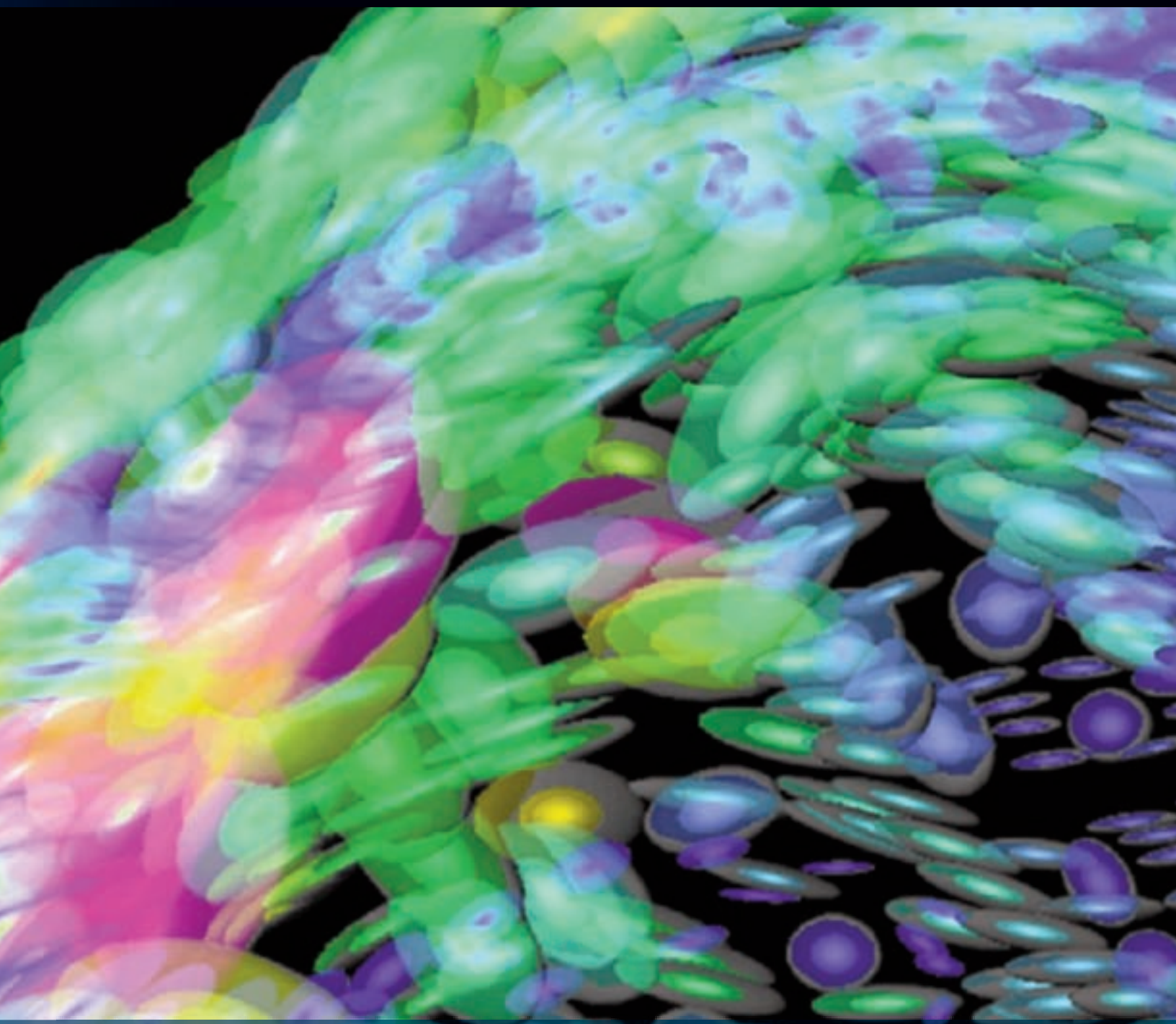
UNIVERSITY OF ROCHESTER MEDICAL CENTER • SCHOOL OF MEDICINE AND DENTISTRY • VOL. 2 of 3 • 2012

ROCHESTER MEDICINE



The Journey

Alumnus Jeffrey Bazarian, M.D., M.P.H., investigates the long-term effects of chronic repetitive blows to the head.

Lessons Learned

An innovative program assesses the clinical skills and styles of students through their second year.

On the cover
This image of the human brain uses colors and shapes to show neurological differences between two people. The blurred front portion of the brain, associated with complex thought, varies most between the individuals. The blue ovals mark areas of basic function. Credit: National Institutes of Health.

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Despite the nail-biting drama of last month's U.S. Supreme Court decision, the U.S. health care system already has begun to evolve in unmistakably positive ways. Rising cost and uneven access will force the federal government to demand increased value, to align financial incentives, and improve transparency. Integrated delivery systems hold the key to greater coordination and cost-efficiency. Our investments in patient-centered medical homes, electronic medical records, and quality/safety improvements will serve our organizations, and more importantly, our patients, well. Across the industry, there is now a self-perpetuating view of reform as necessary, even exciting, opportunity to re-imagine medicine.

Here at the University of Rochester Medical Center (URMC), our faculty has put together a portfolio of dozens of innovative approaches that serve as a wellspring for grant proposals and community demonstration projects. We also are fortunate that one of our Department of Psychiatry faculty members, Yeates Conwell, M.D., has been selected for the Centers for Medicare and Medicaid Services' (CMS) Innovation Advisors Program. Yeates is one of 73 individuals from 27 States and the District of Columbia participating in the Innovation Advisors Program. These advisors will work with the CMS Innovation Center to test new models of care delivery in their own organizations and communities. They also will create partnerships to find new ideas that work and share them regionally and across the United States.

The selection of Yeates to this national role is no surprise to those aware of his incredible work on suicide prevention and mental health needs in older adults. That's why I've also asked Yeates to head URMC's new Office for Aging Research and Health Services (OARHS), which will bring together health service and research experts from across the institution, coordinate these efforts with community and regional partners, and act as test bed for care delivery improvements.

Here in the Finger Lakes, one out of every five people will be age 65 and older by 2025. Now is the time to match those emerging needs with fresh ideas that can make health care better and more sustainable. And URMC is lucky indeed to have leaders like Yeates who can identify innovations with the most potential and help adapt those new ideas for our Medical Center and the rest of the nation.

Bradford C. Berk, M.D., Ph.D. (MD '81, PhD '81), CEO, University of Rochester Medical Center; Senior Vice President for Health Sciences

Bob Joynt, who died on April 13, was a singular person with exceptional skills in such numerous fields that his influence will be felt by many for many years.

Bob founded our Department of Neurology and built it up to the productive and influential department that it remains today. His excellent successor as chair of the department, Berch Griggs, calls Bob a role model as a chair. "He set high standards and did his best to help you meet them. He always sought the very best for each of us," Berch has said. The current chair of the department, Steve Goldman, also calls Bob a role model and "the consummate clinician and educator, and a dear and wise friend and guide."

Bob's leadership made possible the integration of clinical care and academic medicine of our Medical Center and our School of Medicine and Dentistry. Without his leadership, his fairness and his dedication to the accomplishment of this concept, we would not be the successful institution we are today.

As you will read in this issue of *Rochester Medicine*, Brad Berk calls Bob a "true renaissance man." He was such a significant figure in neurology that he headed both leading societies in neurology, the American Academy of Neurology and the American Neurological Association. Bob loved science and teaching. He was involved in medical school classes and research until his last days. After a full work week, he died on his way to neurology grand rounds. Even after more than 45 years, he rarely missed grand rounds.

Bob came from a small town in Iowa but he had a large vision. His curiosity seemed endless. He enjoyed history and became an expert on health and the American presidency. He was an excellent public speaker and a fabulous teller of stories and jokes who also was well known for his parties.

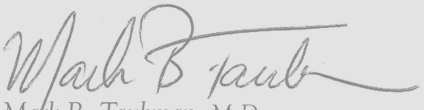
In many ways, Bob was a model for a life well-lived.

I am certain there are graduates from many decades of our School of Medicine and Dentistry who remember clearly an encounter with Bob Joynt in a classroom, during grand rounds or on the hospital floor that bettered them as physicians. There also are faculty members, researchers and hospital administrators who learned from Bob Joynt. And, of course, there are many patients helped by Bob's diagnostic skills and treatment wisdom.

In this issue of *Rochester Medicine*, there also is an interview with Bob made just weeks before he died. He was thinking about students, the importance of taking a good patient history and research.

Last year, an endowed professorship was established in Bob's name. I am so glad he lived to see that honor awarded to another neurologist, Karl Kieburtz.

I met Bob late in his life, but he was an aid to me as dean and I knew he was there and reliable if I ever needed him. Bob Joynt remains with us and still helps us in many ways—and even makes us smile.



Mark B. Taubman, M.D.
Dean of the School of Medicine and Dentistry, Vice President for Health Sciences

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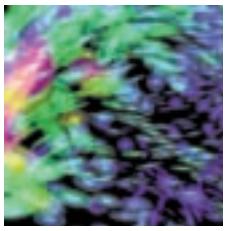

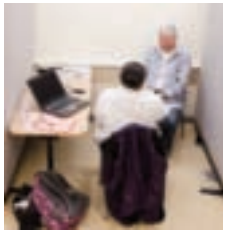

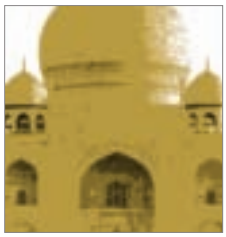

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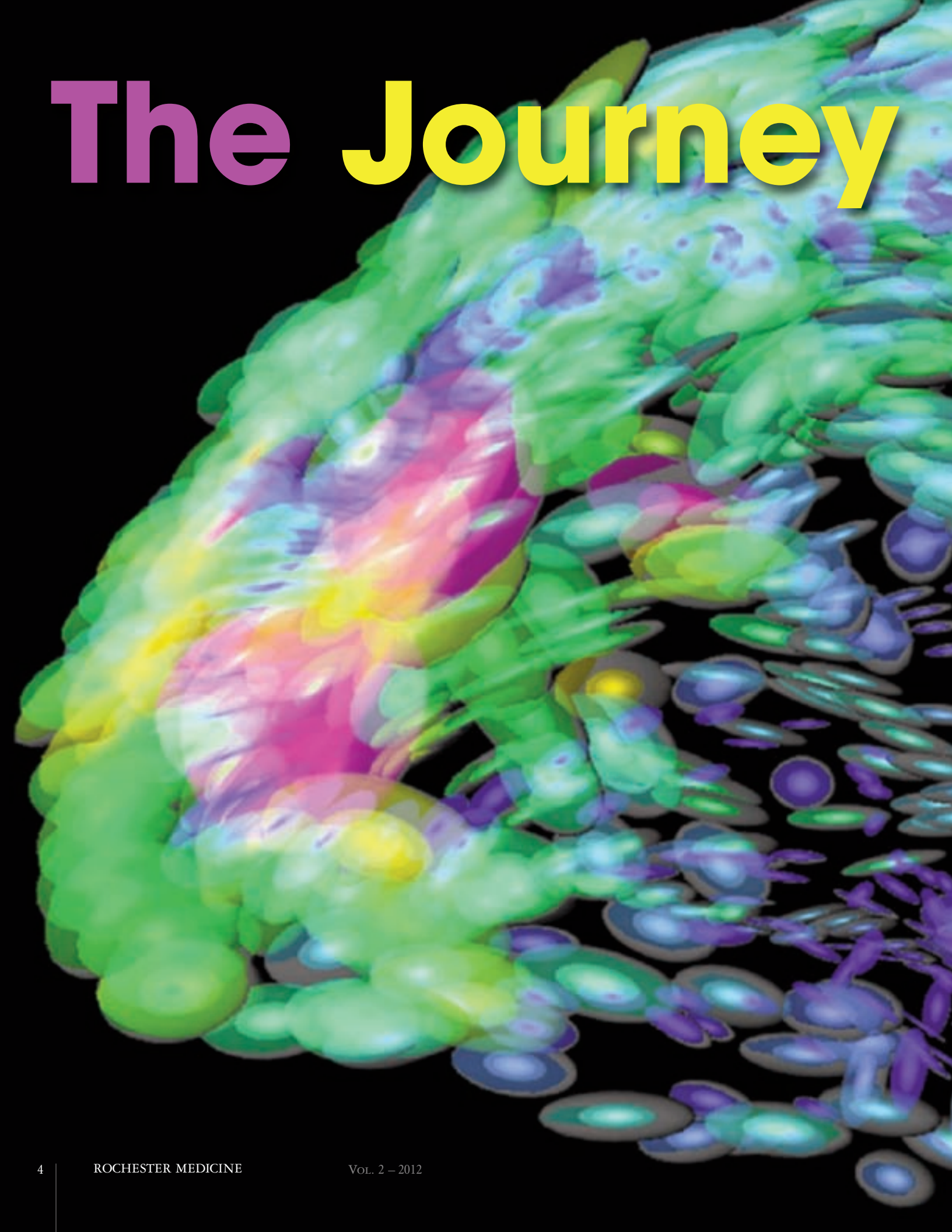
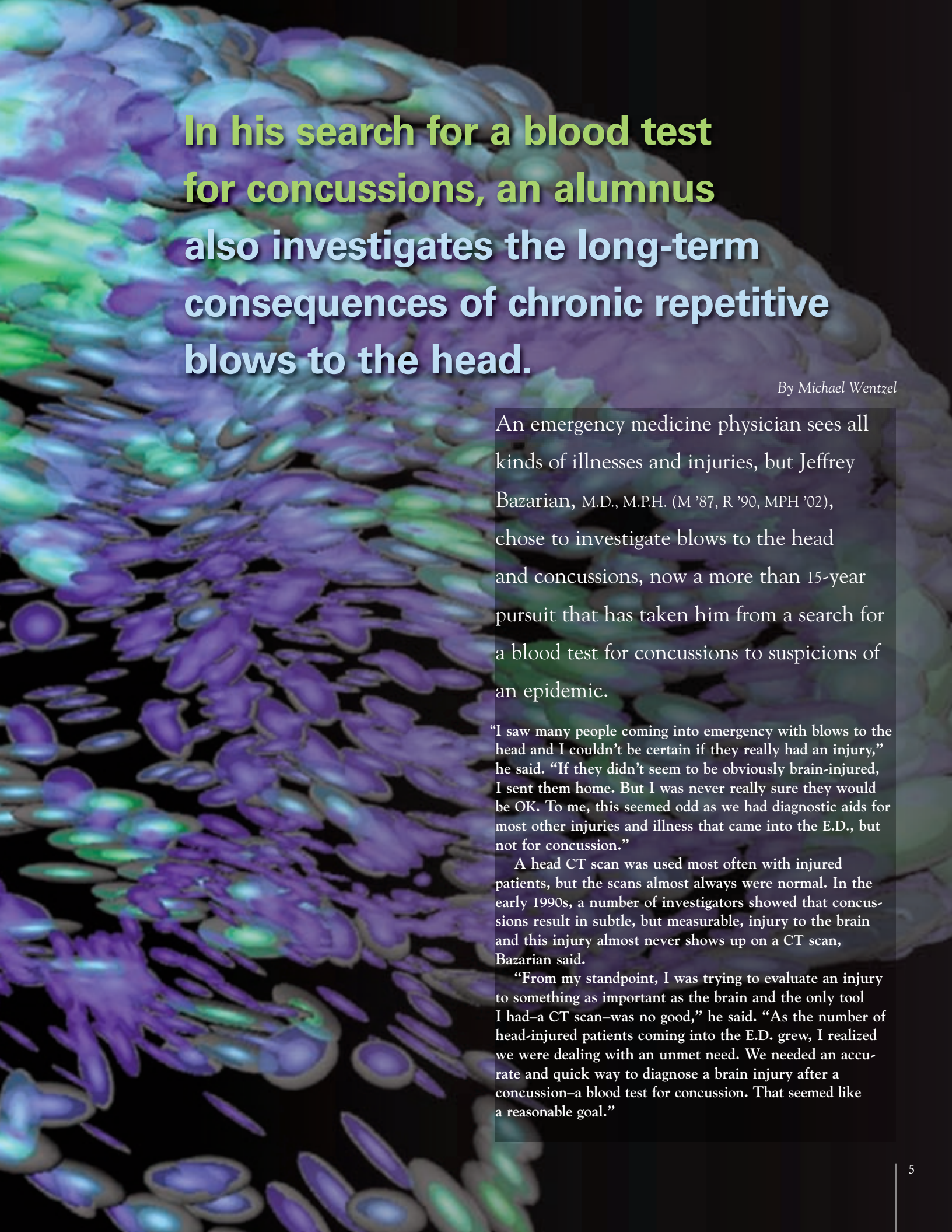
The Journey





In his search for a blood test for concussions, an alumnus also investigates the long-term consequences of chronic repetitive blows to the head.

By Michael Wentzel

An emergency medicine physician sees all kinds of illnesses and injuries, but Jeffrey Bazarian, M.D., M.P.H. (M '87, R '90, MPH '02), chose to investigate blows to the head and concussions, now a more than 15-year pursuit that has taken him from a search for a blood test for concussions to suspicions of an epidemic.

"I saw many people coming into emergency with blows to the head and I couldn't be certain if they really had an injury," he said. "If they didn't seem to be obviously brain-injured, I sent them home. But I was never really sure they would be OK. To me, this seemed odd as we had diagnostic aids for most other injuries and illness that came into the E.D., but not for concussion."

A head CT scan was used most often with injured patients, but the scans almost always were normal. In the early 1990s, a number of investigators showed that concussions result in subtle, but measurable, injury to the brain and this injury almost never shows up on a CT scan, Bazarian said.

"From my standpoint, I was trying to evaluate an injury to something as important as the brain and the only tool I had–a CT scan–was no good," he said. "As the number of head-injured patients coming into the E.D. grew, I realized we were dealing with an unmet need. We needed an accurate and quick way to diagnose a brain injury after a concussion–a blood test for concussion. That seemed like a reasonable goal."

"The project was driven by a patient, an 18-year-old girl who was brought to the emergency department. She had been wearing a seat belt. The car in which she was riding sideswiped a tree. She died in the E.D. from her head injury. It was hard for me to understand how she died. And she was from the town where I live."

Jeffrey Bazarian, M.D., M.P.H., with patient Courtney Porter.

But Bazarian, associate professor of emergency medicine at the University of Rochester Medical Center, now sees a blood test as just a first step in unraveling a threat to the viability of the brain.

"I started out thinking concussion was bad, that it causes brain injury that lasts forever and we need a blood test to diagnose and treat it," he said. "Now, it looks like not everyone who has a concussion has an injury. If they do, the injury may be transient and resolve with little intervention. It's the multiple concussions or multiple sub-concussive blows that may represent the real threat to the long-term viability of the brain, even leading to early-onset dementia. I'm talking about the football lineman, for example, who thinks he is fine, but his brain isn't fine. The consequences of multiple hits are what we are trying to understand, prevent and/or treat. That is the really silent epidemic."

The path of Bazarian's studies illustrates not only the nature of research but also his persistence.

"It might seem like my research stopped at times, but it never did," he said. "I've been working on this a long time. I've changed directions a few times but it was always in the direction the data took me. It's a journey. It really is."

Inspiration and an injured teenage girl

Bazarian's fascination with neurology goes back to his School of Medicine and Dentistry student days when he was inspired by the teaching of David Felten, M.D., Ph.D, then a professor of neurobiology and anatomy at Rochester.

While in medical school, Bazarian also spent two summers working in the lab of German neurologist Claus Meier, M.D., at the University Hospital of Berne, or Inselspital, in Switzerland. But he eventually chose emergency medicine.

"I didn't think then I was cut out for neurology," Bazarian said. "I did an internal medicine residency but discovered that I really liked taking care of critically ill and injured patients the best. Emergency medicine was so new back then that you could move right into it."

He was further motivated to pursue his neurology interest in 1993 when his father died of a head injury after falling down a flight of stairs. But Bazarian's research started slowly as funding for his target was sometimes scarce. In 1997, a foundation grant supported a small study of patients who visited the emergency department and reported blows to the head.

"I did a study using pen-and-paper cognitive testing right in the E.D.," he said. "If concussed patients said they were OK, how well were their brains working? Many patients were cognitively quite abnormal. This study started to tell us there was more than meets the eye with concussions."

In 2002, with a $560,000 National Institutes of Health grant, Bazarian began the nation's first emergency department-based traumatic brain injury registry. His project collected detailed

information–plus a blood sample–from every brain-injury patient brought to Strong Memorial Hospital's emergency department for two years. Where and how did the injury happen? Was a sport involved? Was the patient intoxicated? Was the patient wearing a seatbelt or helmet? What tests were performed before treatment?

"These data, plus all the collected serum, are available, and we continue to go back and dip into that and look at serum samples," Bazarian said. "But this study was even more valuable because it forced me to realize that, in many E.D. patients, it was impossible to determine if they met the clinical definition of concussion. Many patients just couldn't tell us if they lost consciousness, blacked out or were confused at the time of injury. I guess I shouldn't have been surprised. In effect, we were asking a patient who may have had a brain injury that disrupts their ability to remember-to remember the details of their accident! When I came to this realization, I had to change the course of my research. It moved me away from research focused on describing the epidemiology of concussion, and toward research attempting to improve the diagnosis of concussion through the use of objective aids, such as a blood test."

