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18 TEAM WORK
BETH SAULNIER
The Medical College and Cornell’s Ithaca campus may be 250 miles apart, but more and more of their researchers are working together. With the University offering $400,000 a year in grants to support collaborative projects, investigators in fields from geriatrics to nanotechnology are joining forces to improve human health. A look at five projects now under way.

26 THE HEIGHT OF HEALING
BETH SAULNIER
The new $232 million Weill Greenberg Center is no ordinary clinical care building; it’s a state-of-the-art facility designed to bring the patient experience to a whole new level. Dedicated in January, the thirteen-story glass structure features an underground parking garage, original works of art, comfortable waiting rooms, city views—and a user-friendly attitude. It’s also setting new standards as a venue for medical education.

32 ANIMAL MAGNETISM
NEERAJA VISWANATHAN
There are more than 540 infectious diseases transmitted from animals to people, and 120 of them can be fatal to humans. In Weill Cornell’s Program for Respiratory Virus Infections and Biodefense, Dr. Anne Moscona and colleagues are studying these zoonotic pathogens using cutting-edge technology that obviates the need for high-level biohazard precautions—battling potential bioterror agents without the space suits.
A Building That Makes a Difference
Antonio M. Gotto Jr., MD, DPhil, Dean of the Medical College

On January 26, WEILL CORNELL MEDICAL COLLEGE realized one of the most ambitious and exciting projects in its 109-year history: the opening of the Weill Greenberg Center, the first clinical building the Medical College has constructed.

The Weill Greenberg Center is the centerpiece of the College’s recently completed capital campaign, “Advancing the Clinical Mission.” Amazingly, the $282 million building was financed entirely by philanthropy and in particular the overwhelming generosity of Sanford Weill, chairman of the Board of Overseers at Weill Cornell, and Maurice Greenberg, also a member of the Board. The momentous event was commemorated by a proclama- tion from New York City Mayor Michael Bloomberg and attended by many eminent friends of the Medical College, including Mr. Weill, Mr. Greenberg, Cornell University President David Skorton, and Bob Appel, chairman of Weill Cornell’s new “Discoveries That Make a Difference” capital campaign.

Although this outstanding event is singularly important in the history of the Medical College, the new Weill Greenberg Center also sets a high standard for medical education and has ushered in a new era of patient care in New York City. The patient experience is at the center of the building’s design, and many of the architectural details were overseen by Mr. Weill himself. A spa-like environment— including a waterfall, reflecting pools, and still-water images—promotes the healing process and provides a sense of well-being.

Between appointments, patients may rest in the Myra Mahon Patient Welcome and Resource Center, the focal point of the building, which is located at the top of the escalators from the entrance lobby. The Resource Center features lounges, computer worksta- tions, and the Health Information Library, staffed by a trained librarian.

The building’s educational resources are groundbreaking in their own right. Our Clinical Skills Center provides students with a state-of-the-art facility to practice clinical skills with standardized patients. Our Clinical Skills Center provides students with a state-of-the-art facility to practice clinical skills with standardized patients, and the Center’s self-study lab features virtual reality technology and computer-controlled mannequins that allow students to work on a variety of medical procedures. These facil- ities are allowing the next generation of Weill Cornellians to interact even more effectively and sensitively with their future patients.

Our researchers have new collaborative opportunities as well. A Building That Makes a Difference
Antonio M. Gotto Jr., MD, DPhil, Dean of the Medical College

One such example, the multidisciplinary Institute for Computational Biomedicine on the thirteenth floor, uses mathematics, physics, and high-speed computing to analyze large amounts of data quickly and test our scientists’ hypotheses about the structure and function of the human body. The Institute not only fosters collaborative research but serves as an educational base for faculty and students to train in the core areas of bioinformatics and computational sciences as they relate to medicine.

Collaboration at the Medical College is extending far beyond the walls of the new Weill Greenberg Center, though. Working with Cornell University President David Skorton, a cardiologist, we are aggressively expanding collaborative research efforts with our clinical colleagues in New York City as well as across the state with scientists and engineers in Ithaca. We’ll have more space to recruit more outstanding researchers. And perhaps most important, we’ll be better equipped to accommodate the increasing number of students who will make an important contribution to the study of disease.

