

SOBERING NEWS: Danielle Gulick, Ph.D., completed a study just before arriving at DMS as a postdoctoral fellow, showing in mice that—contrary to conventional wisdom—caffeine does not mitigate the cognitive deficits caused by alcohol consumption.



THEN & NOW

A reminder of the pace of change, and of timeless truths, from a 1961 publication titled *Medical Education and Dartmouth*:

“In June of 1959, construction was started on . . . a seven-story Medical Science Building. . . . Designed by Shepley, Bulfinch, Richardson and Abbott, the structure provides a separate floor for each of the School’s departments . . . anatomy, biochemistry, microbiology, pathology, pharmacology, and physiology.”



1974

Year the Medical Science Building was renamed the Remsen Building

1991

Year Dartmouth-Hitchcock Medical Center moved into a new facility in Lebanon, N.H., designed by Shepley, Bulfinch, Richardson and Abbott

New surgery chair is a transplant from Tufts

Midway through medical school in the early 1980s, Richard Freeman, Jr., reached a fork in his career path that the narrator of Robert Frost’s “The Road Not Taken” would have appreciated. “By third year, you have to decide,” Freeman recalls. “Medicine or surgery.”

Or so he thought, before finding a way to do both. “With transplantation, there’s a lot of surgery and a lot of medicine,” Freeman says. “That really appealed to me.”

Choice: That choice led the now-renowned transplant surgeon down a road that brought him, almost three decades later, to Dartmouth, where he became chair of the Department of Surgery on January 4. He succeeded Richard Dow, M.D., chair of surgery from 1996 to 2008, and Lawrence Dacey, M.D., who served as interim chair through the end of 2009.

After Freeman decided to go into transplantation, he spent seven years training at Harvard’s New England Deaconess Hospital in Boston, including a year as chief resident. “I liked the collaborative, team approach” that transplants require, Freeman says. “It’s a team sport, for sure. And so much is involved: molecular biology, ethics, international politics, states’ rights versus federalism. . . . As a [medical] student, I didn’t appreciate all that stuff. The field has advanced dramatically. The field was in its infancy. Now it’s a really mature field.”

Freeman watched, and aided,

the field’s maturation during nearly two decades on the faculty at Tufts. From 1990 to 2009, he was a staff surgeon there—contributing to a redesign of the curriculum, leading surgical education, and, most recently, serving as vice chair of the surgery department and directing the Surgical Research Laboratories. He also directed the transplant fellowship program at Tufts Medical Center and conducted research in areas ranging from genetic differences in the immune response to policies on allocating donor organs.

CVs: At Dartmouth, Freeman will oversee a department that offers training and treatment in 11 surgical specialties. “I reviewed everyone’s CVs,” he says. “I was very impressed by the fact that there are some extremely accomplished people—a lot of

them, across the board,” Freeman recalls. “One of my tasks is to stimulate them to grow their careers, become experts.”

Alert: And, he adds, to alert the world to that expertise. “My goal is going to be to raise the academic level a bit, promote mid-level and junior people,” Freeman says. “Everybody knows about Dartmouth’s undergrad school, and the medical school in New England has a very good reputation. I want to help make the Hospital and the Medical School really be noticed nationally and internationally.”

Dartmouth caught his eye for a variety of reasons. “There’s a lot of attractions,” Freeman says. “There’s a potential to have a really integrated health system. The Clinic, the Hospital, the Medical Center are [well] put together and aligned.” He also looks forward to using allied hospitals in southern New Hampshire as “educational venues. It will be important for all the [department] chairs to integrate with these other teaching sites.”

He expects the imminent completion of a 41,000-square-foot outpatient surgery center to help improve efficiency, convenience, and safety for patients—all important goals in an era of change in health-care.

Efficient: “The growth area here,” Freeman says, “is going to be figuring out how to be more efficient. The development of the outpatient center is one step of many that need to happen to be more efficient.”