At the same time, as a project for his master's degree in

public health, Bazarian and colleagues analyzed a sample of crashes reported to the National Highway Traffic Safety Administration in 2000 to determine the risk for brain injuries.

"The project was driven by a patient, an 18-year-old girl who was brought to the emergency department," said Bazarian, who lives in Honeoye Falls, south of Rochester. "She had been wearing a seat belt. The car in which she was riding sideswiped a tree. She died in the E.D. from her head injury. It was hard for me to understand how she died. And she was from the town where I live."

Bazarian's analysis of the national accident reports showed that occupants of automobiles involved in side-impact crashes were three times more likely to suffer a traumatic brain injury than people involved in head-on or other types of collisions. Females were found to be at a higher risk of brain injuries.

The researchers saw their analysis as the first population-based study to find that a side-impact crash is a risk factor for traumatic brain injury.

"Cars were not well-protected then from side impacts," Bazarian said. "With side protection, we thought many fatal and non-fatal injuries could be prevented. Most cars now have side-impact airbags."

Even a mild or moderate head injury also might be a risk factor for early-onset dementia or Alzheimer's disease, Bazarian had come to believe. A blood test would help doctors diagnose axonal injury, a type of brain injury that often occurs after a concussion but does not show up on a CT scan of the brain, and begin quick treatment.

But in order to develop a surrogate marker for brain injury using a blood test, Bazarian realized he needed to know which concussion patients had brain injury. In the mid 2000s, a new test called diffusion tensor imaging (DTI) was found to be an accurate reflection of brain injury in animal models, but it had not been well studied in humans.

In a pilot study, Bazarian and his colleagues investigated whether DTI could detect axonal damage from a concussion. The DTI scans of six E.D. patients with mild concussions were compared with scans of six non-injured brains. The DTI showed subtle axon swelling, which is known to occur when the axons are over-stretched. The axonal swelling correlated with the patients who were having trouble processing information or remembering things as well as before the injury.

The data from the pilot study enabled Bazarian in 2007 to receive a $1.5 million R01 award from the National Institutes of Health to use DTI to develop a blood test for concussions.

About 40 adults who sought emergency treatment for head injuries were enrolled in the NIH R01 study, along with a similar number of control patients who received treatment for orthopedic injuries. All patients received three sets of DTI scans, blood tests and cognitive tests.

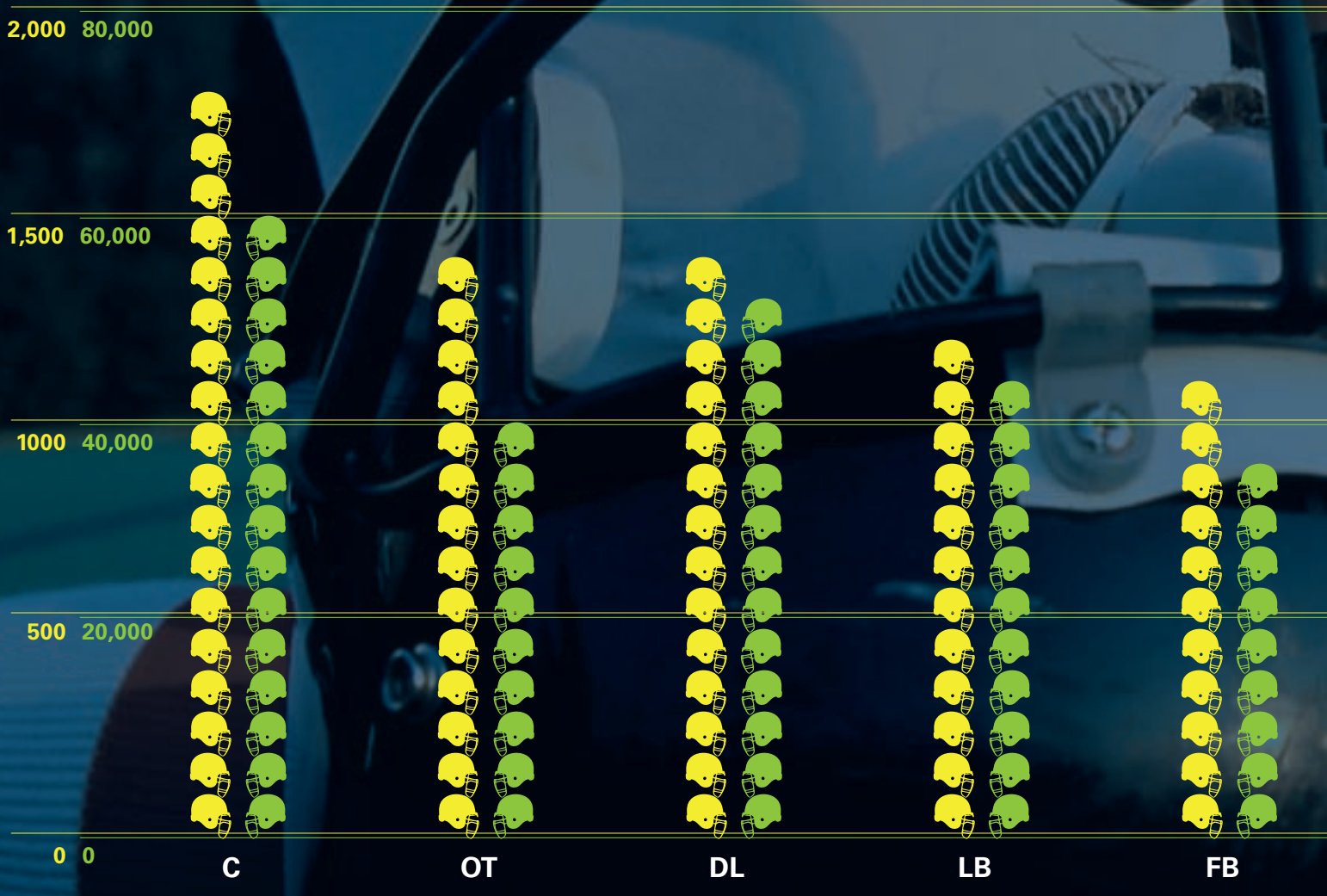
"How does the brain injury we're picking up on the DTI scan correlate to brain-related proteins in the test and how well the brain functions, and how does that compare to someone who just hurt a wrist? Is the brain injury were seeing in the scan reflected by elevations of brain-related proteins in the in the blood?" Bazarian said. "The scans and blood tests were taken over a month. What happens over that month's time? Does the brain injury go away? Does it get worse? We're asking pretty fundamental questions about concussion."

Bazarian and his colleagues are still analyzing the data. During the study, however, they discovered limits to their project.

"We were comparing E.D. patients with concussions and controls who were unrelated to them," Bazarian said. "However, there is so much variation in the brain structure from person to person that it was hard to know if the group differences were due to injury or just natural variation. This variation creates an obstacle to analyzing data using group comparisons. We wondered how we could get around this obstacle. That's when athletes came to mind. Athletes are unique in that they give us the opportunity to look at the brain before injury and compare that to its appearance after injury. This helps reduce much of the variation that clouds analysis if brain images using group comparisons."

Statistics behind a collision sport

Data from the 2011 football season for 10 University of Rochester players



Linear acceleration is a change in velocity of an object moving in a straight line. A 2g force, for example, would be equivalent to an object accelerating at twice the pull of gravity.

This chart shows the total linear acceleration experienced by the football players.

Number of head hits during 2011 football season

Total linear acceleration (g) accrued

POSITIONS PLAYED

C	Center
OT	Offensive Tackle
DL	Defensive Line
LB	Linebacker
FB	Fullback
TE	Tight End
RB	Running Back

DL DL LB TE RB

Jeffrey Bazarian, M.D., M.P.H., with patient Michael Sweet.

An unsettling football finding

Nine Rochester area high school athletes and six students as controls volunteered to take part in the research funded by the Medical Center's Center for Aging during the 2006–2007 sports season. Among the nine athletes, who recorded their estimate of hits in diaries, only one was diagnosed with a sports-related concussion that season. Measurements showed many changes in the brain of the player with the diagnosed concussion.

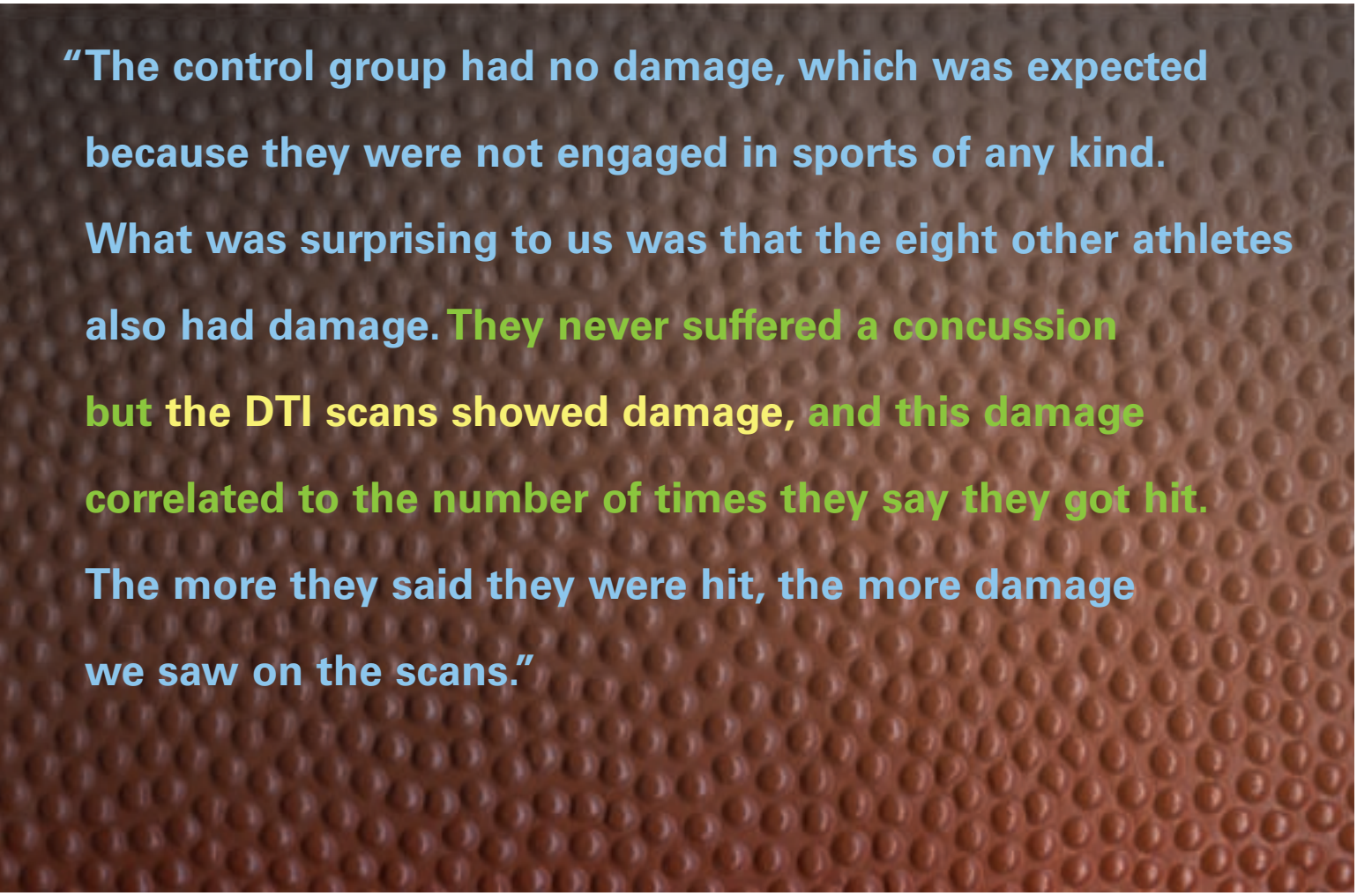
"The control group had no damage, which was expected because they were not engaged in sports of any kind," Bazarian said. "What was surprising to us was that the eight other athletes also had damage. They never suffered a concussion but the DTI scans showed damage, and this damage correlated to the number of times they say they got hit. The more they said they were hit, the more damage we saw on the scans."

The finding unsettled Bazarian and his collaborators.

"We thought about the hundreds of thousands of youths playing football– from Pop Warner to high school and college teams–getting hit in every practice and in every game," he said. "It's one thing to assert that brain injury results from frank concussions. That's a big problem, but relatively manageable in scope. It's quite another to assert that brain injury occurs in every athlete undergoing repetitive head hits, whether they have a concussion or not. That would be a major public health problem. We felt we had to chase this as fast as we could."

Bazarian and his collaborators successfully applied to the National Football League for funding for research that would provide more precise and more definitive information about chronic repetitive head hits and brain injury. Ten University of Rochester football players agreed to wear specially designed helmets with sensors that detect the number of hits a player receives and the velocity and angle of the hits. Each player received a DTI scan before the season began, after the season and then after six months. None of the 10 players suffered a concussion, but the hit statistics were significant. The player with the most in the season had 1,850 detected hits. The lowest number of hits was 500.

"All the players, including the one with the most the most hits, are OK clinically, although we have not yet analyzed the DTI scans," Bazarian said. "But the issue is not how they are doing now. It is how they will be doing years from now. Does the low-level brain injury we expect to see on the scans build up with year after year of playing to form the substrate for cognitive problems down the line? Or does the injury go away with rest? These are fundamental questions we are asking,



but they could give us insight into the development of chronic traumatic encephalopathy we're been seeing in NFL players."

The traumatic brain injury research group at the Medical Center includes Bazarian, Tong Zhu, Ph.D., research assistant professor of imaging sciences, Jianhui Zhong, Ph.D., professor of imaging sciences, Brian J. Blyth, M.D., assistant professor of emergency medicine, and Jason H. Huang, M.D., associate professor of neurosurgery.

The researchers now are following about 300 University of Rochester and Rochester Institute of Technology athletes, conducting detailed tests, taking blood samples and performing scans when they are injured. Bazarian believes he and his collaborators are very close to reporting a verifiable blood test for concussions.

Bazarian also is part of the Medical Center's sports concussion program, with Mark H. Mirabelli, M.D., and E. James Swenson, M.D., both assistant professors of orthopaedics and family medicine. He sees at least 10 patients a week and the number is growing.

"I use my research experience when I talk to families," Bazarian said. "I tell them there may be a link between concussions and neurodegeneration. That can be scary to hear, but it is important to know. But we have to tighten and better define that link to describe what happens to an athlete during a career or a soldier who is subject to multiple bomb blasts and how and whether they develop dementia. Then we can investigate whether there is a point where you can stop playing and not develop dementia and whether there is a point where we can intervene.

"I believe chronic repetitive hits is the real public health problem, the real threat to the neurologic viability of the brain. But the blood test is a first step. We can't say what will happen 10 years from now if we don't know what has happened to you now, if we don't know if you have an injury to begin with. This is so fundamental. We can't really skip over it. We can't talk about preventing a major public health problem until we know who is getting injured in the first place."

Lessons Learned

By Michael Wentzel

Meena Elanchenny

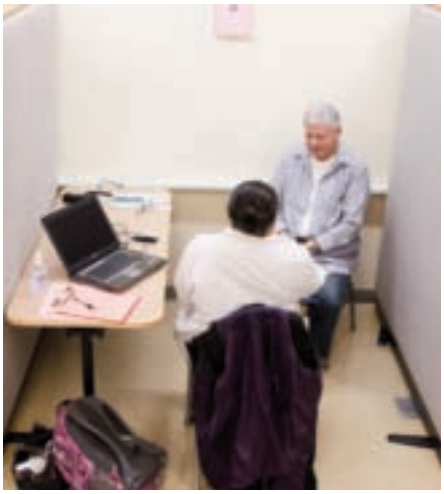
An innovative program assesses the clinical skills and styles of students throughout their second year.

When Meena Elanchenny watched the video of her examination of a patient reporting persistent abdominal pain and diarrhea, she liked most of what she saw.

"When I was talking to the patient, I was more at ease," she said. "I asked the questions I was worried I would forget. I've also become more aware of certain gestures and things I say and I did better with those. For instance, instead of replying 'great' to everything the patient said, I said 'I see.' "

But Elanchenny, a second-year University of Rochester School of Medicine and Dentistry student, also spotted some flaws she wants to address.

"I tend to talk very quickly," the Swarthmore College graduate said. "Sometimes, I am so interested in getting information from patients that I interject before they finish, asking the next question while the patient is still answering the last. When you watch the video, you're not in the moment. You're not nervous. I can detach myself and say: 'I need to wait a little longer. I have to let the patient finish and speak more slowly so they can understand me.' "



For the first time at the School of Medicine and Dentistry, second-year students have received multiple clinical assessments during the academic year and have been graded on their performance. The innovation in the curriculum emphasizes the connection between the basic science the students learn and the clinical world by presenting the science in the context of a patient. The assessments, given much more frequently than most, if not all, other medical schools, also give faculty and students a unique opportunity early in their medical education to see how they communicate with patients.

"The assessments have really helped with patient relationships," Elanchenny


Oluwateniola "Teni" Brown

Written exams always will be part of medical training, and provide an efficient way to assess knowledge.

They aren't so good at predicting what a person will actually do in a real clinical encounter.

Our assessments get us a little bit closer to knowing how a student will be with a patient.

said. "You learn to organize your thoughts and approach patients so that when you go into your clinic offices and encounter patients with different complaints, you are better prepared. I've come a long way, particularly in interacting with patients, because of the assessments."

The development Elanchenny has found through her clinical assessments highlights one of the goals of the program, said Anne Nofziger, M.D. (R '00, FLW '07), director of the Primary Care Clerkship who oversees the assessments.

"Being able to ask the right questions in real time and to think diagnostically is really different from answering a multiple-choice question based on a clinical vignette," Nofziger said. "This type of assessment requires that students demonstrate skills and apply their knowledge in an active way, and then connect the basic science to the 'patient' they just saw."

The clinical assessments are conducted with standardized patients and sometimes with computerized mannequins. The well-trained standardized patients write evaluations for each student who examines them. Videos of the exam enable students to match the evaluation with their performance. Students also are graded on a patient note on the case or on an essay in response to a question linked to the case. This year, the students have encountered cases of back pain, chest pain, a urinary tract infection, gastrointestinal problems and a shoulder injury. They also have conducted breast and prostate exams.

"We have a very robust early clinical experience. It is key that we understand how a student approaches focused problems presented by outpatients and assess this encounter," said David R. Lambert, M.D., the School's senior associate dean for medical student education who initiated the assessments. "By creating standardized patient encounters with patient problems that mirror the course material taught in the concurrent scientific foundations of medicine courses, we emphasize the integration with clinical care. All of these assessments strengthen the model of the Double Helix curriculum."

Fidgeting, flipping and using a stethoscope

Most medical schools require some clinical assessments, usually what is called an OSCE, or Objective Structured Clinical Exam. But few schools, if any, conduct as many clinical assessments as Rochester during the second year, or combine clinical

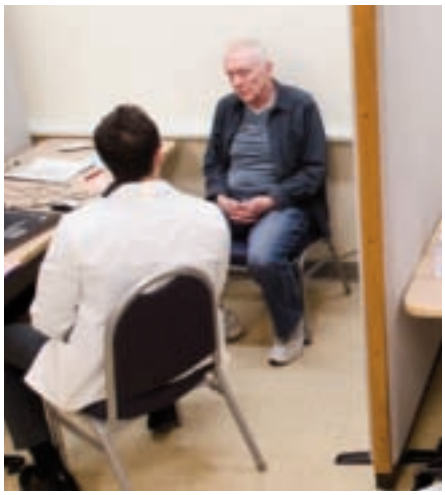
Shadab Khan

and basic science courses assessments in one format.

In the past, clinical assessment of second-year students primarily came from preceptors, the physicians in the community who work with the students a few times a week for several months in their offices. But School officials viewed these assessments as subjective and variable, depending on how much the preceptor observed a student.

"Written exams always will be part of medical training, and provide an efficient way to assess knowledge. They aren't so good at predicting what a person will actually do in a real clinical encounter," Nofziger said. "Our assessments get us a little bit closer to knowing how a student will be with a patient. It is obviously artificial. The students know they are being tested and videotaped.

"But as clerkship director, I want to know: Did the student gather appropriate behavior to make a diagnosis? Did they conduct a patient-centered interview? Did they do the appropriate physical exam, and was it performed correctly? What does this student need to work on in order to become a better clinician? Some students are good test-takers, but struggle on the ground with patients, and some are the opposite. It is good for the students to identify their mistakes or flaws. As learners, they benefit from a culture that recognizes that everyone has something they have to work on, and that provides opportunities to improve based on feedback as well as self-assessments."



Although some students acknowledged the multiple clinical assessments increased stress and caused anxiety, they also said they welcomed the experience as a chance to learn.

Oluwateniola "Teni" Brown called the clinical assessment days "safe opportunities to put what we learn in the classroom into practice." For an assessment involving a gastrointestinal case in February, she found herself "really

nervous," an atypical state for the Duke University graduate.

"I was not sure I did well in the assessment," Brown said. The tricky diagnosis of the case could have gone in a couple directions, but Brown did not get the correct one. Still, her review of the video encouraged her.