Opening the Next Chapter on Human Health
David P. Hajjar, PhD, Dean of the Graduate School of Medical Sciences

WEILL CORNELL MEDICAL COLLEGE AND THE Weill Cornell Graduate School of Medical Sciences have made incredible progress in the last ten years—much of it very visible. As the executive vice dean for research at Weill Cornell, I am pleased to report that the Medical College has experienced the highest rate of increase in National Institutes of Health (NIH) core funding among leading American medical colleges, and this during a time when such funding has become increasingly competitive. And we have just opened a state-of-the-art ambulatory care and medical education building, the Weill Greenberg Center, about which much can be read in this issue of Weill Cornell Medicine.

Perhaps a little less visible to those outside our institution, our student population is also growing, particularly at the Graduate School. In the past ten years, graduate student enrollment has nearly doubled—and it is accelerating. In 1997 our enrollment was less than 200, but today we have 380 students. In a few years, there will be more graduate students than medical students at Weill Cornell.

To set our innovative research goals and plan for this growth, we have unveiled a new capital campaign, “Discoveries That Make a Difference.” It will pull together and build on much of what we’ve accomplished as well as provide the best environment for our growing student body. It is the third part of the Medical College’s overall strategic plan and follows logically upon the earlier two phases. Where Phase I focused on basic research and Phase II on patient care and clinical research, this third phase ties the two together and completes the vision by means of translational research. Educational opportunities will be enhanced and other clinical services will be strengthened.

The centerpiece of the campaign will be a $650 million Biomedical Research Building, the first new research facility built by the Medical College in twenty years. The planned 350,000-square-foot structure will double our existing research space, accommodating more laboratories and scientists to accelerate bio- medical discoveries in cancer, aging, cardiovascular disease, infectious disease, and metabolic disorders. The facility’s proximity to the Weill Greenberg Center will help foster translational research with clinicians, while its design will support collaborations through a disease-based, rather than department-based, approach.

We will also increase our collaboration with our parent uni- versity in Ithaca. Between the two campuses, our expertise across disciplines is enormous, and by tapping into our complementary skills we can alter modern medicine in a meaningful way. For example, together we can study metabolic regulation at the molecular, cellular, and whole-animal levels by bringing together biochemists, cell biologists, and physiologists. Through this collabora- tion, we will better understand insulin-resistance syndromes and other metabolic disorders. Weill Cornell will be investing $150 million in this effort, to be matched by the Ithaca campus, to unlock cross-discipline discoveries in biomedical engineering, nanomedicine, and systems biology; cancer biology, chemical biol- ogy and experimental therapeutics; and global health and infec- tious diseases.

Even as I write this, New York City and Ithaca scientists are collaborating on a number of projects that exemplify the ideals of translational research. For example, biomedical engineers in Ithaca have worked with physicians at the Medical College to develop a biodegradable “living bandage” that promotes healing of burns and wounds. Pharmacologists at the Weill Cornell Graduate School and molecular biologists and geneticists from Ithaca have made discoveries in gene transcription that could open doors to new therapies for cancer and neurological diseases. Urologists are working with applied engineers and physicists to use multiphoton microscopy technology in endoscopes that will provide non-inva- sive, in vivo imaging of the bladder to scan for cancer.

This new campaign is a major step forward in the develop- ment of research and training opportunities in the Graduate School of Medical Sciences. We’ll be better equipped to collaborate with our clinical colleagues in New York City as well as across the state with scientists and engineers in Ithaca. We’ll have more space to recruit more outstanding researchers. And perhaps most important, we’ll be better equipped to accommodate the increasing number of students who will make an important contribution to the study of disease.