DAVID CORRIVEAU



JON GILBERT FOX

Freeman was surgery vice chair at Tufts.



IN THE PINK: “Pink at the Rink” was a theme of the February 5 Dartmouth women’s hockey game against Yale. The players wore pink laces in their skates, and fans who wore pink got into the game for only \$1. The goal was to promote cancer awareness.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from a mid-1970s booklet about plans to expand Dartmouth Medical School:

“Dartmouth is expanding its total [M.D.] enrollment while encouraging minority groups and women to enter the medical profession. By 1976, enrollment will have almost doubled, from 104 in 1969 to 192... Competition for admittance to the program continues to be fierce.”



1987

Year DMS first admitted more women than men

319

Number of M.D. students enrolled in 2008-09

5,300

Applicants for 84 first-year M.D. places in 2009

27%

First-years who are of color or international in 2009-10

From New Hampshire’s hills to Mexico’s mountains

“I was working in the woodshop, freezing my fingers and working on this little ambulance,” says DHMC’s John Markowitz, “and I started thinking, would it ever be possible to provide an ambulance for the community in Tlachichuca?”

Tlachichuca (pronounced lachi-CHOO-ka) is a small town in a mountainous area of southern Mexico. Markowitz, an operations assistant in DHMC’s Emergency Department, first visited the area to climb a volcano and do relief work after heavy flooding in 1999. He kept going back to deliver clothes and shoes. Then he met Dr. Gerardo Reyes, whose family runs a climbing service. Reyes had recently been named Red Cross director for the area, but with the title came no medical supplies, no staff, and no ambulance. (In rural areas of Mexico, Red Cross ambulances play a huge role, assisting in all medical emergencies.) Markowitz decided he had to do more to help the region.

Plan: As he built the toy ambulance as a gift for Reyes, he formed a plan to send Tlachichuca a real one; he named it the MEX-AMBUlance Project. First, he organized a climbing trip to Mexico and recruited 16 people who collectively donated enough to buy a used military-style truck that could be converted into an ambulance: a 1960 Mercedes Unimog that Markowitz found in Phoenix, Ariz.

Next he had to retrofit it and

transport it to Mexico. Markowitz found a Unimog technician, Thilo Cass, located in Prescott, Ariz. After the Unimog arrived in Cass’s shop, it acquired new tires and brakes and a new canvas cover. A stretcher was donated by the Enfield, N.H., FAST Squad. Support parts for the stretcher were donated and installed at no charge by a national EMS supply company. Finally, after an 18-month delay waiting for it to clear customs, the ambulance arrived in Tlachichuca in 2005.

Trips: The MEX-AMBUlance team continued to make trips to Mexico to deliver ambulance parts and clothing, and do more climbing. On a trip in 2009, Reyes told the team that a delegate for the State of Puebla Red Cross would soon be visiting his clinic to certify it. He had all his medical supplies laid out in a big warehouse. Could the DHMC group, Reyes asked, do an inventory for him? They had just two hours to do it. Markowitz; Amy Eilertsen, a care manager for the DHMC

Live Well/Work Well employee health program; and her two sons went to work. They organized and catalogued boxes and boxes of bandages, casts, splints, and other supplies that MEX-AMBUlance had donated—“enough to outfit everybody in the town of Tlachichuca,” says Markowitz.

Thanks: They finished just in time. The delegate arrived and after the review presented Markowitz with a letter of thanks and Reyes with certification as the 23rd Red Cross Site and Ambulance Center in the Mexican State of Puebla.