"I thought it was worse than it was," Brown said. "I went through the process with the patient. I asked the appropriate questions. I did fine. I did develop a diagnosis properly. I told the patient that I wasn't quite sure what her illness was. I share my differential and what I thought was most likely. I also talked about follow-up testing. Not being 100 percent sure and sharing this with the patient was uncomfortable but I realize that I need to be comfortable with uncertainty when working with patients."

The video also highlighted some areas for Brown to address.

"In watching the video, I realized the patient must have felt bombarded with questions. It was like I was grilling her," she said. "I need to let the patient respond to one question at a time."

Brown also noticed she was fidgeting at some points in the interview.

"I kept flipping my papers constantly. That had to be so distracting," she said. "I had no idea I did that. I have learned, and am still learning how to effectively relay my assessment of the problem to patients, and actively and appropriately engage them in the development of the plan."

The standardized patient marked down Brown for her method of listening to the heart. She listened with her stethoscope on the patient's blouse, not on skin.

A more efficient learning style

For Shadab Khan, the clinical assessments enable him to evaluate whether he is making connections between the pathology he is learning in class to real life cases.

"I learned from all the assessments, especially the standardized patient encounters," the graduate of the Rochester Institute of Technology said. "When you work with a standardized patient and you spot a mistake or learn something, it sticks a lot more. You don't forget."

"We work with actual patients with our preceptors," Khan said. "I see the patient's chart ahead of time. I generally know what the patient wants to talk about. It is rare to go in with no idea of what we're supposed to be looking for. But that is what happens in a clinical assessment. It's interesting to see what your mind goes through as you are getting the history, making a differential and prioritizing a list of possibilities. Sometimes, you are thinking so much you forget to respond to the patient. My history-taking skills are getting better, but it's definitely something I am still working on."

In a review of a video of the February assessment, Khan noticed that he used many medical terms, technical words he might not have known himself a few months before, he said. "It's important to explain your reasoning to the patient, discuss with them treatment options and share guidance about how the illness may or may not proceed," Khan said "It's also important to understand the information well enough that you can explain it to another individual who may not have a medical background."


Katherine Herman

Katherine Herman did well in February's clinical assessment. She received a "very positive evaluation" from the standardized patient, who also gave her good advice on a more correct and thorough way to do an abdominal exam.

"It is very helpful to practice taking a patient history and to perform a focused physical exam with a patient who is trained to give you feedback based on the questions you ask—or don't ask," the Eastman School of Music graduate said. "It is also nice to receive comments from the patients as to how effective you were in communicating your ideas, though I've found that most of the time you leave the encounter knowing what you need to work on. There are always little gems you can take out of a patient encounter."

Herman, an M.D./Ph.D. student, also did well on the patient note, a requirement that caused problems for a number of students.

"I've been lucky with my preceptors," she said. "They expect a lot from me. I've been doing notes for each patient I've examined so I've learned to do them. In the clinical assess-

Anthony Carnicelli

ments, I am working on timing, getting through the exam efficiently, using efficient language, painting a picture without being wordy. It is great to have the assessments through the second year, not just at the end when we can't implement what we have learned in past assessments."

To Anthony Carnicelli, the clinical assessments are "a great way to get us to think more like clinicians."

"They change the experience of being a medical student," he said. "They turn the traditional exams into something to look forward to instead of something to dread. Previously, you learn a bunch of material, memorize as much as you can, go and regurgitate it into an electronic device and come out feeling like you've been battered. With the assessment days, it changes the way you approach learning because you know you have to apply it with a patient."

Carnicelli, a graduate of the Berklee College of Music and a former music teacher, praised his preceptors, who have encouraged him to do physicals, get a full history and present in front of the patient.

"With the assessments, you can integrate skills you learn with your preceptor in the community with information you learn in lecture and combine them into one structured format," he said. "The evaluations from the standardized patients, at the very least, make you more aware of what you're doing in the clinic. The video is the great equalizer. When the standardized patients give you feedback, you can go back to the video and see where they are coming from."

"This is the way medicine should be taught, applying the basic sciences in a clinical setting," Carnicelli said. "It is much more practical than learning facts for the first two years and then only getting to apply them in the third and fourth. That doesn't translate properly. The clinical assessments encourage a more efficient style of learning."

AN IMMIGRANT'S EXPE

By Michael Wentzel

Before his first shift as a resident at Millard Fillmore Hospital in Buffalo in the summer of 1996, Alok Khorana, M.D. (FLW '02), had not worked a single day in a U.S. hospital.

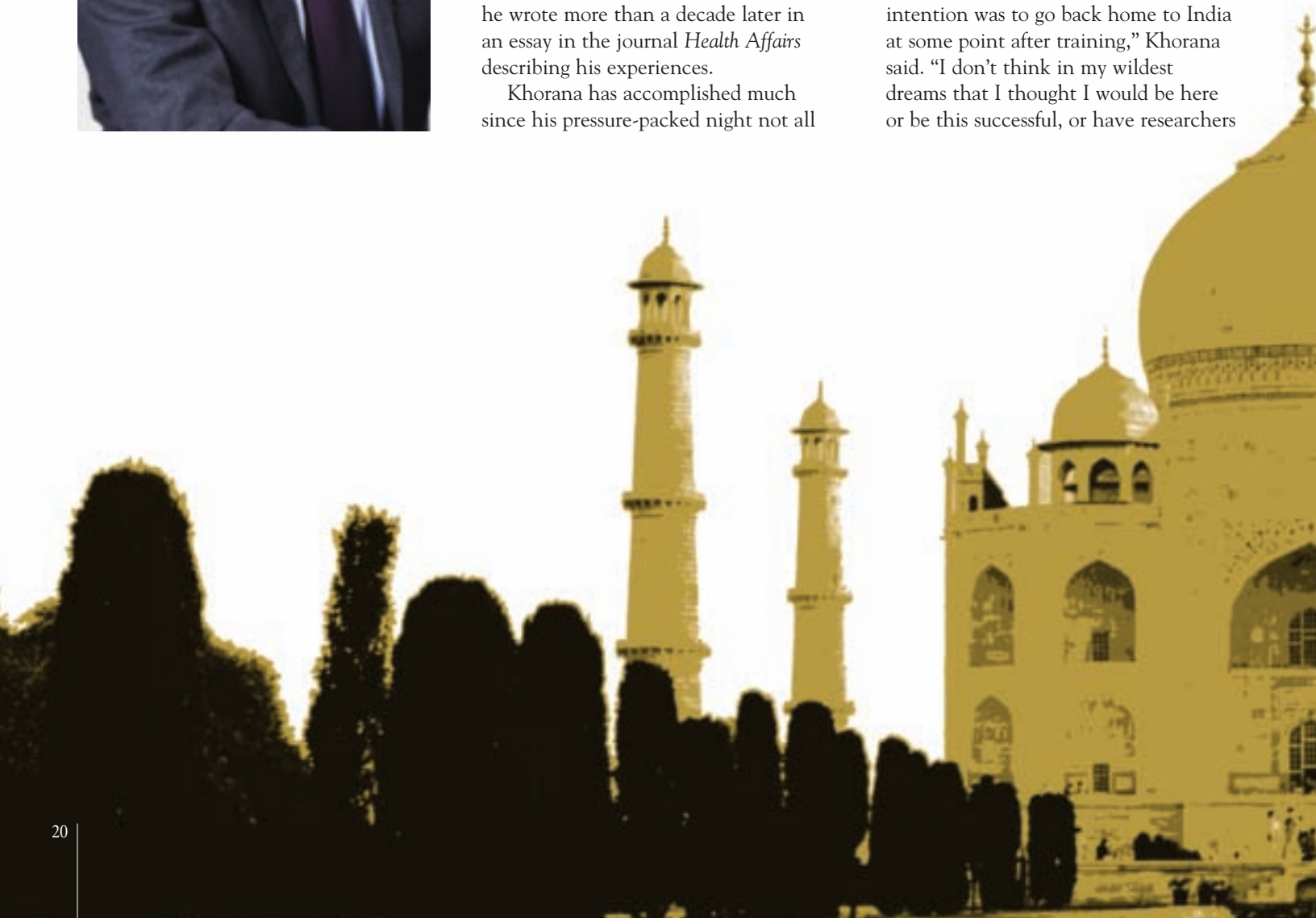
He had never used a pager or answered a page, never looked up lab results on a computer screen, dictated a note, or handled discharge planning or insurance issues. Having only recently arrived from his native India, Khorana spent the day before his night of work acquiring a stethoscope, scrubs and a lab coat.

"I made it through that night, and none of my patients died or went to the intensive care unit, which is the definition of a successful intern," he wrote more than a decade later in an essay in the journal *Health Affairs* describing his experiences.

Khorana has accomplished much since his pressure-packed night not all that long ago. An associate professor of hematology/oncology at the University of Rochester Medical Center, he is one of the leaders of a multidisciplinary gastrointestinal cancer program at the James P. Wilmot Cancer Center, where his patients praise his care and describe him as sensitive as well as direct.

His research has made him an internationally known authority on venous thromboembolisms that develop as a complication of cancer treatment. And, with others at the Medical Center, Khorana is conducting research and trials that could result in the prevention of cancer-related thrombosis and perhaps the progression of cancer.

"When I began my residency, my intention was to go back home to India at some point after training," Khorana said. "I don't think in my wildest dreams that I thought I would be here or be this successful, or have researchers



RIENCE

Alok Khorana thrives in his adopted home as he challenges the mysteries and heartaches of cancer.

in Europe validating things I do here."

While that first night as a resident at Millard Fillmore was a dramatic introduction to a new culture, Khorana already knew well the world of the physician, the hospital and research.

In his hometown of Baroda, a city now called Vadodara that is about 270 miles north of Mumbai, his father was chief of psychiatry and a professor at Maharaja Sayajirao University Medical College. His mother was a clinical psychologist there. He grew up next to the hospital in faculty quarters, where physicians were on call around the clock.

His great uncle, Har Gobind Khorana, shared a Nobel Prize in 1968 for showing how genetic information is translated into proteins, which carry out the functions of a cell.

"I had a lot of stuff to live up to when I was growing up," he said.

Khorana earned his medical degree from Maharaja Sayajirao University, the school that he had known much of his life. But he chose to train in the United States.

"I had decided I wanted to go into oncology," he explained. "I knew I wouldn't be good at surgery. For awhile, it was a toss-up between oncology and psychiatry. I did not choose cardiology, where most of the big battles have been won. We know what causes heart disease. We know how to treat heart attacks. In oncology, we are nowhere near the secret. I wanted to be there when the discoveries were made or help contribute to the research and the discoveries. It still is a developing science. There is a lot of work to be done."

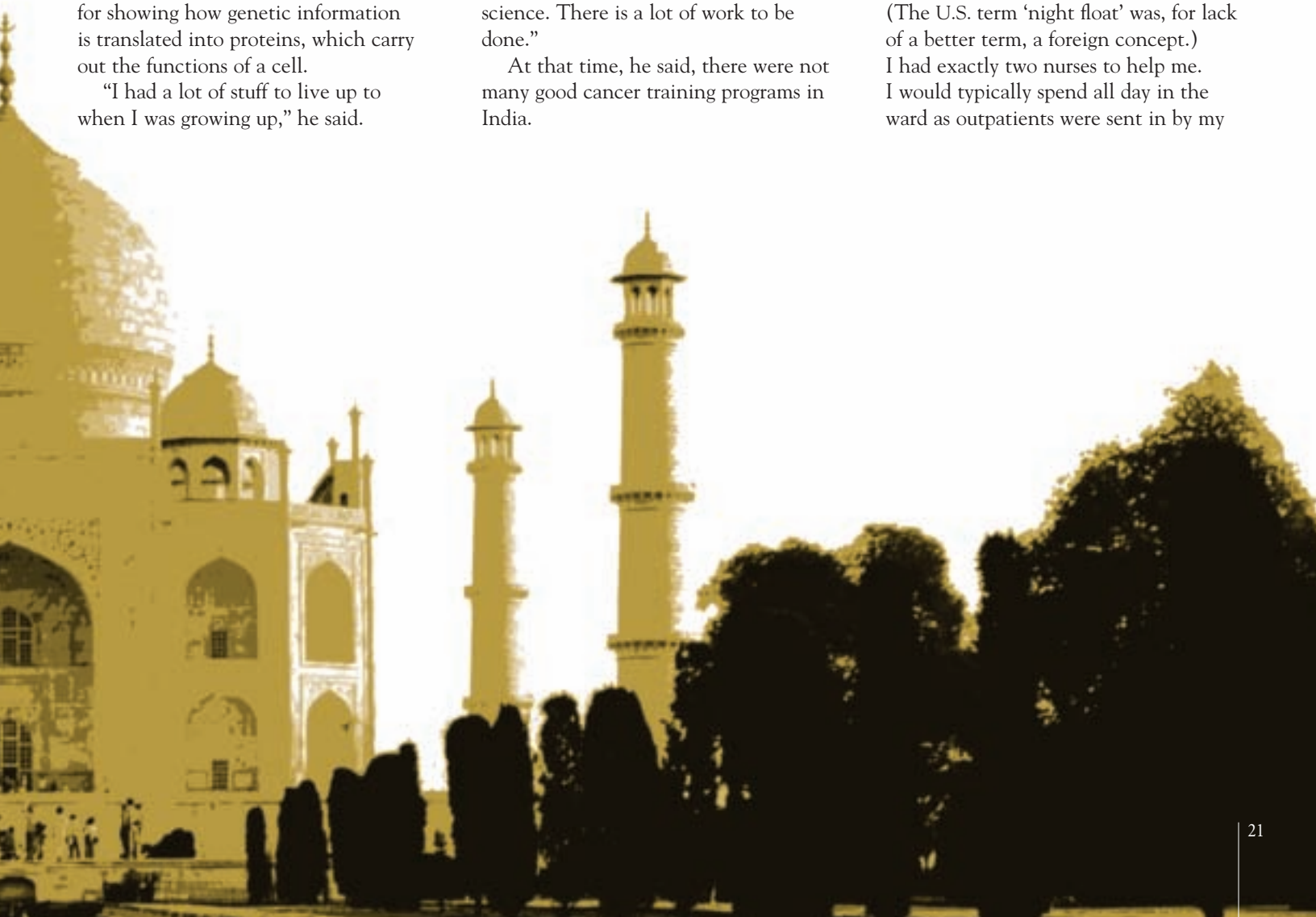
At that time, he said, there were not many good cancer training programs in India.

"I wanted a quality program, so I decided on the United States."

Before his journey to America, however, Khorana worked a year in India as an internal medicine intern in a public hospital that was a dilapidated two-story building.

"Its windows were festooned with colorful saris hung out to dry by patients and their relatives. Inside, thirty to forty patients were housed in two large rooms, their beds separated only by a distance of a few feet," Khorana wrote in his *Health Affairs* essay.

"As a first-year resident, I was the person on first call for these patients all day, every night, all 365 days of the year. (The U.S. term 'night float' was, for lack of a better term, a foreign concept.) I had exactly two nurses to help me. I would typically spend all day in the ward as outpatients were sent in by my



"Maybe success isn't curing every patient of cancer, because you can't. Sometimes, success is being able to provide some grace and dignity at the time of death, or provide comfort to the family or to make sure the family understands. I always promise the patient and family that I will be honest with them."

senior residents and attending physician. My day would be occupied writing notes, ordering tests, and performing a variety of procedures, including taps to remove fluid around the chest wall and abdomen, even liver biopsies. On occasion, I would also have to help the nurses with difficult intravenous line or urinary catheter placements. At night, I also doubled as a laboratory assistant, counting leukocytes and looking for malarial parasites in peripheral smears. Early in the morning, having had little to no sleep, I would do rounds on each patient with my senior resident."

The experience steeled him for his American adventure.

"I was better prepared than most U.S. medical students starting a residency program," he wrote. "I was used to being independent. I had already performed more procedures than most trainees would conduct through the course of their entire residency. I had confidence in my physical examination skills because we'd had to 'make do' without access to expensive diagnostic tests, and I had learnt to think quickly on my feet."

Clot risk scores and tissue factor

In 1999, Khorana joined the Wilmot Cancer Center as a Wilmot fellow in hematology and oncology. In 2002, he was named a senior instructor at Wilmot and described as "a talented physician-scientist." In 2003, he published his first paper as lead author in the journal *Cancer*.

Macrophages that gather around a tumor and also carry a protein, called VEGF, or vascular endothelial growth factor, though originally thought to enhance cancer growth, may actually fight the progression of colon cancer, Khorana and his colleagues reported. The retrospective study of colon tumor samples showed that patients who had macrophages with VEGF lived on average twice as long as patients without it – nine years compared to four-and-a-half years.

Khorana also began investigating a significant threat to his cancer patients: blood clots.

"Cancer patients are much more likely to get blood clots than non-cancer patients," he explained. "It is not clear the risk is spread evenly over all cancer patients. Breast cancer patients are far less likely to get a clot than a pancreatic cancer patient, brain tumor patient or a lung cancer patient. Within those subgroups, about one out of five gets a clot. If you are looking at ways to prevent a clot, you don't want to give a pill or an injection to millions of patients. You just want to give it to the patients who really are at risk.

"Why are patients getting blood clots? How can we find these patients? What is it exactly that makes a cancer patient clot?"

In 2005 in an article in *Cancer,* Khorana reported that an elevated platelet count put patients at a nearly three-fold risk of developing blood clots. Working with Charles W. Francis, M.D., professor of medicine, and Gary H. Lyman, M.D., M.P.H., a Rochester faculty member now at Duke University, he followed patients for up to four cycles of chemotherapy. The study showed blood clots occurred in nearly 2 percent of patients and incidences were significantly higher for people with lymphoma and stomach, pancreatic and lung cancers. Patients whose platelet counts exceeded 350,000 per cubic millimeter suffered three-times more blood clots than others with platelet counts of less than 200,000 per cubic millimeter.

In 2008, Khorana and his colleagues published an even more accurate way to predict clots.

"We developed a risk score that combines the type of cancer with four other variables that are really simple: type of cancer, body mass index and platelet, hemoglobin and white cell count," Khorana said. "You combine those assigning points. If you have a score of three or higher, the chance of clots is very high. It was the first risk score published at the time."

Since then the risk score has been validated by several programs and large patient populations, including groups in Austria, Italy and New York City, attracting significant attention to Khorana and Wilmot.

"Alok has emerged as an international leader in studying cancer-related venous thromboembolism, one of the leading causes of death in patients with cancer," said Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry. "In fact, his model for predicting which cancer patients are at high risk for venous thromboembolism has quickly become an international gold standard."

A conference on cancer-related thrombosis organized by Khorana brought most of the leaders in the field to the Rochester area in 2010.

"The risk score has helped us with our patients," Khorana said. "We are finding a lot of blood clots. We are preventing deaths."

The success of the risk score also helped the Medical Center get a $3-million grant from the National Heart, Lung and Blood Institute to conduct a trial on the prevention of clots. The study, with Francis as principal investigator and Khorana and Taubman as co-investigators, is ongoing.

"The initial results look very

Alok Khorana, M.D., with patient Anh Tran.

promising," Khorana said. "We see that as a real way to have an impact on patient lives."

The researchers also are investigating the role of tissue factor, a key element in coagulation but also a protein that is over-expressed in some cancer tumors.

"If you look at a normal pancreas, for example, there is no tissue factor. You would not expect it. There should not be any," Khorana said. "But as soon as the pancreas starts to turn to cancer– even before the cancer– the pancreas produces tissue factor. We showed that part of the process of turning from a normal pancreas to pancreatic cancer was generation of tissue factor on the surface of tumor cells. That was a really important discovery.

"Blood clots are not just an epiphenomenon. They are there because this molecule is really important for tumor cells to become cancerous. We discovered that one of the functions of tissue factor in this situation is to stimulate blood vessels to grow. The tumor cells are producing tissue factor because it is pro-angiogentic. As a byproduct of having so much tissue factor, people are getting blood clots when they have cancer."

Khorana and Taubman have found that patients with high levels of tissue factor had severe clots. In collaboration with Roswell Park Cancer Institute, they examined samples from cancer patients who also had blood clots. They found that high levels of tissue factor not only predicted who would have blood clots, they also predicted who had a cancer that progressed faster and caused death more quickly.

With tissue factor as a target, the researchers are now working with two private companies in clinical trials testing novel therapeutics.

"We not only want to see if they prevent blood clots, we want to see if they can prevent cancer progression," Khorana said. "It is very exciting work."

Khorana also chairs a large worldwide study with industry support that is enrolling patients with colon and lung cancer and studying all the risk factors before they start on chemotherapy and then following them to see what complications they get and how to predict who will get complications. The study will involve 4,000 patients in the United States, Europe and Russia.

Heartache and a welcome

Hardly any day at Wilmot Cancer Center passes without contact with a patient facing a difficult and frightening challenge.

"Half the job is delivering bad news, unfortunately," Khorana said. "It is not easy and it doesn't get easier. You get

better at doing it, but it still has a toll on you. I am not sure there is a way around it. We have a lot more survivors than we used to. People can have good lives with cancer for years and years. It is not all doom and gloom."

But the field of cancer treatment changes the view of success a little, he said.