— Dean David Hajjar

FROM 1300 YORK AVENUE

S P R I N G 2 0 0 7

2 WEILL CORNELL MEDICINE
Assistant Professor of Medicine Dr. Carla speaks with Jenica Upshaw ’08 and an administrator, he joked, he was “a doctor who went wrong.” Skorton said, made him feel as if he was “coming back home”; as research spending over the past decade. Being at Grand Rounds, among institutions, and outlined Weill Cornell’s dramatic rise in the important role of students and faculty in breaking down barriers on January 18, attracted approximately 200 people, the largest independence of the Medical College with the [NewYork-Presbyterian] and Louis Feil. It will include patient exam rooms, doctors’ offices, Jaffe Multiple Sclerosis Unit. Made possible by a $5.33 million gift THE WEILL GREENBERG CENTER WILL BE HOME TO THE NEW JUDITH Gift Endows Jaffe MS Unit Sclerosis Clinical Care and Research Center. “With the opening of the new unit and its additional staff, we expect patient visits to more than double.” Sudanese ‘Lost Boy’ Visits Well Cornell DURING HIS SUMMER VACATIONS BEFORE MEDICAL SCHOOL, FIRST-YEAR student Dan Friedman worked in the psychiatric emergency program at St. Joseph’s Hospital in Syracuse, New York. There, he met a security guard named John Bul Dau. Two decades earlier, Dau had fled civil war in his native Sudan, one of 20,000 orphaned “Lost Boys” desperately trying to survive; at age thirteen, he was elected to lead a group of 1,200 boys trekking across Africa toward safety. He eventually came to the U.S. as a refugee, becoming one of the subjects of the award-winning documentary film God Grew Tired of Us. In January, Friedman brought Dau, along with documentary producer Mouayyad Zaza, to Well Cornell to share his experiences with students and faculty. Friedman is a co-founder of Cornell Health Advocates for Southern Sudan, which aims to support Dau’s dream of founding a clinic in the southern Sudan county of Duk. The campus event included a screening of the film and a question-and-answer session. “He’s very modest,” Friedman says of Dau, “but he blows me away.” Gift Endows Jaffe MS Unit THE WEILL GREENBERG CENTER WILL BE HOME TO THE NEW JUDITH Jaffe Multiple Sclerosis Unit. Made possible by a $5.33 million gift from the Feil Family Foundation (with matching funds from the Dean’s Challenge), the Unit is named for the daughter of Gertrude and Louis Feil. It will include patient exam rooms, doctors’ offices, an infusion room, and a suite for support staff such as nurses, pharmacists, and a social worker. The gift will also endow two critical scholarly awards in MS. “The Feil family’s gift secures urgently needed expanded space,” says Dr. Brian Aboaf, director of the Multiple Sclerosis Clinical Care and Research Center. “With the opening of the new unit and its additional staff, we expect patient visits to more than double.” Sudanese ‘Lost Boy’ Visits Well Cornell DURING HIS SUMMER VACATIONS BEFORE MEDICAL SCHOOL, FIRST-YEAR student Dan Friedman worked in the psychiatric emergency program at St. Joseph’s Hospital in Syracuse, New York. There, he met a security guard named John Bul Dau. Two decades earlier, Dau had fled civil war in his native Sudan, one of 20,000 orphaned “Lost Boys” desperately trying to survive; at age thirteen, he was elected to lead a group of 1,200 boys trekking across Africa toward safety. He eventually came to the U.S. as a refugee, becoming one of the subjects of the award-winning documentary film God Grew Tired of Us. 