As an official site, Reyes can now share supplies with other Red Cross stations, receive both training and monetary donations through the Red Cross, and monitor Red Cross radio frequencies in the ambulance. DHMC is donating two more stretchers and some hospital bed



Posing with the Unimog are Markowitz (left), Reyes (right), and Amelia de la Madrid Paredes (rear), the Red Cross delegate for the State of Puebla, where Tlachichuca is located.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from the Fall 1980 issue of this magazine:

Anatomy professor Wilbert Chambers wrote about an illustrious predecessor: "While in Europe, [Oliver Wendell Holmes] had made two important purchases, a stethoscope and a microscope. . . . When Dartmouth was looking for a professor of anatomy and physiology in 1838, here was a young Harvard Medical School graduate with two years of study abroad . . . who owned and used two instruments that were curiosities on this side of the Atlantic. His expertise in the use of these instruments would add much to the curriculum" of Dartmouth Medical School.



92

Number of microscopes in DMS's teaching lab today

DMS's Paravati delivers from the podium

For Dartmouth medical student Anthony Paravati, the invitation from the American Society for Therapeutic Radiology and Oncology (ASTRO) was a rare gift—wrapped in a challenge.

Paravati was thrilled to be asked to give a talk at ASTRO's annual meeting a few months ago on research he'd done under the guidance of radiation oncologist Candice Aitken, M.D. The challenge was that medical students aren't often asked to give talks at major meetings.

Paravati explains that "while [it is] not unusual for residents and sometimes medical students to give poster presentations," or to exhibit a placard describing a study's methods and findings, "it is highly unusual for a medical student to be awarded a podium presentation."

So "Dr. Aitken and I worked hard to make the presentation as lean as possible without losing the message of our work," Paravati continues. "Speaking about a complex topic, even to an educated audience for such a short time—seven minutes plus three minutes of questions—requires each line of your presentation to be absolutely essential to the main thrust of your work."

Year: Not that Aitken was worried about Paravati, who is spending this academic year as a Doris Duke Fellow at the University of Pittsburgh's Institute for Clinical Research Education. After he finishes the fellowship, he expects to complete, by 2012,

his medical degree at DMS and his M.B.A. at Dartmouth's Tuck School of Business. Paravati arrived at DMS in 2006 with a B.S. in neuroscience from Allegheny College, where he investigated deep-brain stimulation for Parkinson's disease.

"The first time you meet him, he comes across as very persistent, very thoughtful, eager to take on every challenge," Aitken says. "We have very talented students here, but ones like him come along once every other year or three years."

Projects: By his second year at DMS, Paravati was doing research with Aitken as well as with neurosurgeon Alan Hartford, M.D., and neuro-oncologist Camilo Fadul, M.D.

The study that Paravati presented to ASTRO focused on Samarium, a radioactive drug given to patients with advanced

cancer. At the suggestion of Aitken and Andrea Russo, a DMS '09 who is now a resident in radiation oncology at Harvard, Paravati looked at the prevalence of side effects not reported in previous studies. He and his collaborators found patients experiencing swelling of the lower legs, changes in the function of the nervous system, and a reduced ability to make new blood cells for bone marrow.

The data "suggests it could be important for physicians to think about the other treatments—chemo, external-beam radiation therapy—[that] patients are re-



Paravati is in the M.D.-M.B.A. program.

ceiving in addition to Samarium," Paravati says. "Patients receiving combinations therapy may be more vulnerable."

Aitken notes that Paravati completed his presentation "right on schedule," with time for questions. "He's always ahead of schedule," she says.

In his fellowship at Pitt's Hillman Cancer Center, Paravati is studying the effectiveness of CyberKnife radiosurgery for skull tumors. In addition, he's completing some research projects he started at Dartmouth.

"[It's] quite a bit of work," he concedes. "However, I enjoy it very much. . . . I love the idea of trying to improve the patient experience in a larger way than one by one."

Fit: And how will that M.B.A. fit into his goals? "I have an eye for observing how . . . resources are modified and improved upon to create an end product," Paravati says. "I am hoping to . . . determine how to reduce waste and improve quality."

His mentors wouldn't put it past him. "It would be a very powerful combination," Aitken says. "You take care of patients in the best possible way, the most cost-efficient way."

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