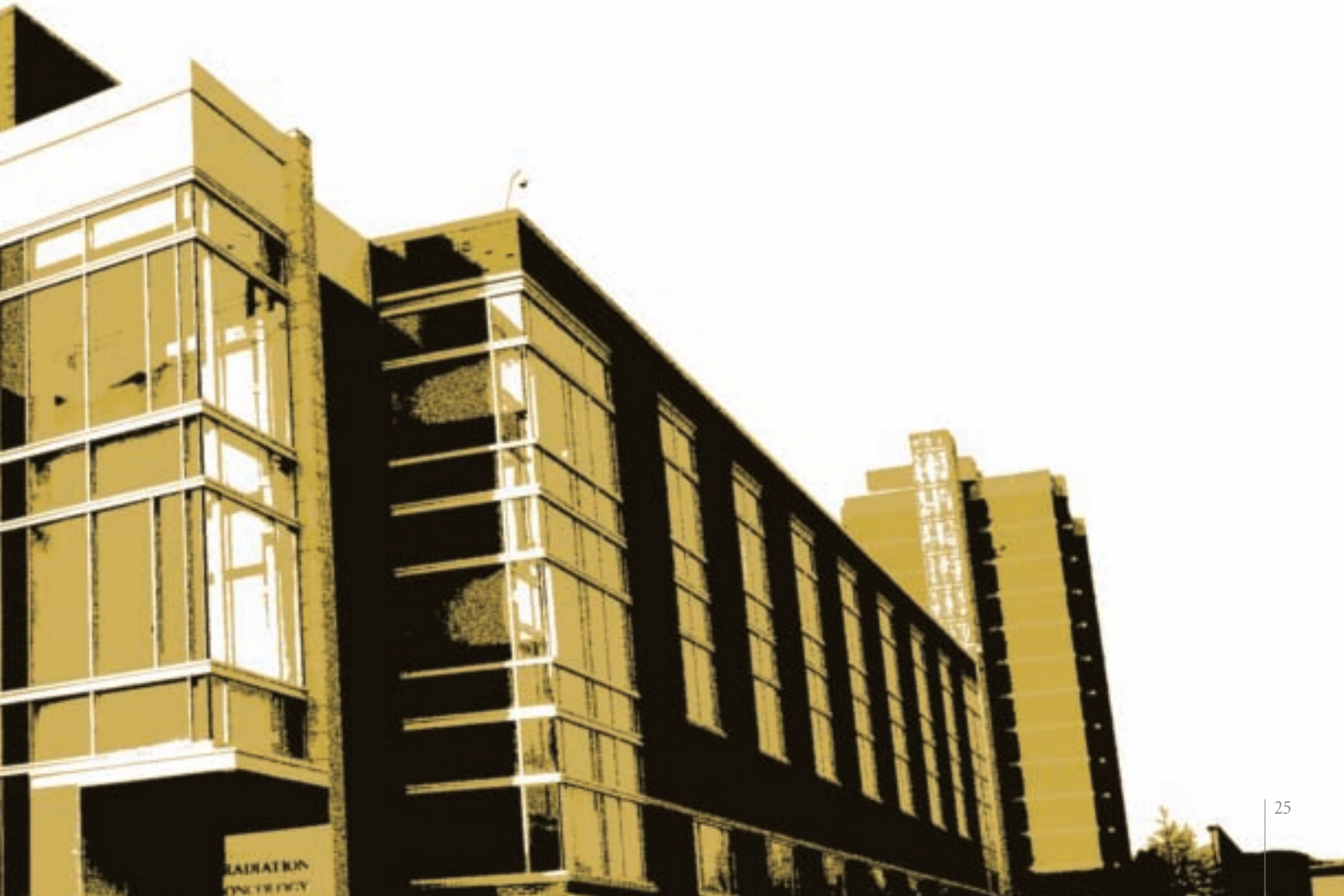
"Maybe success isn't curing every patient of cancer, because you can't," Khorana said. "Sometimes, success is being able to provide some grace and dignity at the time of death, or provide comfort to the family or to make sure the family understands. I always promise the patient and family that I will be honest with them. One success is keeping that promise and being honest."

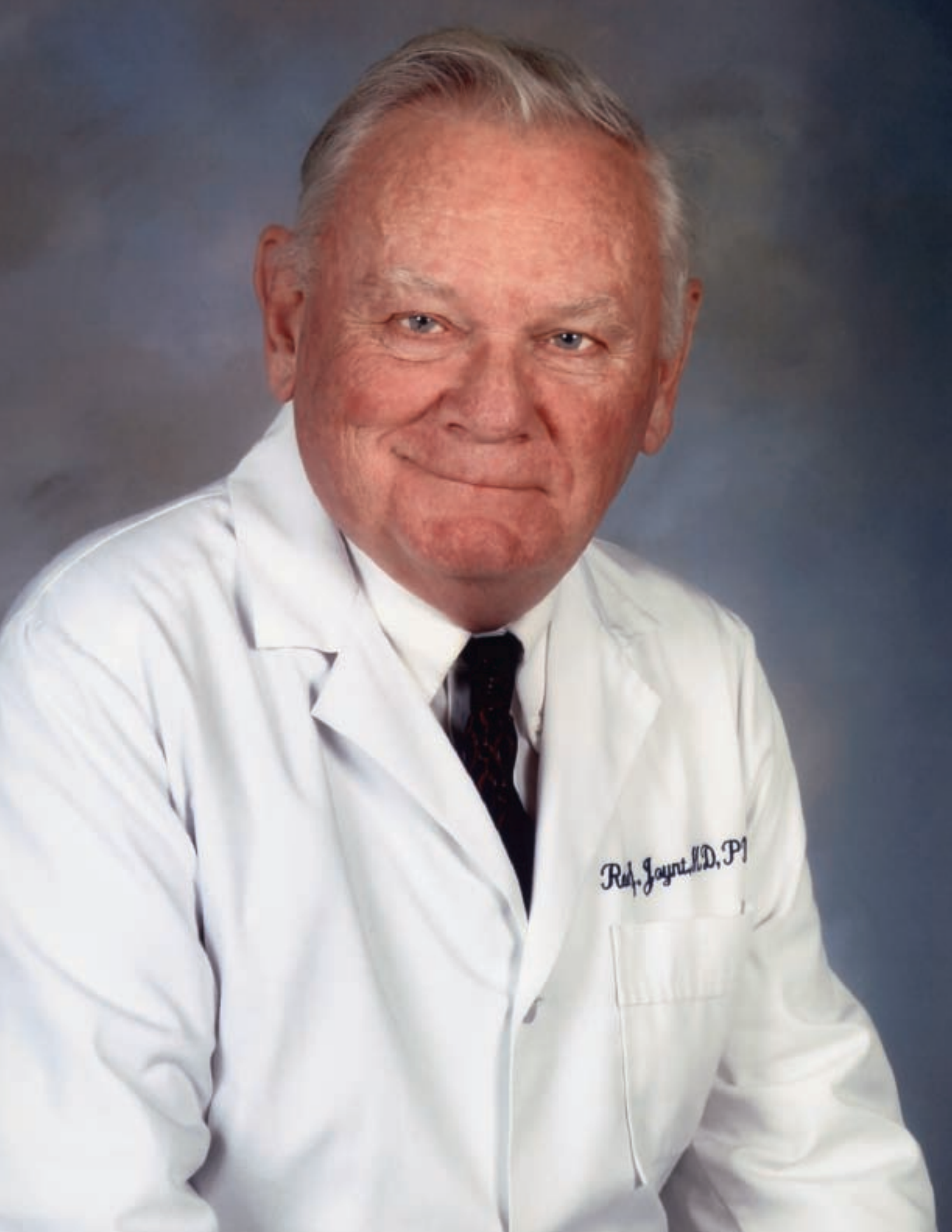
Khorana often turns to writing to deal with the "heartache" of cancer treatment. He and other oncologists, Michelle Shayne, M.D. (BMus '85, M '98, R '01) and David Korones (R '86, FLW '91), started a humanities group for oncology trainees. They discuss narratives about cancer care written by others or the trainees.

"It is a great place to talk about what is bothering us," Khorana said. "We often spend about 10 minutes on narrative and then branch off to patient cases, how they dealt with the case and how the patient dealt with it. Writing is cathartic. Dealing with death is not easy, but it's part of the job description. Death is a part of life."

Since his first night as an intern in a United States hospital, Khorana has found success and a home in America. He has an American wife and they are parents to four boys. He enjoys the four seasons of upstate New York and the welcome and respect he has received.

"When I have been assessed by the faculty at my residency and fellowship programs, when I have been offered faculty positions or promotions, when my grant applications have been evaluated on their scientific merits and demerits, I have never felt unfairly judged," Khorana wrote in a *Health Affairs* essay. "We don't say this often enough as immigrants. We don't say it primarily because if you're trying to assimilate, it is almost a requirement that you adopt the cynical, ironic American conversational tone. But the truth of the matter is that – unlike most other nations – America always has been and, almost as important, perceives itself to be, an immigrant nation. What this means is that, for us immigrants, the United States is a generous and welcoming country, and Americans are, for the most part, a generous and welcoming and forgiving people."




Ralph Jaynes M.D. P

Robert J. Joynt

Robert J. Joynt, M.D., Ph.D., one of the most influential neurologists of the last half century and the founder of the Department of Neurology at the University of Rochester Medical Center, died April 13, 2012, at Strong Memorial Hospital. He was 86.

by Tom Rickey

Dr. Joynt was still working at the Medical Center, mentoring students and colleagues alike. After a full work week, he died on his way to neurology grand rounds, a weekly event he enjoyed for more than 45 years.

A towering figure in international circles of neurology, Dr. Joynt headed both leading societies in neurology, the American Academy of Neurology and the American Neurological Association. He also served as president of the American Board of Psychiatry and Neurology.

Beyond that, he was a beloved member of the Medical Center's community, which he had served through several top-level posts, including dean of the School of Medicine and Dentistry.

"The first word that comes to mind when thinking of Bob is integrity," said Jules Cohen, M.D. (BA '53, M '57), professor of medicine and medical humanities, a good friend who enjoyed frequent meals over a span of decades with Dr. Joynt. "He was honest and straightforward, and did his job without fanfare. He was generous of spirit in his approach to everyone. He was just a totally decent human being."

Robert J. Joynt in 1966

Dr. Joynt was the first individual to oversee both the academic enterprise of the School of Medicine and Dentistry as well as the patient-focused clinical enterprise that includes Strong Memorial Hospital. Under this integrated leadership model, the Medical Center has flourished and has undergone unprecedented growth.

"Bob Joynt was truly a great man. He made a fundamental difference in the way our Medical Center is led through his leadership in integrating academic medicine and clinical care," said Joel Seligman, president of the University of Rochester. "I met him late in his life, but his charm, his dedication to his colleagues, the Medical Center and Rochester, his capacity to inspire affection in others were always evident. He will truly be missed. He was everyone's friend here."

Dr. Joynt's encyclopedic knowledge of health and disease ultimately benefitted people around the globe who were treated by the thousands of physicians influenced by him. That influence was a product both of his intellect and his self-effacing, congenial personality, say colleagues.

"Bob was extraordinarily intelligent and able to make all kinds of challenging diagnoses in his patients," said Richard T. Moxley, M.D., a long-time friend and colleague. "At the same time, he had a remarkably comfortable way dealing with people, and they embraced him, and his knowledge and insights."

Dr. Joynt's easy way with people, his rapier wit and readiness with a good joke were legendary. He was a popular after-dinner speaker at gatherings that would have been sedate and stiff had not Dr. Joynt put the guests in stitches.

"Bob was a true renaissance man, with more knowledge

on more topics than most people can imagine," said Bradford Berk, M.D., Ph.D. (M '81, PhD '81), CEO of the Medical Center. "Bob taught me neurology when I was a medical student, and part of the reason he was such an extraordinary teacher is because he knew how to make you laugh. Later I had the opportunity to interact with him in a discussion group called the Pundit Club. He was the master of American history and shared with us his insights into our presidents and politicians with his usual humor and whimsy."

Balanced with that humor were remarkable insights, such as Dr. Joynt's conclusion that the Medical Center could benefit from a more integrated leadership structure. Thus was born a new position that brought the academic and clinical missions of the Medical Center together. He was the first to hold the position.

An Iowa native, Dr. Joynt grew up in the small town of Le Mars. After serving as a radio operator tracking troop movements in India during World War II, Dr. Joynt returned home and attended Westmar College there. He went to medical school at the University of Iowa, interned at Royal Victoria Hospital in Montreal and then studied as a Fulbright scholar at Cambridge University. He returned to Iowa City and earned his doctoral degree in neuro-anatomy before joining the faculty of the University of Iowa.

In 1966, Dr. Joynt was tapped to create the University's Department of Neurology, an effort that began with three full-time neurologists. Today, the department is home to more than 25 times that number and is widely regarded as one of the top departments in the nation. Thanks in large part to Dr. Joynt's teaching prowess, Rochester quickly became a top choice for young neurologists in training.

In 1989, Dr. Joynt was elected to the national Institute of Medicine. He was a fellow of the American Association for the Advancement of Science and a member of the Board of Regents of the National Library of Medicine. He also served as editor of *Archives of Neurology,* founded *Seminars in Neurology,* and is the author of the field's major textbook, *Baker and Joynt's Clinical Neurology*.

At the Medical Center, he was director of the University's original Alzheimer's disease center. Dr. Joynt served as dean of the medical school from 1985 to 1989, as vice provost for health affairs from 1985 to 1994, and as vice president for health affairs from 1989 to 1994, before returning full time to faculty work. In 1997, the University conferred on him the title of Distinguished University Professor.

In his later years Dr. Joynt became widely recognized as an expert on presidential health. In 2001, he co-edited *Presidential Disability,* a book devoted to the study of the 25th Amendment, which deals with succession in the nation's leadership in the event that the president becomes incapacitated.

Dr. Joynt is survived by his wife, Margaret, and their six children and nine grandchildren.

Contributions in Dr. Joynt's memory can be made to multiple sclerosis research at the University of Rochester, or juvenile diabetes research at Children's Diabetes Center at Golisano Children's Hospital.

Q&A Robert J. Joynt, M.D., Ph.D.

A top neurologist and former dean discusses medicine, education and aging.

About two months before his death on April 13, 2012, Robert J. Joynt., M.D., Ph.D., Distinguished University Professor at the University of Rochester Medical Center and former dean of the School of Medicine and Dentistry, sat down for an interview with *Rochester Medicine* for an article in the magazine's spring issue. Here is what he had to say.

You have not retired. What keeps you busy these days?
I work with first and third year medical students in Problem-based Learning sessions, presenting clinical problems to the class. I do professor's round with residents and medical students to see patients. I enjoy it very much. I used to work in the clinic and hope to start back again at least part time. I'm not ready yet to stop. I enjoy the camaraderie with the young people, the residents and the students and the staff. I'm still very interested in the new advances of neurology. Everyday there is something new in the field and that is very encouraging. If that is staying in the game, so far it has worked.

This year is the 60th anniversary of your graduation from medical school at the University of Iowa. That's quite a span of medicine.
I've seen a lot of medicine, good and bad. We have a lot of new treatments today in neurology. When I began, neurology was a kind of no-man's land. We didn't have many good medications. We had antibiotics and the use of steroids had just been started. We had some drugs but they weren't very effective. The major change came in the late 1960s and early 1970s with new imaging technology like the CT scan and then the MRI. These diagnostics gave us a way to scan the brain and see things we just could not see with radiographic techniques. You have to think these advances will continue.

The organization of medicine and the delivery of health care need to be looked at closely. We have fallen down in that. When politicians put together health care plans, the last ones they talk to are the physicians. The Canadians have done a much better job with health care. People say there are delays. There may be, but, at the same time, you have a stable system and you are not going to become destitute over your health care plan. That will happen more and more here unless we find a new way.

What about changes in medical education?
The medical students here are wonderful. The amount of learning has increased exponentially since I was a med student, particularly in genetics. Our med students come in pretty well-equipped. They take on these challenges very well … When I started medical school, there were few girls in my class.

Now it's about now 50–50 men and women. This change has softened health care in some ways. It's been a very good influence on medicine in general.

It used to be that when you started medical school, you got a basic science education and then a good clinical education. There was very little mixing in. With our Double Helix curriculum, one is wrapped around the other. They are intertwined. Med students start right out with clinical problems. We introduce a clinical problem that illustrates some of the effects of damage or disease of the particular part of body they are learning about. They get to interview patients. We have a lot of instructions in interviewing. It is very important that students learn how to take a good history. To watch a good history-taker take a history and see what they get out of it is amazing. It is a technique that is all important in medicine. Once you get a good history, you are on your way to helping that patient.

Reducing the importance of grades in the first two years is another good development. We are taking pressure off the students. They come to us out of a maelstrom of competition for who has the best grades to get into medical school. It gives them a feeling of ease and camaraderie. They get to know each other and work together and listen to other ideas. It's a great collegial atmosphere.

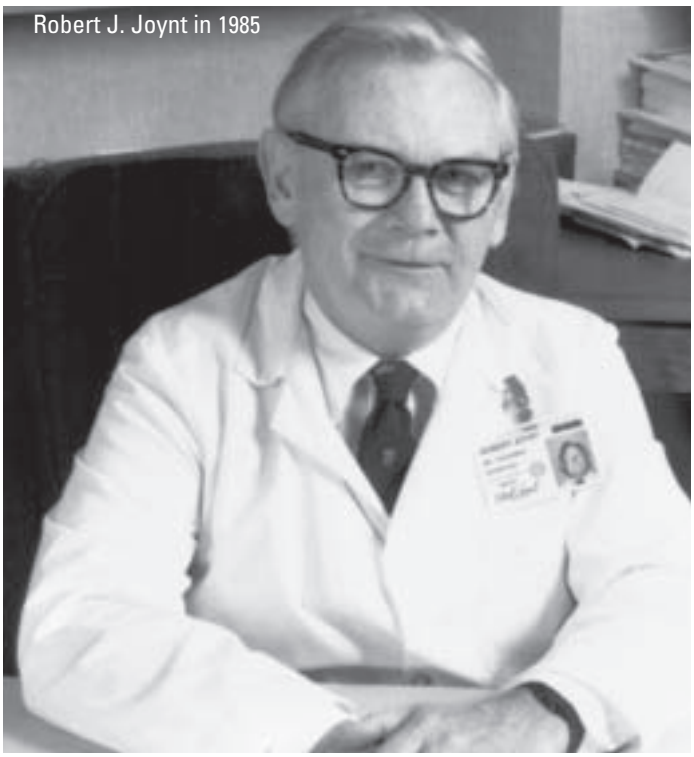
You started the first Alzheimer's center in Rochester. What do you think of the state of Alzheimer's research?
My early research was very basic, a neurophysiological project that investigated the way the brain releases vasopressin. But I also was interested in behavioral neurology, the way brain lesions affect behavior, language disorders and dementia. I was director of the Alzheimer's center here until I became dean and could see I could not do justice to the research with the job of being dean. A lot of the Medical Center's Alzheimer's research started from that center's research. Alzheimer's has remained very stubborn. We have some symptomatic treatments that help for a while, but they do not get down to the core of the problem and what causes the disease. Hopefully, we will have more luck with stem cells, but we have not demonstrated much with the current treatments.

I would like to see all the diseases solved, but Alzheimer's, in many ways, is the most devastating. The humanity of the person disappears before you. With other similar devastating diseases like stroke, which is more common than Alzheimer's, we've made some progress. But Alzheimer's continues to be very elusive. If you think in terms of finances – and you shouldn't always think in terms of finance – Alzheimer's creates such a huge health care cost to the country. Combine that with what it does to the emotional health of families, you see why we must figure out Alzheimer's.

Are you concerned about tightening NIH research budgets?
If you neglect medical research, you've neglected one of the most important facets of our government. People around the world look to the United States for education, medical care and scientific discoveries. We educate many international students here and they have enhanced our medical entourage greatly by coming here.

How do you feel about getting older?
I start a little slower than I used to. I think the University of Rochester is just a wonderful place. Even though it has gotten bigger and bigger, it still is a place you can get your hands around. The students are friendly. There's a good relationship between the faculty and students. It's a good place to work. I've been fortunate to be able to stay around. I'm probably a provost's nightmare because I've stayed so long.

Marshall A. Lichtman, Lowell Goldsmith, and Robert J. Joynt—each a dean of the School.


Robert J. Joynt in 1985

Bradford C. Berk appointed to second term as Medical Center CEO

Bradford C. Berk, M.D., Ph.D. (M '81, PhD '81), will serve a second, five-year term as senior vice president and CEO of the University of Rochester Medical Center, University President Joel Seligman announced.

Berk's reappointment was approved by the University board of trustees in March.

"No area of the University faces quite the range of challenges that the Medical Center does today in terms of its budget, structure, technology, response to new demands for alternative forms of health care delivery, and challenges to support of basic and clinical research," Seligman said.

Seligman praised the senior leadership team assembled by Berk and their implementing of the Medical Center's strategic plan, addressing ongoing needs to expand and modernize medical facilities, making difficult budget decisions for the hospitals and School of Medicine and Dentistry and School of Nursing, and negotiating more supportive relationships with third party payers.

The reappointment demonstrates the University's confidence in Berk's leadership at a critical juncture in the Medical Center's history.

As health care reform creates incentives for providers to increase the value, rather than the volume, of the care they provide, the Medical Center has substantially increased its quality and patient safety initiatives. Inspired by his own experiences following a serious spinal cord injury in 2009, Berk also has driven the Medical Center to adopt a rigorous approach to patient-and-family-centered care, an effort that is boosting patient satisfaction scores across the health system.