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Jackson Coleman treated Margaret Dyson for a detached retina, and she became interested in the field. Their friendship led to the establishment of the Dyson Vision Research Center at Well Cornell in 1989. Blauer to Oversee Special Projects JOANNE BLAUSER, SECRETARY OF THE MEDICAL COLLEGE, HAS BEEN APPOINTED EXECUTIVE VICE DEAN FOR SPECIAL PROJECTS, effective in November. Blauer was among the employees honored for twenty-five years of service to Well Cornell. $15 Million Gift Funds Alzheimer’s Institute HELEN AND ROBERT APPEL HAVE GIVEN $15 MILLION TO WELL CORNELL to fund a center devoted to the study of Alzheimer’s disease. The Appel Institute for Alzheimer’s Research will bring together scientists in neurology, neurogenetics, biochemistry, and microbiology, in the hope of developing better treatments—and, ultimately, a cure—for the disease. “Helen and I have witnessed the devastating effects of Alzheimer’s firsthand,” says Robert Appel, a member of the Well Cornell Board of Overseers. “The impact from the discoveries uncov- ered within the Institute’s walls will forever change the way we diag- nose, treat, and eventually cure Alzheimer’s.” The Appel gift is part of the new $3.13 billion “Discoveries That Make a Difference” campaign, which will fund development of the planned 350,000-square-foot Biomedical Research Building, set to break ground in the near future. Qatar Students Help in Immunization Effort PRE-MED STUDENTS IN THE QATAR BRANCH TOOK AN active role in the National Authority’s Multi-Antigen Mass Immunization Campaign in January, working with doctors and nurses in Doha, they administered vaccines against polo, measles, mumps, rubella, and pneumococcal disease to children in the local schools. “As pre-medical stu- dents we should be exposed to these kinds of activities so if we get into medical school, we have experience dealing with patients,” said student volunteer Mouayyad Zaza. Prior to the week-long campaign, WCQC- Q students helped conduct health awareness sessions with shoppers at Doha’s Landmark Mall. The camp- aign’s goals are to raise community awareness of the importance of immunization and administer vaccines to nearly 60,000 children aged two months to five years. Holt Named to New Development Post SUSAN HOLT HAS BEEN APPOINTED TO THE newly created position of chief development officer. Holt has nearly twenty-five years of development expe- rience, including terms at Vanderbilt University Medical Center and Case Western Reserve University School of Medicine. Reporting directly to Dean Gotto and Vice Provost for Development Larry Schafer, she will be responsible for creating a new Office of Institutional Development. “Susan Holt has the talent, experience, energy, and drive needed to build and lead a robust and dynamic advancement program that will engage and involve all of our donors and new constituents in an even more ambitious cam- paign,” Schafer says. Fins and Gotto Lead Ethics Seminar THE CONTINUING RELEVANCE OF THE HIPPOCRATIC OATH WAS THE focus of a seminar held at the Fifth Avenue Presbyterian Church in February. Led by Dean Gotto and medical ethics expert Dr. Joseph Fins, the event invited audience members to participate in a moderate ethics committee meeting on deciding end-of-life issues, as well as a discussion of the ethics of clinical drug trials. Fins, a professor of public health, chaired a Well Cornell committee that revised the oath to make it more applicable to today’s physicians; the new ver- sion debuted at Commencement 2005. Well Cornell and CU Offer Global Health Program A JOINT PROGRAM ON GLOBAL HEALTH WILL BRING TOGETHER FACULTY and students from Well Cornell and the Ithaca campus for aca- demic research, outreach, and internships in such nations as Bangladesh, Ghana, Peru, Tanzania, and Brazil. Funded by the University and the National Institutes of Health, the program will offer a multidisciplinary undergraduate minor, as well as profes- sional and graduate studies through Well Cornell and the Ithaca-based colleges of Human Ecology, Arts and Sciences, Veterinary Medicine, and Agriculture and Life Sciences. According to Dr. Warren Johnson, the Kenan Professor of Tropical Medicine, the pro- gram “will be the site of unique and innovative multidisciplinary col- laboratives and transforming expertise in medicine, nutrition, health policy, and more.”
from the bench