In 2011, a record number of clinical programs – four adult and three pediatric specialties – earned Top 50 rankings in *U.S. News & World Report*.

During Berk's tenure, federal research funding to Medical Center scientists reached an all-time high, with stimulus funds compounding the rise. The Medical Center also opened a number of new facilities, including the Saunders Research Building and a freestanding ambulatory surgery center.

A four-story addition atop the Wilmot Cancer Center also is opening, adding 42 new much-needed inpatient beds. Construction will begin this year on a new 237,000-square-foot Golisano Children's Hospital, the centerpiece of a $100 million fundraising campaign for pediatric facilities and programs.

Even through the economic downturn, the Medical Center has also maintained excellent financial results, providing vital resources for transformation.

Despite the Medical Center's impressive performance over the last five years, Berk faces formidable challenges as his leadership team develops its new strategic plan. National health care reform will demand fresh approaches to health care delivery and financing and poses threats to revenues that have supported the clinical and academic missions. As health care delivery evolves, medical and nursing schools must shift the way they educate and train future clinicians. Federal funding for biomedical research has tightened, making it more difficult for investigators to maintain steady grant support.

Within the next few months, Berk and his team will complete a new strategic plan that will serve as a roadmap for the next five years. Implementing this ambitious plan will require intense focus, a fact that has caused Berk to reduce and continue reducing his role in research projects to concentrate more fully on leading as CEO.

"I am excited about the Medical Center's future because we've assembled outstanding teams inspired with a shared vision. In our strategic plan, we will leverage our culture of patient-and-family-centered care along with cutting-edge research. Our goal is to become nationally respected for innovation and excellence while providing superb care locally and regionally," Berk said. "I can't imagine a more exciting time to be in health care."

"I am excited about the … future because we've assembled outstanding teams inspired with a shared vision. Our goal is to become nationally respected for innovation and excellence while providing superb care locally and regionally."

As diabetes emerges, researchers track disease's first steps

By Tom Rickey

Scientists have taken a remarkably detailed look at the initial steps that occur in the body when type 1 diabetes mellitus first develops in a child or young adult.

The analysis comes from a team of researchers and physicians at the University of Rochester Medical Center who have expertise both in the laboratory and in treating patients. The team studied children from ages 8 to 18 within 48 hours of their diagnosis with type 1 diabetes.

The incidence of the disease is rising quickly and has roughly doubled during the last 20 years or so. The trend is clear to Nicholas Jospe, M.D., chief of pediatric endocrinology at Golisano Children's Hospital of the University of Rochester Medical Center. His group now sees about 90 new cases of type 1 diabetes per year, compared to approximately 25 annually 20 years ago.

Every day, Jospe counsels families and children coping with the condition. At the same time, immunologists like Deborah J. Fowell, Ph.D., use an array of high-tech equipment to interrogate the likes of T-cells and macrophages for answers about the workings of the immune system.

For a study published in the journal *Diabetes* in February, Fowell and Jospe pooled their strengths to look at the disease in a way impossible to do alone. While scientists know diabetes is becoming more common, they don't understand what factors trigger it, why some children are more prone to getting it, or even why it's becoming more common.

Important clues lie within the so-called "honeymoon phase" in newly diagnosed patients, a period when the disease is more easily controlled in patients than at any other time.

While diabetes never fully goes away, it is marked by a single, early remission phase that starts within weeks of diagnosis and lasts a year or two. During this time, patients are healthy and don't need much insulin to control the disease.

"If we knew what was happening, perhaps we could replicate it or prolong it for the benefit of the patient." Jospe said. "Most treatments today attempt to do just that-prolong the honeymoon period. But there has not been much success thus far."

In a hunt for answers, Jospe teamed with Fowell, associate professor of microbiology and immunology. Fowell's group analyzed several measures of the immune system during the year after diagnosis in 21 children with type 1 diabetes, as well as in 22 healthy children and 70 healthy adults.

The team focused on immune cells known as T-regulatory cells. Fowell is an expert on "T-regs" and highlighted their role in a 2011 in the *Proceedings of the National Academy of Sciences*. The team found a great deal of variability among the children. In some, T-regulatory cells appeared to function normally throughout the remission period, while in others, activity appeared low throughout. In still other children, activity dipped during the honeymoon phase but then bounced back.

At the same time, the team witnessed an increase in activity of immune-boosting "effector cells," and increases in cytokines for interleukin 17 and tumor necrosis factor. Such chemical signaling molecules play a key role protecting us from pathogens, but in autoimmune diseases they have a hand in causing tissue damage. In diabetes, for instance, they help to incite the immune attack that destroys the insulin-producing cells in the pancreas.

The mix of results can be interpreted in many ways, said Jospe. One possibility is that the immune system is producing rogue immune cells that can't be well controlled by the T-regulatory cells. Another possibility is that the function of the T-regulatory cells is not up to par, giving wayward cells the opportunity to harm the body.

Jospe and Fowell are hopeful that the results, a series of molecular snapshots of immune activity in patients, will contribute to a better understanding of the disease.

"One hope, of course, is to create better treatments for patients. Another possibility is to find biomarkers to identify children who are at extra risk of developing type 1 diabetes," said Jospe.

The study was supported in part by the University's Autoimmunity Center of Excellence, which is funded by the National Institute of Allergy and Infectious Diseases.

Researchers test drug, psychotherapy combo for fibromyalgia

By Emily Boynton

For the first time, researchers will test whether two treatments are better than one for patients with fibromyalgia.

With a $5.5 million grant from the National Institutes of Health, scientists from the University of Rochester Medical Center and the University of Washington School of Medicine will evaluate the combination of a drug and behavioral health treatments in easing the chronic, widespread pain characteristic of the condition.

Calls for such a study – from experts and advocates, to patients and families – stem from the very modest benefits available therapies provide for the estimated 3 to 6 million Americans, mostly women, with the often debilitating disorder.

"Overall, current treatments for fibromyalgia are only partially effective: No more than half of patients get relief, and the other half stop therapy because they don't get relief or they don't like the side effects," said Robert H. Dworkin, Ph.D., professor in the Department of Anesthesiology and the Center for Human Experimental Therapeutics at the Medical Center. "Of those patients, who do get relief, their pain doesn't decrease dramatically; it goes down by a third, a half at most, so they are still living with considerable pain."

Dworkin, a principal investigator who will conduct the study with lead researcher and long-time collaborator Dennis C. Turk, Ph.D., the John and Emma Bonica Professor of Anesthesiology and Pain Research at the University of Washington, says no other studies have looked at the combination of medication and behavioral treatment in any chronic pain condition.

Robert H. Dworkin, M.D.

Ellen Poleshuck, Ph.D.

The team will study the effects of tramadol (brand name Ultram), a drug approved for the treatment of acute and chronic pain, combined with either cognitive-behavioral therapy or health education treatment-both of which work to change the way people think about their condition to ultimately improve the way they act and feel-to determine if a drug and one of the behavioral health treatments together is better than either one alone. Researchers are not only interested in the combo's influence on pain, but on patients' ability to carry out the activities of daily life, as well. Past research and Dworkin and Turks' own experience studying fibromyalgia suggest that increasing activity is critical in helping patients get better.

"When you are more active and can do the things you want to do-go to the movies with your family, walk around the mall, do housework-it takes your mind off the pain and makes you feel better about your life overall," said Dworkin. "I liken it to a virtuous circle or a positive loop: When you are more physically active you sleep better, and when you sleep better you have less pain, and when you have less pain you can do more of the things you love to do."

Increasing physical activity and enhancing sleep quality are major goals of the behavioral health treatments that will be provided in the trial. Ellen Poleshuck, Ph.D. (FLW '00), associate professor in the Department of Psychiatry at the Medical Center, who will also help run the trial, says the behavioral health treatments were designed specifically for patients with fibromyalgia. Participants will learn about fibromyalgia and various strategies for improved coping, for example, pacing, or understanding how much activity they can manage and monitoring themselves accordingly, and sleep hygiene, such as not doing anything in bed besides sleeping.

The study is funded by the National Institute of Arthritis and Musculoskeletal and Skin Disease at the National Institutes of Health. In addition to Dworkin and Turk, James P. Robinson, M.D., Ph.D., associate professor of rehabilitation medicine at the University of Washington School of Medicine, will serve as principal investigator.

Increasing physical activity and enhancing sleep quality are major goals of the behavioral health treatments that will be provided in the trial.

Cornell scholar named chair of biostatistics

Robert L. Strawderman III, Sc.D., professor of biological statistics and computational biology and statistical science at Cornell University, and professor in the Department of Public Health at Weill-Cornell Medical College, has been named chair of the Department of Biostatistics and Computational Biology at the University of Rochester Medical Center.

Strawderman replaces David Oakes, Ph.D., interim chair and professor of biostatistics, who has been leading the department since the sudden death of Andrei Yakovlev, M.D., Ph.D., in February 2008. Yakovlev pioneered a major expansion of the department beginning in 2002, to one of the best-funded in the country, and Oakes has continued to drive that momentum.

The Department of Biostatistics and Computational Biology is at the core of all research and plays a pivotal role in planning for future research initiatives at the Medical Center, and Strawderman is an excellent choice to build on the legacy of Yakovlev and Oakes, said Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry.

"Dr. Strawderman is an outstanding scientist and a delightful person," Taubman said. "I look forward to his galvanizing our efforts in all areas of biomathematics."

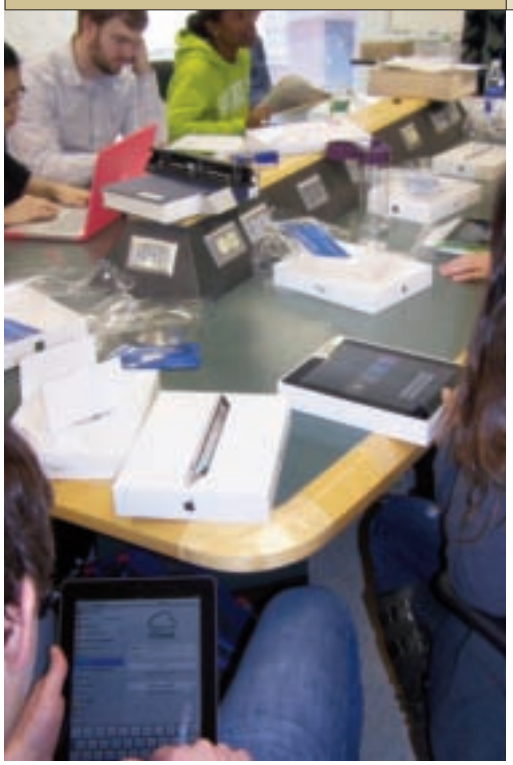
Strawderman earned his master's and doctorate degrees in biostatistics from Harvard University, where he also received the Distinguished Alumni Award in 2008. He obtained a bachelor's degree in mathematics from Rutgers College. He was a faculty member at the University of Michigan from 1992 to 2000, before moving to Cornell.

"Dr. Strawderman brings to Rochester the vision of a great leader, the experience of a great scholar, the patience of a great teacher, and the thoughtfulness of a true collaborator," said Robert G. Holloway, M.D., M.P.H. (R '93, FLW '96, MPH '96), chair of the search committee, and professor of neurology and community medicine.

Strawderman's major research area is survival analysis, with a focus on problems involving recurrent event data. More generally, he is interested in statistical inference for point process data; outcome prediction in medicine, epidemiology and public health; evaluating the cost and quality of health care; demography and population studies; asymptotics (theory and approximation); and, various problems in statistical computing. At Cornell he served as director of graduate studies for the fields of statistics and biometry, and director of the Statistics Core at Cornell Population Center.

Since 1997 Strawderman also has continuously served as an associate editor at the *Journal of the American Statistical Association (JASA Theory & Methods)* and is an associate editor of *The Electronic Journal of Statistics.*

Strawderman said he recognizes the Medical Center's strong reputation for both its research and clinical enterprises and the inherent importance of maintaining a focused and thriving biostatistics department. goals.



The iPad links with the Double Helix

The iPad officially is a part of the University of Rochester School of Medicine and Dentistry curriculum.

All first-year medical students – 103 of them – received an iPad 2 in March. Beginning next year, first-year students will receive iPads during orientation.

"The iPad will allow easier access to educational material," said David Lambert, M.D., the School of Medicine and Dentistry's senior associate dean for medical student education. "The iPad also will allow more interactive learning and more online learning that students can do on their own time."

The School plans to eliminate the printing of a syllabus and also purchase digital versions of textbooks and chapters of textbooks that then would be available through the iPad. Material for the Problem-Based Learning classes will become electronic instead of paper handouts.

"We'll save a lot of trees and students will have less to carry in their backpacks," Lambert said.

The iPad program began with only the first-year class to confirm the infrastructure and build the syllabus.

"We will get comfortable and learn from the process," Lambert said.

First-year students used the iPad for their Host Defense course. Miner Library librarians, IT staff and e-learning staff trained the first-year students on use of the iPad. Miner also provides all support for iPad use by medical students. Miner won a Technology Improvement Award from the National Network of Libraries of Medicine to purchase iPads for the library and for training of the staff.

Early surgery controls seizures, improves quality of life

By Mark Michaud

The majority of patients with previously uncontrolled temporal lobe epilepsy who underwent surgical intervention early in the course of their disease were not only seizure free, but experience a significantly higher quality of life compared to those who only manage their condition medically, University of Rochester Medical Center researchers reported.

"The results of this study are very clear: early surgical intervention works, it stops seizures, and it improves quality of life," said Medical Center neurologist Karl Kieburtz, M.D., M.P.H. (M '85, MPH '85), the senior author of the study published in March in the *Journal of the American Medical Association.*

"Individuals with temporal lobe epilepsy that is not controlled with medicine should be evaluated for surgical intervention at a comprehensive epilepsy center not after decades of poor response to medicine but within two years. And if they are a surgical candidate they should give strong consideration to that approach."

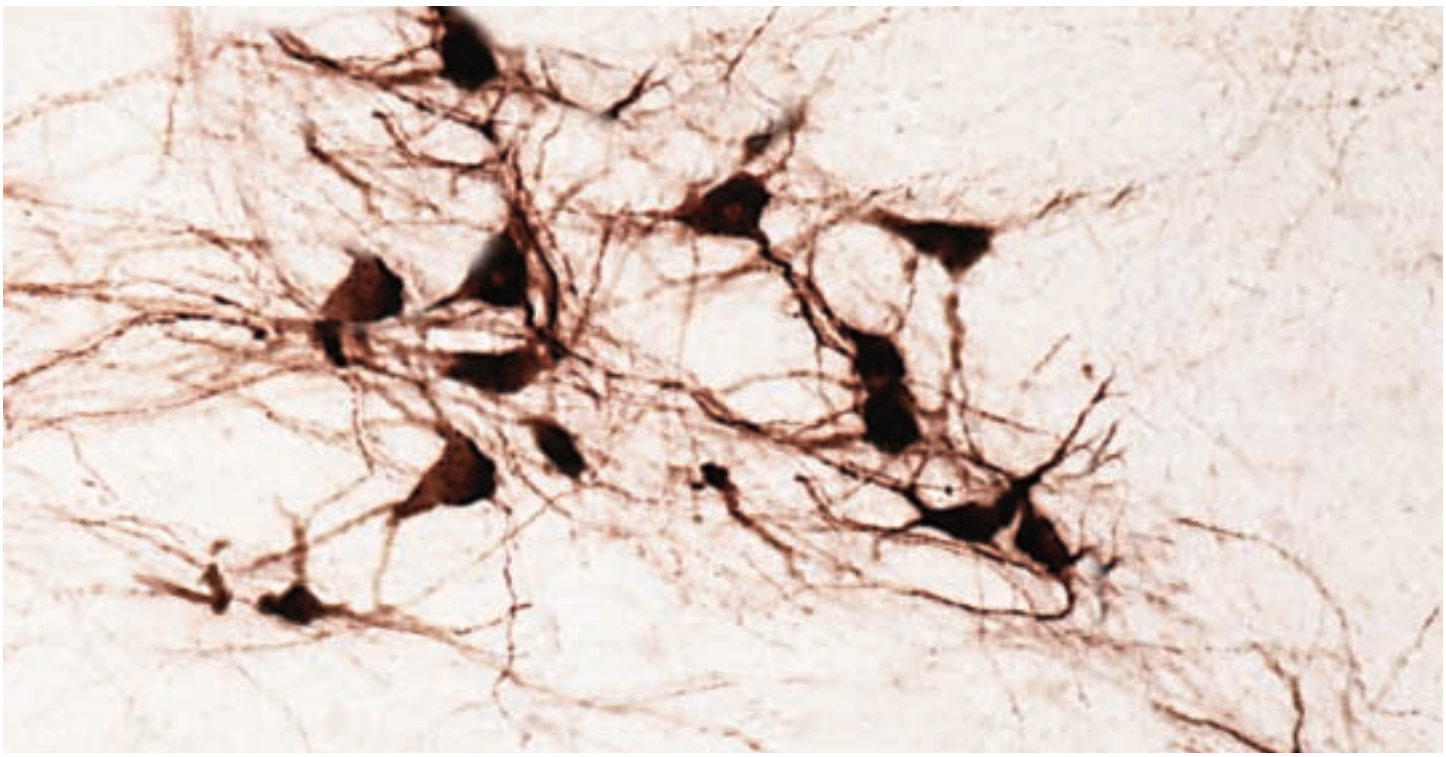
While surgical treatment has been shown to be effective in reducing seizures, a temporal lobectomy is often only considered after all other medical options have failed. Consequently, patients referred for surgery have been living with the condition for an average of 22 years and are often 10 years removed from having been declared "refractory," meaning that that at least two different antiepileptic drugs have failed to control their seizures. As a result, by the time patients opt for surgery they have often been living at high level of disability with a loss of independence and diminished quality of life for an extended period of time.

The study, called the early randomized surgical epilepsy trial (ERSET), followed individuals with mesial temporal lobe epilepsy. In order to be eligible, patients had to be within two years of having been declared refractory. One group of participants underwent a temporal lobectomy and the other group was assigned to a program of best medical care.

The study then tracked the frequency and severity of the participant's seizures, their cognitive function, quality of life, social interactions, and other outcomes such as employment and education status, ability to work, and number of hospitalizations over a 24 month period.

After two years, 73 percent of the participants who underwent surgery were seizure free in the second year after the procedure as opposed to none in the medical group. The surgical group also reported a significantly higher quality of life. Cognitive problems such as memory loss were similar between both groups. The members of the surgical group also reported a significant increase in independence and the willingness and ability to spend more time with friends and family. For example, the number of individuals who reported being able to drive a car rose from 7 to 80 percent in the surgical group. At the end of two years, only 22 percent of the medical group was driving.

The results were a surprise given that the study had been recommended for early termination due to slow enrollment. The study was originally intended to follow 200 patients, but only 38 were ultimately recruited. Despite the low number of participants, the results are statistically significant enough, in the authors' opinion, to compel a new approach to the treatment of patients with uncontrolled temporal lobe epilepsy.



Alumnus leads national palliative care organization

Timothy E. Quill, M.D. (M '76, R '79), director of the Center for Ethics, Humanities and Palliative Care at the University of Rochester Center, is the new president of the American Academy of Hospice and Palliative Care Medicine.

Quill takes the reins of the 4,100-member group at a time when hospitals are working to keep up with increasing demand for palliative care, which provides symptom-relieving measures and added support during all stages of serious illness. The focus is on alleviating suffering and relieving symptoms while at the same time delivering the best possible medical treatments to patients.

"For too long, people have approached the questions surrounding relieving suffering and enhancing patients' well-being as an either/or proposition with regard to disease treatment," said Quill, who also heads the Palliative Care Division of the Department of Medicine. "The question is no longer whether to treat medically

or to provide comfort-oriented care. Most often we can do both side by side. This approach is at the center of modern palliative care, providing the best medical treatments while simultaneously reducing pain, enhancing the patient's quality of life and opening lines of communication within a family.

"Recent studies have shown that this approach enhances quality of care, saves money and may even prolong life. Our understanding of palliative care has really evolved," added Quill, who is professor of Medicine, Psychiatry, Medical Humanities, and Nursing.

Quill has helped train a generation of physicians in medical schools across the country about how to work effectively with seriously ill patients. Increasing the pool of people trained in palliative care is a top priority for Quill, who says there are not enough young physicians trained in the area to meet the growing national need.

Quill heads one of the strongest palliative care programs in the world. The team provides more than 1,000 new inpatient consultations and about 400 new outpatient and home consultations annually. The program also offers a 12-bed inpatient unit, required palliative care educational experiences for medical students and residents, a clinical fellowship program, and a clinical research team.

URMC and its community affiliates have more than 25 board-certified physician specialists in palliative care, one of the highest concentrations of palliative-care physician specialists in the nation. Recently, the University of Rochester Medical Center's Palliative Care Program became the first in an academic medical center nationwide to earn advanced certification from the Joint Commission.

'Brain fog' of menopause confirmed

By Tom Rickey

The difficulties that many women describe as memory problems when menopause approaches are real, according to a study published in March in the journal *Menopause* by scientists at the University of Rochester Medical Center and the University of Illinois at Chicago.