Pulmonary Disease Effort Gets $14 Million Boost

The National Heart, Lung, and Blood Institute has awarded Weill Cornell a $14.2 million grant to fund genetic research in chronic obstructive pulmonary disease (COPD). While smoking is the primary risk factor for COPD, notes Dr. Ronald Crystal, chief of the Division of Pulmonary and Critical Care Medicine, genetic variation dictates a person’s individual risk. “Genetic variability is why a one-pack-a-day smoker develops COPD, while another person with the same habit never does.” More than 12 million Americans have been diagnosed with COPD, and an equal number are estimated to be undiagnosed. The disease, which comprises chronic bronchitis and emphysema, is the fourth most common cause of death in the U.S. and a leading cause of disability. The researchers first, Crystal says, will be to identify the specific genes responsible for COPD susceptibility and resistance. In the next ten years, he says, “we will be able to predict those individuals who are at increased risk for developing COPD, and offer early detection prior to development of symptoms and individualized therapies for those with the disease.”

Dr. Ronald Crystal

New Drug Battles Autoimmune Disorder ITP

A new drug shows great promise against the platelet-depleting autoimmune disorder known as immune thrombocytopenic purpura (ITP). The drug, a novel protein called AMG 511, appears to produce healthy amounts of platelets with no major side effects. The two-phase trial, conducted at nine centers around the country, is led by pediatrics professor Dr. James Bussel. The results were published in the New England Journal of Medicine. “Further clinical trials are well under way,” Bussel says, “and the next step, we hope, will be to license the compound. Then, maybe, we can begin to broaden its use to other illnesses.” The Platelet Disorder Support Association estimates that some 200,000 Americans are living with ITP.

Dr. Ronald Crystal

A Possible Alzheimer’s ‘Fingerprint’

A joint effort between scientists at Weill Cornell and on the Ithaca campus has identified a neurochemical “fingerprint” that could someday be used to definitively diagnose Alzheimer’s disease in living patients. Presently, doctors assess clinical symptoms to decide if a patient has Alzheimer’s as opposed to another form of dementia; it can only be confirmed on autopsy, via the examination of brain tissue.

Dr. Norman Rekin, associate professor of clinical neurology and neuroscience at Weill Cornell, and Kelvin Lee, an Ichth...
Deborah Leister had just hit puberty the first time a migraine struck. Both her parents had a history of the condition—but back in the late Sixties, treatment amounted to a handful of aspirin and a day or so in bed, waiting for the debilitating pain to pass. When Leister was thrown through a car windshield in her late twenties, the resulting injuries exacerbated her problems. In 2001 she suffered a stroke—as may happen with chronic migraine sufferers—and the headaches became a daily reality.

“I’m a complicated patient,” admits Leister, a fifty-two-year-old Philadelphia suburbanite and single mother of a teenage son. “I have a history of migraines, closed-head trauma, and hormone replacement therapy.” Even worse, the stroke had left the former banker unable to work and rendered her previous treatment regimen ineffective. Then her doctor suggested Botox, which backfired her previous treatment regimen ineffective.

In 2001 she suffered a stroke—as may happen with chronic migraine sufferers—and the headaches became a daily reality. Then her doctor suggested Botox, which backfired her previous treatment regimen ineffective.

“With these treatments, I’m able to live a life.”

More than 24 million Americans—the vast majority of them women—suffer from chronic, debilitating headaches. In a city with a half-dozen headache centers, Weill Cornell’s one-physician practice on East 72nd Street offers personalized care in a comfortable setting. An office manager handles calls and scheduling, but Dr. Dana Jamieson, Leister’s physician since 1995, provides all medical care, taking each patient’s history, recording headache triggers, and performing physical exams. “Headache medicine is very much a one-on-one interaction,” says Jamieson, an associate professor of clinical neurology who took over the Headache Center in September 2005. “Time is probably the most important asset you can offer.”

The Greek physician Aretaeus of Cappadocia first documented what we now recognize as a migraine nearly 2,000 years ago. But it wasn’t until the early twentieth century that the field became a specialty, investigated with the scientific rigor that would yield real understanding of the condition and hold out the possibility of effective cures. Much of the credit goes to occasional migraine sufferer Dr. Harold Wolff, who studied briefly with Ivan Pavlov in Leningrad and dedicated his mid-century career to understanding the relationship among cerebral blood vessels, nerve networks, and migraine. In 1948, Wolff authored Headache and Other Head Pain, the definitive text on the subject, now nearly 1,800 pages long and in its seventh edition. He also served as founding director of the Department of Neurology for New York Hospital–Cornell Medical Center when it opened in 1932, went on to head the neurology service at Bellevue, and in the early Fifties was named the first Anne Parrish Tread Professor in Medicine in Neurology, endowed by a grateful patient at the Cornell-based headache center he founded. Until his death in 1962, Wolff demanded that second-year students master a 101-question diagnostic exam he called the “irreducible minimum of information necessary for an understanding of the nervous system.”

Almost a half-century later, a comprehensive history remains the cornerstone of headache treatment. “Most diagnosis is directed by the history,” says Jamieson, a board-certified vascular neurologist who is an expert in the prevention and treatment of cerebrovascular disease, “and much of the interaction is education.” While the bulk of her patients experience migraines, men often suffer from cluster headaches and some patients experience pain related to changes in the pressure of spinal fluid around the brain. “People who have headaches tend to have multiple types,” says Jamieson. “It’s like ice cream. Most people think of vanilla or chocolate, but there are many flavors.”

When it comes to migraine, every individual has different triggers—the trick is figuring out what launches the cascade of physiological responses. Often implicated: aged cheeses, caffeine, perfumes, tobacco smoke, bright lights, or hormonal changes. (“The second and third trimesters of pregnancy frequently offer women a reprieve due to higher-than-usual estrogen levels.”) Ultimately, Jamieson says, the patient bears substantial responsibility for his or her own care—avoiding triggers and following a personalized treatment plan. “If the patient doesn’t take the medication, doesn’t keep a diary, still eats and sleeps irregularly, I say ‘Look, this is what I can do for you, but I can’t give you a magic bullet.’”

Jamieson divides the world into “headache people” and everyone else. “The vast majority of us can find relief in over-the-counter drugs, although the doctor points out that the labels generally vary more than the pills they describe. ‘They tend to have the same ingredients,’” says Jamieson. “It’s almost always aspirin, acetaminophen, anti-inflammatories, and caffeine. They’re good for mild, infrequent headaches, but if you take them too often, they can cause rebound headaches, kidney and liver problems, and other systemic problems.”

Jamieson’s patients sometimes experiment with acupuncture, biofeedback, massage, and homeopathy. The doctor doesn’t object—especially given the role that stress, mood, and the placebo effect play in headache relief—but she will offer guidance. In the case of acupuncture, for instance, make sure the needles are clean, for migraine sufferers at risk of stroke, avoid chiropractic adjustments to the neck and beware the anticoagulant properties of St. John’s wort and vitamin E. For some patients, she suggests a combination of magnesium and vitamin B2 mixed with feverfew, a member of the sunflower family, and butterbur root, a medicinal plant that has been clinically shown to reduce the frequency of migraines. “Once I’ve diagnosed them with a headache cause that can’t kill them,” Jamieson says, “they have to decide how much treatment they want. They may just need instruction on avoiding headache triggers, or they may need daily medication to prevent headaches.”

Even with comprehensive care, headaches remain an unpleasant fact of life for some patients. Leister, for example, still experiences incapacitating pain a couple of times a month—especially when the barometric pressure fluctuates too quickly. “I could be a better weatherman than a lot of people on TV,” she says. “I know if it’s going to be really hot, snowy, or rainy.” On those occasions, she heads for the local emergency room, where physicians administer a combination of intravenous narcotics in consultation with Jamieson. “There are certainly things that can be done to decrease the triggering of headaches, but migraines happen even without triggers,” Jamieson says. “There are millions of people whose brain is wired such that they have a propensity for headaches.”
Doc Fracture

Running the ED in Broken Bone, U.S.A.

R. MICHAEL MACQUARIE presides over an emergency department with a pair of unlikely—if informal—distinctions: it’s both the Broken Bone Capital of America and the 58th ED known to medicine.