"The most important thing to realize is that there really are some cognitive changes that occur during this phase in a woman's life," said Miriam Weber, Ph.D. (FLW '06), the Medical Center neuropsychologist who led the study. "If a woman approaching menopause feels she is having memory problems, no one should brush it off or attribute it to a jam-packed schedule. She can find comfort in knowing that there are new research findings that support her experience. She can view her experience as normal."

The study included 75 women, from age 40 to 60, who were approaching or beginning menopause. The women underwent a battery of cognitive tests that looked at several skills, including their abilities to learn and retain new information, to mentally manipulate new information, and to sustain their attention over time. They were asked about menopause symptoms related to depression, anxiety, hot flashes, and sleep difficulties, and their blood levels of the hormones estradiol and follicle-stimulating hormone were measured.

Weber's team found that the women's complaints were linked to some types of memory deficits, but not others. Women who had memory complaints were much more likely to do poorly in tests designed to measure what is called "working memory," the ability to take in new information and manipulate it in their heads. Scientists also found that the women's reports of memory difficulties were associated with a lessened ability to keep and focus attention on a challenging task.

Such cognitive processes aren't what typically come to mind when people think of "memory." People usually consider memory to be the ability to tuck away a piece of information and to retrieve it later. The team found little evidence that women have problems with this ability.

Women who reported memory difficulties were also more likely to report symptoms of depression, anxiety, and sleep difficulties. The team did not find any link between memory problems and hormone levels.

"Science is finally catching up to the reality that women don't suddenly go from their reproductive prime to becoming infertile," said Weber, assistant professor of neurology. "There is this whole transition period that lasts years. It's more complicated than people have realized."


Margaret and Richard I. Burton, M.D.


Edward M. Schwarz, Ph.D.

Richard and Margaret Burton Distinguished Professorship in Orthopaedics established

Richard Burton, M.D. (R '64), has been a central figure in the University of Rochester Medical Center's Department of Orthopaedics and Rehabilitation, building it into a national leader in musculoskeletal care, research and education. His 50 years of service to the department and Medical Center have been a catalyst for the transformation of musculoskeletal care in the region.

Adding to his extraordinary commitment and contributions to the department and University, Burton and his wife, Margaret, have committed $1 million toward the establishment of the Richard and Margaret Burton Distinguished Professorship in Orthopaedics, with a goal of raising a total of $2 million to fund the director of the internationally recognized Center for Musculoskeletal Research. Their generous commitment supports *The Meliora Challenge:* The Campaign for the University of Rochester.

During Burton's tenure as chair of the Department of Orthopaedics, he developed the vision for a multidisciplinary research center focusing on orthopaedic conditions. With his support, the Center was among the first groups nationally to have integrated teams of clinicians and scientists working together to understand the cellular and molecular aspects of orthopaedic disease and to extend this knowledge to improved patient care.

The inaugural Burton Professor will be Edward M. Schwarz, Ph.D., director of the Center for Musculoskeletal Research. Schwarz is a national leader in the study of the interaction of the immune system with the musculoskeletal system. His pioneering work is leading to potential new treatments for diseases such a rheumatoid arthritis, bone infections, and tissue regeneration.

"The Department of Orthopaedics benefited tremendously from Dick's leadership, and I am thrilled that this professorship will carry on his legacy and honor both Dick and Peggy for generations to come," said School of Medicine and Dentistry Dean Mark B. Taubman, M.D.

Burton, currently senior associate dean for academic affairs for the School of Medicine and Dentistry, has high praise for the emphasis on collaboration in orthopaedics and at the Medical Center: "We build bridges, not fences. Our outstanding research and clinical efforts reach across diverse disciplines, backgrounds and degrees, and focus on how to best treat and care for our patients. Our goal is not achieving today's excellence tomorrow, but always striving to make tomorrow's excellence better than it is today."

A partner every step along the way has been Peggy Burton, a scientist in her own right, working as a research chemist, first at Polaroid and then for two years at the University. Over the years she hosted countless dinners and events in the Burton home, bringing faculty, residents, staff and administrators together and fostering a spirit of personal connection and collaboration that continues today.

"I am so proud of everything that has been accomplished in the department over the years. Dick and I are so pleased to see the outstanding work continue on improving the care of orthopaedic patients," Peggy added.

Burton was a mentor throughout the career of Regis O'Keefe, M.D., Ph.D (PhD '00), current chair of Orthopaedics and Rehabilitation, the

Continued on page 55

Elizabeth R. McAnarney, M.D.

Roger and Carolyn Friedlander

McAnarney Professorship in Pediatrics funded by Friedlanders

Pediatric research and education are moving forward at the University of Rochester Medical Center, with a major gift from a local couple that has long supported the University.

A gift from Roger and Carolyn Friedlander has created a new endowed professorship in honor of Elizabeth McAnarney, M.D., professor and chair emerita of pediatrics at the Medical Center. The Dr. Elizabeth R. McAnarney Professorship in Pediatrics Funded by Roger and Carolyn Friedlander will be used to support research activities in pediatrics, and to hire, train and mentor talented young scientists to further strengthen the future of its programs.

The Friedlanders' generous commitment will contribute to Golisano Children's Hospital's $100 million campaign, which will support both a new children's hospital and focus on programs to enhance care, research and education. The effort is part of the Medical Center's $650 million campaign and the overall $1.2 billion goal of *The Meliora Challenge:* The Campaign for the University of Rochester.

The gift comes from two steadfast supporters of the University for nearly four decades. McAnarney first met the Friedlanders through Carolyn's work as a pediatric nurse practitioner at Elmwood Pediatric Group. Roger was the chair of the children's hospital fundraising board in 1993 when McAnarney was named the sixth chair of the Department of Pediatrics and pediatrician-in-chief of what is now Golisano Children's Hospital. The Friedlanders have supported programs and projects throughout the University, but chose to endow a professorship in McAnarney's name to honor her legacy of ongoing work and extraordinary contributions on behalf of children.

"We are so fascinated and intrigued by what she has done for children all over the world. She was the perfect person to recognize in this way," Roger said. "This is not just financial involvement; it's heart to heart."

The first recipient of the professorship will be Richard E. Kreipe, M.D., professor of pediatrics and a protégé of McAnarney's. Kreipe is the founding director of the Child and Adolescent Eating Disorder Program at the hospital and is a board-certified pediatrician and adolescent medicine specialist, as well as a Fellow of the Academy for Eating Disorders. The Child and Adolescent Eating Disorders Program has become a sign of hope for young people who suffer from eating disorders as well as their families, and is a very important component of the Golisano Children's Hospital.

"This professorship is a fitting honor for Dr. McAnarney, who has always been responsive to whatever the University needs," said Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry. "The choice of Dr. Kreipe as the first faculty member to hold the professorship doubly honors her because he was one of her former fellows."

A genuine treasure among the Rochester community, McAnarney's many accomplishments include becoming the first woman to chair the Department of Pediatrics, earning the Albert Kaiser Medal from the Rochester Academy of Medicine (2003), and the Crystal Heart Award from the Ronald McDonald House. "It is a singular honor to be acknowledged by one's University and by cherished friends by the creation of a professorship in one's name. There is no other acknowledgement in academics that resonates so deeply," McAnarney said.

MATCH DAY 2012

The drama of Match Day took place in Whipple Auditorium at the University of Rochester Medical Center this year, where both tension and spirits were high.

Judging by the smiles and yells at 12:01 p.m. March 16, the Class of 2012 was happy with the match results, said David R. Lambert, the School's senior associate dean for medical student education.

One hundred and four members of the Class of 2012 matched. In that group, 25 will complete training at the University of Rochester Medical Center and 39 will complete training in New York State. Rochester students matched to programs in 23 of the states and District of Columbia.

The top specialty choices in the class were: Internal Medicine (22), Pediatrics (13), Anesthesia (9), Obstetrics and Gynecology (8) and General Surgery (7) and Emergency Medicine (7).

More than 95 percent of U.S. medical school seniors–the highest rate in 30 years – matched to residency positions according to new data released today by the National Resident Matching Program.

Of the applicants from U.S. schools who matched, 81.6 percent matched to one of their top three choices. More than 56 percent of U.S. students matched to their first choice. Another 15.6 percent matched to their second choice and 9.5 percent their third.

ANESTHESIOLOGY

Chau Doan	University of Washington Affiliate Hospitals
Thomas Fugate	University of Rochester Medical Center
Kim Hoang	University of Rochester Medical Center
Mark Jensen	SUNY Downstate Medical Center, Brooklyn
John Kowalczyk	Case Western/University Hospitals
Keila Mayes	Duke University Medical Center
Patrick Milford	New York University School of Medicine
Cesar Padilla	Cedar-Sinai Medical Center
David Sum	Yale-New Haven Hospital

DERMATOLOGY

Amanda Carpenter	University of Rochester Medical Center
Kathryn Somers	University of Rochester Medical Center

EMERGENCY MEDICINE

Thomas Eckler	St.Luke's-Roosevelt Hospital Center
Katherine Fitzpatrick	University of Pittsburgh Medical Center
Haleh Kadivar	University of Wisconsin Hospital and Clinics
Ryan McDermott	Maricopa Medical Center
Mark Pettit	Christiana Care Health System
Dorcas Pinto	Albany Medical Center
Aaron Wiener	University of Rochester Medical Center

FAMILY MEDICINE

Craig Betchart	University of Rochester Medical Center
Karen Boston	Kaiser Permanente, Los Angeles
William Bowen	Tacoma Family Medical Center
Monique Castro	Glendale Adventist Medical Center
Reija Rawle	O'Connor Hospital, San Jose, Calif.

David R. Lambert, M.D., addresses the gathering.

Andrew Pistner, William Bowen and friend.

GENERAL SURGERY

Frank Bauer	Exempla St. Joseph Hospital, Denver
Chen He	Case Western/University Hospitals
Bradley Hensley	University of Rochester Medical Center
Jing Li Huang	University of Minnesota Medical Center
Melissa Mura	University of Rochester Medical Center
Mehr Qureshi	University of Rochester Medical Center
Theophilus Ugheghe	Banner Good Samaritan Medical Center
Daniel Young	Virginia Mason Medical Center

INTERNAL MEDICINE

Mary Carpenter	University of Rochester Medical Center
Robert Fulton	Oregon Health and Science University
Sarah Glantz	Rhode Island Hospital/Brown University
Heather Hopkins Gil	University of Rochester Medical Center
Michael Insel	California Pacific Medical Center
James Kim	New York University School of Medicine
Daniel Kroenig	University of Rochester Medical Center
Yi Lin	University Hospital, Cincinnati
Kristy Mathes	Oregon Health and Science University
Andrew Mathias	University of Rochester Medical Center
Ana Nunes	Scripps Clinic/Green Hospital
Gregory Ouellet	Yale-New Haven Hospital
Jennifer Ouellet	Yale-New Haven Hospital
Leslie Park	New York University School of Medicine
Ellegant Pearson	Lankenau Hospital
Andrew Pistner	University of Wisconsin Hospital and Clinics
Michael Raco	Maine Medical Center
James Shaw	University of Rochester Medical Center
Jennifer So	Temple University Hospital
Zachary Suter	University of Rochester Medical Center
Martha Trimbur	Einstein/Montefiore Medical Center
Ron Wexler	Tufts Medical Center

MEDICINE-PEDIATRICS

Emily Gaukler	Christiana Care Health System
Brian Stanistreet	University of Rochester Medical Center

NEUROLOGY

Erin Casey	St. Louis Children's Hospital
Jennifer Cialone	University of Rochester Medical Center
Peter Creigh	University of Rochester Medical Center
Lauren Loss	University of Rochester Medical Center
Melissa Tsuboyama	University of Rochester Medical Center

OBSTERICS-GYNECOLOGY

Adebola Falae	Tulane University School of Medicine
Jennifer Fichter	University of Rochester Medical Center
Ariel Lee	Tulane University School of Medicine
Meredith Pensak	Pennsylvania Hospital
Rebecca Petersen	University of Minnesota Medical School
Arie Shaw	University of Tennessee College of Medicine, Memphis
Jonas Wilson-Leedy	Hershey Medical Center
Rachel Zigler	Barnes-Jewish Hospital

Trivia game before the Match.

Keila Mayes and Melissa Mura

Mary Fraga

To view a Match Day video and slide show, visit *Rochester Medicine* online at *www.rochester-medicine.urmc.edu*

OPHTHALMOLOGY

Mircea Coca	University of Texas at Galveston
Robert Fargione	Albert Einstein College of Medicine
Leah Kammerdiener	Medical University of South Carolina
Kendra Klein	Tufts-New England Eye Center
Amit Sangave	University of Rochester Medical Center

ORTHOPAEDIC SURGERY

Debbie Dang	University of California at San Francisco
Havalee Henry	Yale-New Haven Hospital
Sirish Kondabolu	Stony Brook Teaching Hospital
Tyler Moore	University of California at Irvine Medical Center
Sandeep Soin	University of Rochester Medical Center

PATHOLOGY

Xuan Wang	Vanderbilt University Medical Center

PEDIATRICS

Lucy Amory	Oregon Health and Science University
Stanley Dunn	Eastern Virgina Medical School
Adam Dziorny	Children's Hospital of Philadelphia
Mary Fraga	Einstein/Montefiore Medical Center
Candace Gildner	Children's Hospital of Philadelphia
Karla Haag	University of Rochester Medical Center
Benjamin Marsh	Einstein/Montefiore Medical Center
Alejandro Mones	Baystate Medical Center
Andrea Petersen	Baylor College of Medicine
Joseph Point du Jour	Einstein/Jacobi Medical Center
Rachel Pokorney	University of Washington Affiliate Hospitals
Timothy Porter	Northwestern McGaw Medical Center
Deborah Traub	University of Colorado School of Medicine
Brittany Walker	Inova Fairfax Hospital

PHYSICAL MEDICINE & REHABILITATION

Kurt Mildenstein	Loma Linda University Medical Center

PLASTIC SURGERY

Emily Von Kouwenberg	Albany Medical Center

PRIMARY CARE MEDICINE

Iyerus Tariku	University of Connecticut Medical Center

PSYCHIATRY

David Benavidez	University of Rochester Medical Center
Katherine Klingensmith	Yale-New Haven Hospital
Michele Nelson	University of California at Irvine Medical Center
Robin Valpey	University of Pittsburgh Medical Center

RADIATION ONCOLOGY

Paul Youn	University of Rochester Medical Center

UROLOGY

Ilana Jacobs	University of Texas Southwestern Medical School
Jeffrey Sparenborg	Georgetown University Hospital

Jennifer Cialone

Ellegant Pearson (right)

Mehr Qureshi (holding letter) and friends.

STUDENTS MATCHING HERE

Match Day is a two-way street. While many are leaving Rochester and the School of Medicine and Dentistry, more than 100 physicians will serve as residents and receive training in Rochester. They come from throughout the United States and many countries.

ANESTHESIOLOGY

Ryan Anderson	Kansas City University of Medicine and Biosciences College of Osteopathic Medicine
Spencer Burk	Virginia Commonwealth University School of Medicine
Jonathan Chow	Albany Medical College
Madojutola Dawodu	Duke University School of Medicine
Mehran Ebadi-Tehrani	Michigan State University College of Human Medicine
Alexander Hawson	Columbia University College of Physicians and Surgeons
Scott Kagie	Medical College of Wisconsin
Sarah Kralovic	St. George's University
Stephen Little	New York College of Osteopathic Medicine of The New York Institute of Technology
Jacqueline Lozano	State University of New York at Buffalo School of Medicine & Biomedical Sciences
Derek Mitchell	University of Washington School of Medicine
Kiritpaul Nandra	Saba University School of Medicine
Yaser Rad	Saba University School of Medicine
Matthew Sabo	UMDNJ–New Jersey Medical School

DERMATOLOGY

Amy Strikwerda	Medical College of Wisconsin

DIAGNOSTIC RADIOLOGY

Chung Cuiffo	State University of New York at Buffalo School of Medicine & Biomedical Sciences
Amit Desai	SUNY Upstate Medical University
Christopher Gange	Drexel University College of Medicine
Akshya Gupta	Jefferson Medical College of Thomas Jefferson University
Omar Hasan	UMDNJ–Robert Wood Johnson Medical School at Piscataway
Alexander Kessler	SUNY at Buffalo School of Medicine & Biomedical Sciences
Dara Omer	SUNY at Buffalo School of Medicine & Biomedical Sciences
Tejas Patel	The Chicago Medical School at Rosalind Franklin University of Medicine and Science
Baxter Richardson	University of Iowa Roy J. and Lucille A. Carver College of Medicine

EMERGENCY MEDICINE

Brian Barlow	UMDNJ–Robert Wood Johnson Medical School at Camden
Praneeta Bremjit	University of Washington School of Medicine
Lisa Clark	Lake Erie College of Osteopathic Medicine
Holly Gunyan	University of Vermont College of Medicine
Christopher Harmon	SUNY Upstate Medical University
Cole Klick	University of Minnesota Medical School
Valerie Lou	University of California at San Diego, School of Medicine
Jeffrey Moon	UMDNJ–Robert Wood Johnson Medical School at Camden
Antonio Rodriguez	University of Texas Medical Branch at Galveston
Henry Tran	University of Utah School of Medicine

FAMILY MEDICINE

Christine Cameron	Medical University of South Carolina College of Medicine
Jessica Ferger	SUNY Upstate Medical University
Jean Hamlin	Dartmouth Medical School
Matthew Heckman	Pennsylvania State University College of Medicine
Gerrit Heetderks	Case Western Reserve University
Yule Lee	Drexel University College of Medicine
Karolina Lis	Jagiellonian University Medical College
Rachel Long	A.T. Still University of Health Sciences Kirksville College of Osteopathic Medicine
Colleen Loo-Gross	University of Kansas School of Medicine at Wichita

GENERAL SURGERY

Sharin Ayazi	Shahid Beheshti University of Medical Sciences
Colin Powers	University of Maryland School of Medicine
Nicole Toscano	SUNY Upstate Medical University
Joshua Wong	Jefferson Medical College of Thomas Jefferson University

INTERNAL MEDICINE

William Amundson	University of Minnesota Medical School
Ferdous Barlaskar	University of Michigan Medical School
Jennifer Barnas	SUNY at Buffalo School of Medicine & Biomedical Sciences
Katherine Dodd	University of New England College of Osteopathic Medicine
Eric Heintz	Weill Cornell Medical College
Mark Hodges	SUNY Upstate Medical University
Elise Janicke	SUNY at Buffalo School of Medicine & Biomedical Sciences
Samata Kamireddy	Jefferson Medical College of Thomas Jefferson University
Poghni Peri-Okonny	Rush Medical College of Rush University Medical Center
Bradley Petkovich	University of Arkansas College of Medicine
Leigh Sassaman	Pennsylvania State University College of Medicine
Emily Seif	Michigan State University College of Human Medicine
Tyler Slyngstad	University of Washington School of Medicine
Jennifer Stabel	SUNY at Buffalo School of Medicine & Biomedical Sciences
Wenjia Wang	University of Kansas School of Medicine at Kansas City
Ziolkowski, Susan	SUNY Upstate Medical University
Zittel, Jason	Pennsylvania State University College of Medicine

MEDICINE-PEDIATRICS

Heather Busick	University of Massachusetts Medical School
Catherine Dailey	Yale University School of Medicine
Megan Ditty	University of Michigan Medical School
Patrick Ellsworth	Ohio State University College of Medicine
Jonathan Lin	Indiana University School of Medicine
Julia West	University of North Carolina at Chapel Hill School of Medicine
Michael Winter	Tufts University School of Medicine

NEUROLOGY

Justin Chandler	University of Utah School of Medicine
Johanna Hamel	Martin-Luther-Universitaet Halle-Wittenberg
Peter Morrison	New York College of Osteopathic Medicine of The New York Institute of Technology
Christopher Tarolli	SUNY Downstate Medical Center College of Medicine

NEUROSURGERY

Katarzyna Czerniecka	Jagiellonian University Medical College
Kenneth Foxx	New York University School of Medicine

OBSTERICS-GYNECOLOGY

Snigdha Alur	Jefferson Medical College of Thomas Jefferson University
Corrie Anderson	University of New England College of Osteopathic Medicine
Megan Locher	Oregon Health & Science University School of Medicine
Laura Melcher	University of Minnesota Medical School
Amy Nosek	SUNY at Buffalo School of Medicine & Biomedical Sciences
Chinedu Nwabuobi	Albert Einstein College of Medicine of Yeshiva University
Raksha Soora	University of Arkansas College of Medicine

ORTHOPAEDIC SURGERY

Rami El-Shaar	Northeast Ohio Medical University
Raymond Kenney	Boston University School of Medicine
Bilal Mahmood	Dartmouth Medical School
Robert Mason	SUNY Upstate Medical University
Lucas Nikkel	Pennsylvania State University College of Medicine
Wenjing Zeng	Washington University in St. Louis School of Medicine

OTOLARYNGOLOGY

Priya Kesarwani	Saint Louis University School of Medicine
Clara Rimmer	Albany Medical College
Joseph Vella	University of Pittsburgh School of Medicine

PATHOLOGY

Meenal Sharma	Lady Hardinge Medical College
Bibiana Steinbaur	American University of Antigua College of Medicine

PEDIATRICS

Uthayanee Balasubramaniam	St. George's University
Heather Comerci	Temple University School of Medicine
Lynn Correll	University of Utah School of Medicine
Rachel Diamond	Sackler School of Medicine
Carol Fries	SUNY Upstate Medical University
Kavithashree Gnanasekaran	St. George's University
Justin Goldstein	Sackler School of Medicine
Ethan Helm	University of Arkansas College of Medicine
Karol Hyjek	Jagiellonian University Medical College
Naazneen Iqbal	The School of Medicine at Stony Brook University Medical Center
Diana Miller	UMDNJ–Robert Wood Johnson Medical School at Piscataway
Katie Mowers	Michigan State University College of Human Medicine
Supriya Nair	Loyola University Chicago Stritch School of Medicine

PHYSICAL MEDICINE & REHABILITATION

Daniel Amos	Saba University School of Medicine
David Essaff	Western University of Health Sciences College of Osteopathic Medicine of the Pacific
Katarzyna Iwan	Jagiellonian University Medical College

PLASTIC SURGERY

Elaina Chen	Indiana University School of Medicine
Diana Meskill	Drexel University College of Medicine

PSYCHIATRY

Rachel Borden	SUNY at Buffalo School of Medicine & Biomedical Sciences
Brittany Klein	University of South Carolina School of Medicine
Dana Mahmoud	Lake Erie College of Osteopathic Medicine
Rachel Nadbrzuch	SUNY at Buffalo School of Medicine & Biomedical Sciences
Joshua Nelson	SUNY Upstate Medical University

RADIATION ONCOLOGY

Bergsma, Derek	Michigan State University College of Human Medicine

SURGERY-PRELIM

Nathania Figueroa Guillani	Ponce School of Medicine

THORACIC SURGERY

Amber Melvin	The Brody School of Medicine at East Carolina University

UROLOGY

Benjamin Nelson	Sanford School of Medicine of the University of South Dakota
Kevin Tsai	Jefferson Medical College of Thomas Jefferson University

VASCULAR SURGERY

Khurram Rasheed	Tufts University School of Medicine

"My volunteer service is a commitment to VNS today. My charitable gift annuity is a commitment to its future."

—Ann Mowris Mulligan
Board Member and Volunteer,
Visiting Nurse Service (VNS) of Rochester

Ann Mulligan is passionate about caring for people. For more than fifty years she has delivered meals—and smiles—to grateful recipients of Meals On Wheels. Ann funded a charitable gift annuity to ensure VNS programs are available for future generations.

Above: Ann Mulligan with Meals On Wheels recipient Anthony Scorza

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THE CAMPAIGN *for the* UNIVERSITY OF ROCHESTER

Q&A with Ralph F. Stroup, M.D.

Retirement and Africa trigger a dramatic change in an alumnus' life.

Ralph F. Stroup, M.D., is a Class of 1965 graduate of the University of Rochester School of Medicine and Dentistry. He spent two years in Rochester as a surgical intern and then surgical resident before joining the U.S. Air Force for two years. Stroup completed his urology training at Yale School of Medicine in 1973. He then joined a five-man urology practice in New Haven, Conn. He retired from the practice in 2006, but he remains an assistant clinic professor at Yale, where he runs the residents urology training clinic.

How did your venture to Africa begin?

Bruce Williams, my roommate in college at Rutgers, and I were good friends but we had not been in contact in 40 years. When I retired, I made a resolution to find him. In 2008, I found him in Chicago. He's a world-class educator. I went to see him. He invited me to go with him to Kenya to help with a training workshop for community mobilization against HIV/AIDS with Kenyan health care workers. I had never been to Africa. I agreed to go.

What happened during your first visit to Kenya?

While I was there for the workshops, I was invited by a group of Maasai leaders to remote villages in the Laikipia District in the north within sight of Mount Kenya. The farther north you go, the more difficult it is to travel. The roads are very poor. It was a rough ride.

I was taken to Lokusero, a village with just a shell of a clinic. The Kenyan government says a village has to have funds to build the clinic. If it is built and the government certifies it, the government provides personnel to man it. It was an empty shell because the village had run out of money. This was at the beginning of a terrible drought, which has persisted the last three years, and they were totally impoverished. The cost of completing the clinic was about $8,000. A day or two later, I was taken to another remote village, Chumvi, where there was a clinic supported by a small private hospital and a British nonprofit organization. It was in danger of closing because it was running in the red. No one could fill in gap that turned out to be $250. I returned to the main town, where I met with Maasai leaders and told them I would find a way to support both clinics.

Did you raise the money?

I went home and met with Rotary Clubs, church groups, medical groups and people from Yale. I formed a small donor base that now is about 100 people. I raised the needed money by mid-2009. Wonderful things happened. By August 2009, the Lokusero clinic was finished with nursing quarters. The government certified the facility and it was ready to open. There was a problem: there were no examining tables, desks or chairs. They needed money for capital equipment. I was able to raise the money and, by the end of 2009, the clinic was running with two nurses and a health care worker. In partnership with the community and the government, solar panels were installed for lighting and a room for outpatient maternity facility was added. Chumvi's clinic was able to stay open with the money raised and a two-bed maternity unit has been added.

What other needs have you found?

There is no reliable water in Lokusero. There is a traditional well about 100 feet from the clinic and a water tank on a hill. The pump is powered by diesel fuel but the village is so poor they can't afford money for fuel. We have raised $22,000 for a solar-powered pump and up to dozen solar panels that should provide reliable power for the pump and for a refrigerator for vaccines and medications.

Another major health issue is the high neonatal mortality rate, which ranges from 56 per thousand and 171 per thousand, which is extremely high. The goal of the government is creation of an educational program so pregnant women in remote villages will understand the advantages of delivering in a clinic or hospital setting. I'm now seeking grant money for an educational program. There are insufficient funds in the district. I'm working not in place of but in tandem with the district health officers and the government to bring the initiative to reality.

The Maasai have formed an effective leadership structure. There are committees to advise on health care, schools, water and other issues. I work with the Ilngwesi Afya Group. Afya is health care in Swahili. About 15 people were given seed money in 2005 to form a

My trips to Kenya have been eye-opening. I always said that in retirement I wanted to step out of my comfort zone. I found myself in a world of poverty and need that has had a profound effect on me. It really has changed my life.


Ralph F. Stroup, M.D., with nurse and midwife Martha Maleson.

nonprofit in Kenya made up of Kenyans. They first did HIV awareness in the communities. They received funding from the Institute of Cultural Affairs, Canada and from the U.S. Agency for International Development. They created a series of programs proven to be exceedingly effective in reducing HIV and AIDS. All the work I do is in direct conjunction with this group. All the needs assessments and priorities come from them. They have received international recognition for effectiveness and honesty. They are dynamic people and wonderful to work with.

I also work with the non-profit group, International Consultants and Associates, which has about 35 years of experience in African initiatives. This group is our vehicle for transferring money. We are IC&A's largest project.

What are you working on now?

The main thing is to seek funds for an educational grant for a neo-natal and maternity program to reduce mortality. I'm also interested in a lens-less cell phone microscope that is being developed by an engineering group at UCLA. A device is attached to a cell phone to allow diagnosing of malaria or conducting an HIV test in the field, anywhere there is cell phone service. The remoteness of our clinics makes them an ideal test site. I'm exploring insecticide impregnated mosquito nets. Malaria still is a very major problem in this part of Kenya. As many as 65 percent of children are treated for malaria. The nets are about $10 a piece but that is more that the people can afford. I'm also looking at a water filter with no moving parts and no chemicals. It's a sand-and-gravel filtration system that is effective in making water potable. It eliminates almost 99 percent of disease causing elements. It costs $50 a unit and provides about 60 liters of clean water a day. It would mean a better standard of living.

How has this affected you?

My trips to Kenya have been eye-opening. I always said that in retirement I wanted to step out of my comfort zone. I found myself in a world of poverty and need that has had a profound effect on me. It really has changed my life. It has changed my life's priorities, my personal charitable donations, and my time priorities. A lot of what I do is directly related to these people and projects in Kenya. By concentrating on building primary health care infrastructure and clean water facilities, I can affect the lives of thousands. I could go there and do hands-on medicine for a week or two but the number of people helped would be much smaller. I am pleased with that decision.

The Maasai and the people in the villages are very positive and full of great gratitude. I've been to Kenya three times and I plan to go again this summer. As I've gone back and my credibility and trust levels have developed, I think I am in a position to bring about changes that might not happen otherwise.

To contact Ralph Stroup for information on his Africa projects, e-mail him at *ralph.f.stroup@gmail.com*

Inspired by a legendary Rochester faculty member, team physicians care for the high-performance athlete.

With the Major League Baseball season in full swing, David Lintner, M.D. (M '86, R '91), steps into his most enjoyable, and perhaps his busiest, time of the year.

In addition to being chief of sports medicine at The Methodist Hospital in Houston, Lintner also is the head team physician for the Houston Astros, a position he has held since 2000. He is a past president of the Major League Baseball Team Physicians Association and a member of the Baseball Commissioner's Medical Advisory Committee.

"This is my 18th year working with the Astros and it is the most enjoyable part of my practice," Lintner said. "I enjoy being in the athletic environment, the environment of competition. I enjoy the challenge that it presents. Players in the major leagues are the highest performing guys in their field. Being able to maintain that top level of performance can be quite difficult for them. If a player gets hurt, it becomes a challenge for team physicians."

Lintner, who also is the team orthopaedist for the Houston Texans of the National Football League, is one of several University of Rochester School of Medicine and Dentistry graduates who have landed positions with Major League Baseball teams and other major sports teams.

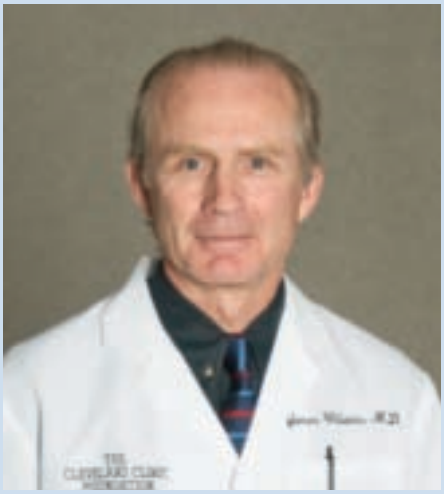
David Linter, M.D.

James Williams, M.D. (M '89), director of Cleveland Clinic Orthopaedic Surgery at Euclid Hospital, is an assistant team physician for the Cleveland Indians and a consultant for the Cleveland Cavaliers. Orr Limpisvasti, M.D. (M '98), who is part of the nationally known Kerlan-Jobe Orthopaedic Clinic, is an orthopaedic consultant with the Los Angeles Angels and the head orthopaedic surgeon for the Anaheim Ducks Hockey, a National Hockey League team.

And there are most likely several others because of Rochester's strong program in sports medicine. Jan Fronek, M.D. (M '78), of the Scripps Clinic, for example, is head team physician for the San Diego Padres. Elliott Hershman, M.D. (M '79), is team physician for the New York Islanders hockey team. He also is chairman of the NFL injury and safety panel and team orthopaedist for the New York Jets.

Lintner, Williams and Limpisvasti each cite Kenneth E. DeHaven, M.D., now professor emeritus at the School of Medicine and Dentistry, as a primary inspiration for their careers. DeHaven, a Rochester faculty member since 1975 most recognized for his work on the meniscus and meniscus repair, was one of the first to utilize arthroscopy in an orthopaedic sports medicine practice. He is a past president of the American Orthopaedic Society for Sports Medicine and the American Academy of Orthopaedic Surgeons.

James Williams, M.D.



"He is regarded as one of the fathers of sports medicine," Lintner said. "Through the years, the number of Rochester medical students who worked with Dr. DeHaven and the number of physicians who did their orthopaedic residency at Rochester and then went into sports medicine is quite large. I think the subgroup who became team physicians at the professional sports level is unmatched for any residency in the country."

In medical school, Lintner initially was interested in internal medicine and pointed toward family medicine. He spent one summer in research with DeHaven, also following him in the clinic and operating room.

"I loved the way he took care of his patients, his attention to detail in surgery and the nature of his patient population," Lintner said. "And you got to spend part of a day on the sidelines, training room or at practice. That seemed more like fun and not work. He was and is a superb role model."

Williams, who coached skiing and soccer and earned a master's degree in sports management before going to medical school, first met DeHaven through a ski club near Rochester.

"The greatest thing I learned from Rochester was how to talk to patients," Williams said. "That's a lost art these days. Patients want doctors to talk with them. From day one, Rochester is about listening to the patients. I remember when I was a student watching a video of DeHaven doing a physical exam. I still do a physical that way today."

As a medical student, Limpisvasti spent several weeks working with DeHaven.

"I loved what he did for patients and they seemed to really appreciate his attention to their athletic goals," Limpisvasti said. "What I didn't know at the time was how big a figure he was in the field of orthopedic sports medicine. I just found him to be the kind of doctor I wanted to be one day."

In Major League Baseball, a team's head physician is responsible for maintaining the health and well-being of the players throughout the entire organization and for providing game coverage for the team.

"You have to be available 24/7 for any issue, coordinating care whether a player needs a dermatologist or an internist," said Lintner. "I am responsible for making sure it all gets done regardless of where the team is."

Continued on page 55

If you see any alumni whom you would like to contact, use the Online Directory at *www.alumniconnections.com/URMC* to find address information.

Submit your class notes to your class agent or to *RochesterMedicineMagazine@urmc.rochester.edu.*

Note: MD Alumni are listed alphabetically by class, Resident and Fellow alumni follow in alphabetical order, and Graduate Alumni are listed separately in alphabetical order.

MD Alumni

Class of 1945

James Dineen was inducted into the Greater Wilmington (N.C.) Sports Hall of Fame. An orthopaedic surgeon and sports medicine pioneer, Dineen spent years researching sports injuries and promoting safety on the playing field. He convinced coaches to hydrate their players and instituted the wrapping of posts in end zones. He trained coaches how to wrap shoulders and ankles for strength and was instrumental in instituting annual physical exams for all high school athletes in the state. Dineen spearheaded the formation of the Medical Aspects of Sports Committee of the North Carolina Medical Society and organized the first of what has become an annual symposium on sports medicine.

Class of 1948

Marvin Epstein writes: "Grandkids aren't marrying or having children as early in life as my generation did. I married near the end of my first year at the School of Medicine and Dentistry and my daughter was at my commencement! However, lately, I have been blessed with a new great grandchild yearly! My first is 3 years old, and last December, her sister Noe Bess Endelman arrived, and this January my granddaughter, Flora Margolis, had Maya Shirleen! Exciting!"

Class of 1950

Maurice Reizen reports: "It's harder to write on my son's laptop while gazing outward at the Gulf of Mexico with 78 degrees temperature in the Florida Keys. To my surviving classmates: Class of 1950, I greet you and would dearly love to hear from you. Leanor and I are surviving and enjoying much of what old age has to offer. Public health has always been my passion and has continued to this date. I resigned my position as chair, Ingham County (Michigan) Board of Health, but remain on the board. After all, I get one free lunch a month. All the best!"

Class of 1954

The National Institute of Social Sciences honored **D. A. Henderson** (HNR '77) among its 2011 Gold Medal awardees. The annual awards recognize "a small group of Americans who have made the highest contribution to the welfare and improvement of American-and often world-society." Honorees have come from the social sciences, law, government, education, philanthropy, the arts, medicine, science, and industry. Dr. Henderson is a Distinguished Scholar at the Center for Biosecurity of the University of Pittsburgh Medical Center and former chief medical officer of the World Health Organization Global Smallpox Eradication Campaign.

Class of 1961

Richard Isay and Gordon Harrell, his partner of

I am incredibly proud to have had the opportunity to train in a place that values and cherishes the educational role in patient-centered care.
–Javeed Sukhera, M.D.

Since my arrival for residency in Rochester five years ago, I have been impressed by the stimulating environment here. Everyone from hospital leadership to my psychiatry colleagues, has been tuned-in to my personal interests and strengths, fostering my professional growth.

It is humbling and rewarding to be able to change the trajectory of a child's illness at a critical time in his or her development. My experiences with patients, colleagues and mentors in Rochester have instilled the value of life-long learning and inspired my interest in a career in medical education.

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The MELIORA CHALLENGE

32 years, were married in New York City on Aug. 13, 2011. On Nov. 12, 2011, he was presented with the Hans W. Loewald award by the International Forum for Psychoanalytic Education for his "original and outstanding contributions to the development of psychoanalytic theory, practice and application."

Class of 1962

David Ross (R '70) writes: "What a great four years we had together at this fantastic medical school. We got along well, and it was the greatest day of my life when we all graduated in 1962. I have had a rewarding career as a plastic surgeon, getting my residency back at the U of R with **Drs. McCormack** and **Hal Bales.** I am now retired in Twin Bridges, in the heart of three Montana blue ribbon trout streams. The places where trout live are beautiful and this one is too. My wife is a retired county commissioner, the first woman to be elected in this ranching type county, Madison, with 8,000 people. She still volunteers on government commissions; I mess around with rafts, a boat, fly rods, and golf clubs. Bob McCormack always said 'learn golf because you can play even when you are old!'

'Mary Ann, oh Mary Ann, we have come to see a patient up on C4 who says she cannot wee. Mary Ann, oh Mary Ann, this is what bothers me: she's another post op hysterectomy!' Recall? Best to all."

Class of 1964

Joe VanderVeer is editor of the *Oslerian,* the newsletter of the American Osler Society, a group of about 150 mostly physicians dedicated to preserving the memory and teachings of Sir William Osler.

Class of 1965

Beverly Wood (R '71) has received numerous honors for her career achievements. In October, 2011, she received the American Academy of Pediatrics Education Award. This award recognizes a member of the Academy whose career reflects educational contributions that have had a broad and positive impact on the health and well being of infants, children, adolescents, and young adults. She also received the President's Award in January, 2012, from the Alliance for Continuing Education in the Health Profession and the Gold Medal of the Association of University Radiologists in March 2012. Wood is currently professor emerita at the University of Southern California, Keck School of Medicine and still teaches a course in the Department of Education at the Medical School. She is also a professor of radiology at Loma Linda University in California and is a consultant of the American Academy of Pediatrics, where she is also chair of the Committee on Pediatric Education.

Class of 1966

Arnold Melman recently published a book titled: *After Prostate Cancer: A What-Comes-Next Guide to a Safe and Informed Recovery.* It addresses the physical, psychological and social implications of the disease in a straightforward, informative manner that will hopefully encourage men to seek help as they realize what they are experiencing is not unusual. The book provides tips on how to tell others about your disease as well as suggestions as to how to stay connected in both heterosexual and homosexual relationships. It also includes first-hand accounts of recovery from real patients. According to Dr. Melman, "Once a patient receives a diagnosis of prostate cancer he and his loved ones should start reading the book to help them through this medical journey." Melman is chair of the Department of Urology at the Albert Einstein College of Medicine in New York.

Class of 1970

Benjamin Liptzin received the Oliver Wendell Holmes Stethoscope Award from the Hampden District Medical Society and the Distinguished Faculty Award from the Tufts University School of Medicine. Liptzin is chair of the Department of Psychiatry at Baystate Medical Center and professor and deputy chair of psychiatry at Tufts.

Philip Pizzo, dean of the Stanford School of Medicine, received the 2012 John Howland Award, the top award given by the American Pediatric Society. He was recognized for his research and advocacy for children afflicted with cancer, HIV, and AIDS. Pizzo played an important role in the passage of the Best Pharmaceuticals for Children Act, which promotes clinical trials on drugs targeted toward children. "He has changed the paradigm for understanding and management of these diseases and has been an advocate for the changes that have translated pediatric research to practice," said David Stevenson, professor of pediatrics, who nominated Dr. Pizzo for the award. Pizzo also led an initiative to secure federal funding for resident training at children's hospitals in the late 1990s. He has more than 500 published articles and 16 books about his findings in oncology and infectious disease. Pizzo joined the Stanford faculty in 2001. He previously spent more than two decades at the National Institutes of Health researching childhood cancer, and has served as an advocate for patients and families in need of pediatric care.

Class of 1971

George L. Hicks (R '77, FLW '78) and chief of cardiac surgery at the University of Rochester Medical Center, received the Socrates Award from the Thoracic Surgery Residents Association, an arm of the Thoracic Surgery Directors Association. The award is given annually to an outstanding faculty member who demonstrates a remarkable interest in resident training, inside or outside of the operating room. Hicks has worked for years developing curriculum and enhancing teaching methods to broaden students' skills and improve patient safety. He served as chair of the committee on education for the American Board of Thoracic Surgery and is president of the Thoracic Surgery Directors Association.

Class of 1974

Bernard T. Ferrari (BA '70), a member of the University of Rochester board of trustees, and his wife, Linda Gaddis Ferrari, have made a $1 million gift to the University's School of Arts, Sciences and Engineering to endow a yearly humanities symposium and related curricula. Its purpose is to explore collaborations between the arts and sciences. This gift also is in support of the $1.2 billion *Meliora Challenge:* The Campaign for the University of Rochester. The Ferrari Humanities Symposia will feature a public talk from a visiting scholar with expertise in humanistic thought from the 14th to 17th centuries. The visiting scholar also will participate in courses designed to complement the lecture. Ferrari's interest in the arts stems from a course he took at Rochester as an undergraduate in medieval and Renaissance era architecture and art. He recently published *Power Listening: Mastering the Most Critical Business Skill of All* (Portfolio, 2012).

Class of 1975

Charles Seelig (MS '75) received a Palmer J. Parker Courage to Teach Award from the Accreditation Council for Graduate Medical Education. Seelig also was elected by the New

"The Rochester Genome" Come in the front door of the Saunders Research Building and see a 44-foot mural titled "The Rochester Genome." The work, designed by architect Mark Chen, was inspired by the biopsychosocial model of medical education developed at the University of Rochester School of Medicine and Dentistry in the 1970s and now emulated in medical schools across the nation. "The work is titled the Rochester Genome because it depicts the Medical Center's fundamental approach to science and medicine," said Thomas A. Pearson, M.D., M.P.H., Ph.D., director of the Clinical and Translational Science Institute. "It represents our dedication to basic science coupled with a focus on the patient and a commitment to the community." The work was made possible by a generous gift by David Guzick, M.D., Ph.D., and his wife, Donna Giles, Ph.D. Guzick, now senior vice president for health affairs at the University of Florida and president of the university's health system, was dean of the School of Medicine and Dentistry.

York Medical College chapter of Alpha Omega Alpha to be a faculty inductee to AOA.

Class of 1976

Timothy E. Quill (R '79) is one of the 19 individuals who received a Rochester Business Journal's 2012 Health Care Achievement Award. He received the Physician Award. The award honors individuals and groups whose contribution to health care has been deemed outstanding by their colleagues, patients and supervisors.

Class of 1977

The Department of Surgery at the University of California at San Francisco honored **William Y. Hoffman,** professor of surgery and chief of the Division of Plastic and Reconstructive Surgery, with the Stephen J. Mathes, M.D., Endowed Chair in Plastic and Reconstructive Surgery.

Class of 1979

Robert T. Brodell (R '82) and **Linda P. Brodell** (M '81) are leaving their private practice in Warren, Ohio, after 27 years. Bob has accepted the position of chief of the Division of Dermatology at the University of Mississippi. Linda and Bob will be moving to Jackson, Mississippi, this summer.

Class of 1981

Bradford C. Berk (PhD '81) chief executive officer of the University of Rochester Medical Center, has been appointed to the Board of Directors for Raland Therapeutics, Inc., a transformational medical device company with headquarters in Fairport, N.Y.

Linda P. Brodell and **Robert T. Brodell, M.D.** (M '79) are leaving their private practice in Warren, Ohio after 27 years. Bob has accepted the position of chief of the Division of Dermatology at the University of Mississippi. Linda and Bob will be moving to Jackson, Mississippi, this summer.

Class of 1982

Carl Krasniak is continuing in his practice in plastic and hand surgery in New Hartford, N.Y. Krasniak's eldest son, Andrew, is a senior majoring in history at Union College. Peter is a sophomore at the University of Rochester, studying chemistry. Christopher is in the warm-up circle, a high school senior anxiously awaiting the thick envelopes, and Madeline is a high school freshwoman busy with figure skating and flute.

Harold L. Paz (BA '77), chief executive officer of Penn State Hershey Medical Center, senior vice president for health affairs at Penn State, and dean of the Penn State College of Medicine, has been named to a leadership position on the Council of Deans of the Association of American Medical Colleges (AAMC). Paz will serve one year as chair-elect of the council followed by one year as its chair. The appointment includes a concurrent two-year term on the AAMC's 17-member board of directors.

Paz, who was named to his current positions at Penn State in April 2006, has initiated the formation of the Penn State Hershey Health System, which includes four hospitals, 58 ambulatory care practices, and eight affiliated hospitals. He has spearheaded the creation of Penn State Hershey Rehabilitation Hospital, Pennsylvania Psychiatric Institute, and Penn State Hershey Medical Group, and has overseen a major 1.5 million-square-foot expansion of the Penn State Milton S. Hershey Medical Center campus.

Class of 1989

John L. Genier (R '93) is one of the 19 individuals who received a Rochester Business Journal's 2012 Health Care Achievement Award. He received the Physician Award. The award honors individuals and groups whose contribution to health care has been deemed outstanding by their colleagues, patients and supervisors.

Class of 1990

L. Gordon Moore (R '93) is the president of Ideal Medical Practices *(www.IMPCenter.org)* a nonprofit supporting adoption of ideal practices in health care settings across America. He serves as advisor, expert, and faculty to numerous initiatives working to achieve better health outcomes while bending the cost curve. His work focuses on the intersection of operations, measurement, patient experience, staff satisfaction, outcomes and cost. He is the director of clinical transformation for Treo Solutions where he helps plans and provider systems prepare for total cost of care contracting and effective population health management. Moore is a recent transplant to Seattle with his wife, Jana Carlisle, and their three children, Emma, Jared, and Isabel.

Class of 1995

Daniel Ari Mendelson (MS '93) was named medical director of Monroe Community Hospital, a 566-bed skilled nursing facility and community hospital affiliated with the University of Rochester Medical Center. Mendelson was also named 2012 Distinguished Alumnus from the College of Science at the Rochester Institute of Technology, and was also named Highland Hospital's 2011 Distinguished Physician.

Class of 1996

Joshua Goldstein has been named associate dean for medical education at Northwestern University Feinberg School of Medicine. He also will become vice president and Accreditation Council on Graduate Medical Education (ACGME) Designated Institutional Official for the McGaw Medical Center. These roles constitute the primary leadership position for graduate medical education at Northwestern. Goldstein has served in an interim capacity for the past year. He joined the Feinberg faculty in 2002 as an assistant professor of pediatrics. His clinical and scholarly interests are in pediatric neurocritical care.

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Michael Trexler is the medical director of palliative care at Borgess Medical Center in Kalamazoo, Mich. He and his wife, Renee, have five children.

Class of 1998

Marc Brower was named chair of the Department of Anesthesia Department at Grant Medical Center in Columbus, Ohio.

Class of 2006

Aida Avdic joined the medical staff at Brattleboro Memorial Hospital in Brattleboro, Vt. For the past three years, she has been a hospitalist and instructor of clinical medicine at the Hospital of the University of Pennsylvania.

Lenny Lesser is a third year Robert Wood Johnson Foundation Clinical Scholar at UCLA. His most recent publication with Robert Brook (CSP Co-Director), "Assessment of Food Offerings and Marketing Strategies in the Food-Service Venues at California Children's Hospitals," was published in *Academic Pediatrics*. Researchers assessed 14 food venues at the state's 12 major children's hospitals and found much room for improvement in their offerings and practices.

Class of 2008

Aleksey (Alex) Tentler will graduate from the UMDNJ–Newark Med-Peds residency program in June 2012 and will stay on for a year as Chief Resident in Internal Medicine.

GRADUATE Alumni

(Arranged alphabetically)

Kimberly J. Arcoleo (MPH '96, PhD '06) recently was named associate professor and director of the Center for Promoting Health In Infants, Children, Adolescents & Women in the College of Nursing at Ohio State. The mission of the center is to foster excellence and to promote the highest levels of health and wellness through pioneering research, translational activities, and transdisciplinary research educational programs. Arcoleo completed a two-year fellowship in health disparities research at the Southwest Interdisciplinary Research Center of Arizona State University. Her research focuses on health disparities in children with asthma. She currently is conducting a $2.5 million NCCAM-funded study testing a multi-factorial model for explaining disparities between Mexican and Puerto Rican children with asthma in Phoenix and Bronx, N.Y.

Bradford Berk (MD '81, PhD '81) – *see MD Class of 1981.*

Richard Doolittle (PhD '80, FLW '82), has been named vice dean of Rochester Institute of Technology's College of Health Sciences and Technology. He served previously as the RIT assistant provost for undergraduate education, head of the School of Life Sciences and head of the Medical Sciences Department.

Ann Dozier (BS '77, MS '80, PhD '96) was recognized for her exemplary work in reducing health inequities and addressing priority community health needs, particularly in the area of maternal and child health. Dozier was presented with the award March 19, 2012, during a special grand rounds session featuring **David Satcher, M.D.** (R '72, HNR '95).

Daniel Ari Mendelson (MS '93, MD '95) – *see MD Class of 1995.*

Carol Warren Nichols (BA '72, MS '75) was certified as an Iyengar Yoga Teacher in 2011. The process takes several years of preparation in study, individual mentoring, private practice, and studio teaching experience. Certification is through the Iyengar Association of North America, United States.

Spencer Rosero (MS '91) is one of the 19 individuals who received a *Rochester Business Journal's* 2012 Health Care Achievement Award. He received an Innovation Award. The award spotlights individuals and groups whose contribution to health care has been deemed outstanding by their colleagues, patients and supervisors.

Charles Seelig (MD '75, MS '75) – *see MD Class of 1975.*

Marcia Scherer (MS '86, MSE '86, PhD '87) will have two books published this year: *Assistive Technologies and Other Supports for People With Brain Impairment* and *Assistive Technology Assessment Handbook*.

Carolyn M. Tyler (BS '03, MS '07, PhD '09) and Mark R. Bauter of Avoca, N.Y., were married at Belhurst Castle in Geneva, N.Y., on May 29, 2011. Tyler is a postdoctoral fellow of the New Jersey Brain Injury Research Commission in the molecular biology department and the Princeton Neuroscience Institute at Princeton University. Bauter is a study director at Eurofins Product Safety Labs in Dayton, N.J.

RESIDENTS / FELLOW Alumni

(Arranged alphabetically)

Robert T. Brodell (R '81) – *see MD Class of 1979.*

Paul Cushman (R '57) has published a second printing of his third book, Richard Varick, a biography of a distinguished Revolutionary War officer, aide to George Washington and mayor of New York City from 1789–1801.

John L. Genier (R '93) – *see MD Class of 1989.*

George L. Hicks (R '77, FLW '78) – *see MD Class of 1971.*

Jim Iannazzi (R '98) writes: "Greetings from Maine! Here is a somewhat belated update. I completed medical internship and neurology residency at Strong from July, 1994, through June 1998, since which time I have been employed at Acadia Hospital, a psychiatric and substance abuse facility in Bangor. From September, 2006, to September, 2008, I completed a part-time fellowship in behavioral neurology and neuropsychiatry at McLean Hospital in Belmont, Mass., which is affiliated with Massachusetts General Hospital, and is a teaching hospital for Harvard Medical School. My fellowship normally would have lasted one year, but since I pursued it half time, it took me two years to complete. In November, 2010, I passed the exam given by the United Council for Neurologic Subspecialties, making me board certified in behavioral neurology and neuropsychiatry. I believe there are only about 300 physicians who have such certification. I continue to practice at Acadia, and I live in Hampden, just south of Bangor, with my wife, Corleen, my daughter, Angie (almost 17), and son, Max (almost 15). I adore the Maine outdoors, and remain passionate about mountain biking, but also enjoy road biking, cross country and downhill skiing, hiking, snowshoeing, etc."

Timothy E. Quill (R '79) – *see MD Class of 1976*

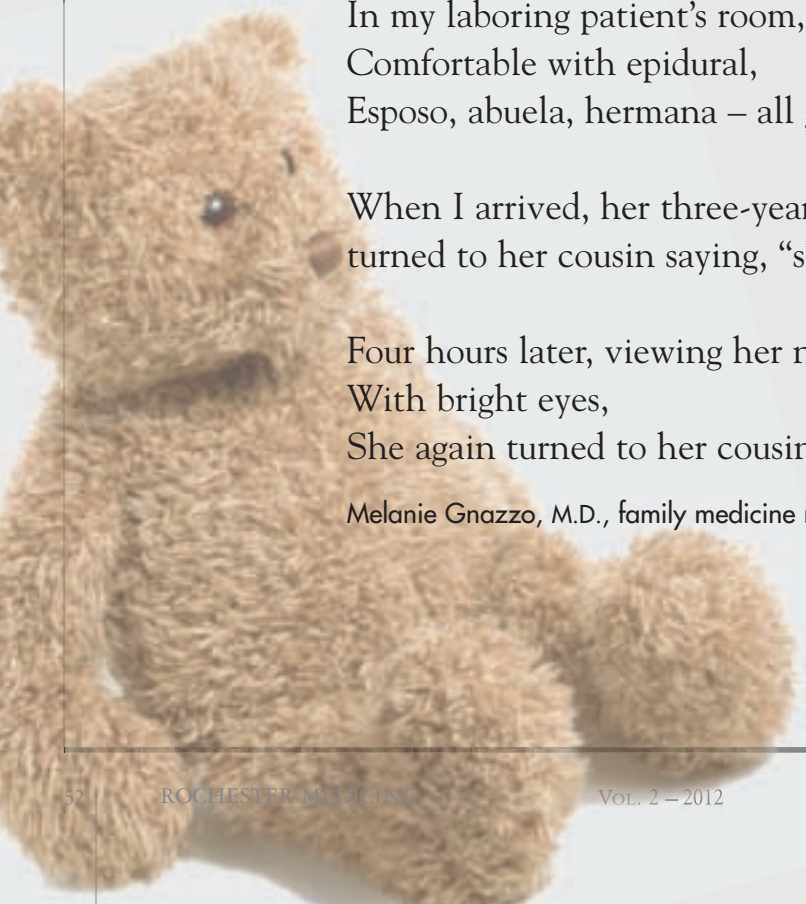
David Ross (R '70) – *see MD Class of 1962.*

Beverly Wood (R '71) – *see MD Class of 1965.*

55 words

A moment between doctor and patient can be captured in 55 words

A collection of 55-word stories debuted in Rochester Medicine in the 2010 winter issue. Written by family medicine faculty and trainees, the stories encapsulate some key moments in health care encounters. This collection features stories about the developmental possessiveness of a plucky 3 year old, the selflessness of a middle-aged woman facing major surgery, the struggle of managing a medication misunderstanding, and the yawning loss of a mother whose infant has died. More than the individual stories of the patients, however, is the impact that these stories have had on their physician-authors. "The very act of writing and sharing the stories enriches us as clinicians and caregivers, and deepens our appreciation for our patients and our work," says Colleen T. Fogarty, M.D., M.Sc., (R '95), assistant professor of family medicine.



Mine

In my laboring patient's room,
Comfortable with epidural,
Esposo, abuela, hermana – all gathered for support.

When I arrived, her three-year old daughter greeted me: Doctora! Doctora!
turned to her cousin saying, "she's mine."

Four hours later, viewing her new sister in their mother's arms,
With bright eyes,
She again turned to her cousin, "she's mine!"

Melanie Gnazzo, M.D., family medicine resident

Lollipops

Tuesday. She's nervous, six days before mastectomy.
I say I'll visit. She lightens, reaches me for a hug.
Next Monday, end of my long workday,
I'm desperate to get home.
As I pull back the curtain from 620-A, she smiles at me.
"I brought these for you…
"I forgot them on Tuesday."
Selfish meets selfless.

Bethany Calkins, M.D., (R '10), palliative care fellow

SIDS

The baby feels cold
As he firmly holds the chunky calf
And grinds the needle
Through baby fat, and on into bone.

Fluids wide open.
And he knows this is all futile.

Parents escorted out
Under the illusion of lifesaving care.

Mother's screams heard
When she sees us stop, eyes downcast.
Her baby gone
Forever.

Stephen H. Schultz, M.D. (R '96),
associate professor of family medicine and residency program director

Pill Count

"I'm taking the medicine Dr. Fogarty!"
She proffers the antibiotic bottle, beaming.
Her big toe still looks awful: swollen, red, draining.
I read the label, dated ten days ago:
"Take 1 tablet every 12 hours."
Of twenty tablets, nine remain.
"How often are you taking it?" I probe.
"One a day, just like it says!"

Colleen T. Fogarty, M.D., M.Sc. (R '95),
family medicine fellowship director

Paul L. LaCelle, M.D.

Paul L. LaCelle, M.D. (M '59), a University of Rochester Medical Center faculty member for more than 40 years, a former department chair and former senior dean, died March 9, 2012. He was 82.

Dr. LaCelle joined the faculty in 1964 as an instructor of what was then the Department of Radiation Biology and Biophysics. He was named a professor in 1974 and chaired what is now the Department of Biochemistry and Biophysics from 1977 to 1996.

He was named acting senior associate dean for graduate studies in 1996 and was appointed to the position in 2001, serving until 2008. After stepping down as dean, Dr. LaCelle became a professor emeritus of pharmacology and physiology. He continued to work in research and in mentoring scientists until just a few months before his death.

"Paul LaCelle served our School of Medicine and Dentistry and the Medical Center for many years by recruiting many excellent scientists and fostering solid research," said Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry. "We are proud of what he provided us and we mourn his death."

Marshall A. Lichtman, M.D. (R '66), professor of medicine and a former dean of the School of Medicine and Dentistry, called Dr. LaCelle "one of the great contributors to this Medical Center."

"He was a fine physician and hematologist but chose to focus on blood cell research and in so doing he pioneered the field of blood cell biophysics at this school," Lichtman said. "As chair, he developed the department and recruited outstanding scientists to the school. He was a thoughtful and gentle person and had the great respect and affection of those who worked with him."

During Dr. LaCelle's time as senior associate dean, three new graduate programs were developed: a Ph.D in translational biomedical sciences, a Ph.D. in epidemiology, and a master's degree in marriage and family counseling. The number of graduate students also increased, in parallel with the increase in research faculty.

"Paul was one of the reasons I have spent my entire career in Rochester," said Robert "Berch" Griggs, M.D. (R '71), a former chair of neurology. "He spent great effort on making sure excellence was recognized and rewarded. He worked, often behind the scenes and with no interest in being recognized for his own contributions, to make the University of Rochester and Rochester the best we could be."

Dr. LaCelle was the last chair of what was the Department of Biophysics. His tenure spanned the era when the department focused on the cold war mission of understanding the effects of radiation on humans to the current interest on details of molecular structure and how they relate to health problems.

Dr. LaCelle, who was born July 4, 1929, earned his undergraduate degree at Houghton College. He served in the U.S. Navy during the Korean War. Dr. LaCelle's wife, June Dukeshire LaCelle, died in 2008. He is survived by his four children, two sisters, two brothers and five grandchildren. Charitable donations can be made to the Wilmot Cancer Center.

In memoriam

Jason O. Cook (MD '47)
Alan W. Cross (R '75)
John B. Flick Jr. (MD '45)
Alice Hopkins Foster (BA '45, MD '48)
Peter B. Gram (MD '52)
Robert B. Jackson (MD '52)
Clare W. Johnson (BS '43, MD '46)
Paul L. LaCelle (MD '59)
Gregory S. Liptak (R '73)
Marjorie McDonald (MD '52)
Clinton J. McGrew (MS '57)
Harold C. Miles (R '56)
Greg Nielsen (MD '02, R '05)
Ruth Parker Oakley (BA '37, MD '41)
Robert Rosen (MD '52)
Muriel King Schauble (BA '50, MD '54)
Stanley B. Troup (R '52)
Kippen C. Wells (MD '46)

Burton Distinguished Professorship

Continued from page 36

Marjorie Strong Wehle Professor in Orthopaedics and the School's associate dean for clinical affairs.

"It is extremely meaningful for me to assist Dick and Peggy in the development of this chair and to celebrate their amazing contributions to the department," O'Keefe said. "I was able to see firsthand the culture of excellence, caring, and commitment that he and Peggy promoted. Without Dick's vision and support, the department would not have become a national leader in research and patient care."

In 1974, Burton was recruited back to the University to help build the then new Department of Orthopaedics. In 1988, he was named department chair and subsequently the Marjorie Strong Wehle Professor in Orthopaedics, a professorship endowed by one of his grateful patients. During his 12-year tenure as chair, he is credited with building the department into one of the country's top five orthopaedics research programs in National Institutes of Health funding. Also during this time, Burton led the team that developed a breakthrough surgery for patients with a common type of arthritis of the thumb. The operation, known internationally as the "Burton procedure," is recognized as the gold standard therapy for this condition.

Team Physicians

Continued from page 46

For the Astros, Lintner spends "a fair amount of time" at spring training. He evaluates injuries and treatments, helping the organization make decisions on how long an athlete might be out of the game. He also goes over the medical records of every player and prospect the team is considering to gauge risk of injury.

Williams also attends spring training for several weeks. He covers about a quarter of the Indians home games. And for several years, he evaluated all the organization's minor league players and hundreds of players in the baseball draft.

"It might seem a little glamorous," Lintner said. "But there is a lot more tedium than you would expect. It helps to be good with people, to interact well with athletes and understand their fears and concerns."

Returning patients to a very high level of performance is the attraction of sports medicine, Limpisvasti said.

"There is a lot of gratification in taking someone through surgery and rehabilitation with the goal of a more active lifestyle or even professional athletics, and in improving the quality of their lives," Limpisvasti said.

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All graduates of the MD, PhD, MS, and MPH programs, and former residents, are invited to submit nominations for the following awards:

The **Distinguished Alumnus(a) Award** recognizes achievement that has had an impact on a national and global scale by individuals whose lives and work exemplify the standards and objectives of the School.

The **Alumni Service Award** recognizes outstanding support, commitment, and service which have furthered the interests of the School.

The **Humanitarian Award** recognizes those who have devoted their medical career to providing unique, compassionate care to patients who are underprivileged and underserved.

For a complete description of award criteria and nomination instructions, please visit www.urmc.rochester.edu/smd/alumni/alumniawards.cfm.

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