MacQuarrie, MD ’70, is the director of emergency services at Tahoe Forest Hospital in Truckee, California, a resort community within easy driving distance of sixteen ski areas. That adds up to hundreds upon hundreds of fractures each year, treated in an oddly festive atmosphere. Most of MacQuarrie’s patients are on vacation, and even in the hospital they’re determined to have a good time. “These people have such great attitudes,” says MacQuarrie, who’s been at Tahoe Forest since 1978. “They’re all talking and laughing, so even the fact that it’s an emergency department, it’s sort of a happy, crazy place.”

A few years ago, one of the nurses devised a Wrist Fracture Hall of Fame, a large piece of posterboard that gives patients an artistic outlet. It’s been featured on MTV and in several national newspapers, past entries include “Pain is temporary and chicks dig scars, so deal with it.” Says MacQuarrie: “People who’ve broken their wrist actually say, Hey, now do I get to sign the board?”

Each ski season gets a clean slate, and by mid-December 2006—though Tahoe had seen only two snowstorms—there were already forty-five odd inscriptions on the wall. By the end of the season, which runs from about Thanksgiving to Easter, the ED will see about 1,000 such cases, usually caused by what the staff whimsically terms a “POOSH,” a Fall On Out-Stretched Hand. “The most common snowboarding injury, incurred when ‘riders’ [whose feet are connected to the board via bindings that, unlike those on skis, don’t automatically release] topple forward or backward and instinctively try to connect to the board,” says MacQuarrie. “These people are vulnerable. So when she tells them, ‘I’m 100 and I’ve been coming here seven times a week to go to lectures.’

The ED at Tahoe Forest Hospital in Truckee, California, is the 58th ED known to medicine. MacQuarrie grew up in Palo Alto, California, and did his undergraduate work at Dartmouth. His present job is a world away from his training in several inner-city hospitals: he worked at Bellevue as a medical student and did residencies in Harlem and San Francisco’s Mission District. He settled in the area because his wife, who’s from Sweden, wanted to live a quieter lifestyle, with access to the slopes.) In urban areas, he notes, people often use the ED for primary care, but his hospital sees a different demographic. “It’s a healthier group of people than in the city,” he says. “They’re here on vacation—and nobody comes to Lake Tahoe to go to the doctor.”

Not that MacQuarrie is against snowboarding; he enjoys the sport himself, though he prefers skiing. He just wishes that more snowboarders would wear wrist guards (there seems to be a stigma against them, he muses) as well as helmets; head trauma is the second most common snowboarding injury, followed by clavicle fractures. Weather conditions also play a major role. “Today I’m looking out at an absolutely cloudless sky,” MacQuarrie says, speaking from his home in mid-December. “It’s cold, but the sun’s out, so it’s going to melt a little of the surface; then it’ll freeze. It was 3 degrees this morning, and it’ll be 35 or 40 during the day. At night all that melting snow turns into boilerplate ice, and that’s when we see many injuries. On a typical day, the ED sees thirty-five to forty patients. But during the peak ski-vacation season between Christmas and New Year’s, it can get as many as 100—with 80 percent coming in between noon and 8 pm. ‘And they’re all injured,’” MacQuarrie says. “Nobody is here with the sniffles.” To try to keep wait times down to an hour, he schedules multiple nurses on staggered shifts and doubles up on radiologists and technicians. Since patients often don’t need to be in bed, they can be spread out in chairs or on gurneys in the hallway. “We’re so used to this, we just gear up for it,” he says. “We keep calling people in so we can keep our throughput just short.”

The Tahoe Forest ED also does a brisk business in summer, though the patient population changes; there are fewer young athletic types and more multi-generational families, with the usual geriatric and pediatric health issues. Activities like skydiving, rock-climbing, hang-gliding, and boating keep the injuries coming—in as does the fact that the hospital is roughly 100 yards from Interstate 80. “In emergency medicine, the challenge and the joy is that when you come to work you have no idea what’s going to happen,” he says. “One day you can be dealing primarily with complicated medical problems, the next day a busload of people rolls off the highway and we have a multiple-injury accident.”

MacQuarrie grew up in Palo Alto, California, and did his undergrad work at Dartmouth. His present job is a world away from his training in several inner-city hospitals: he worked at Bellevue as a medical student and did residencies in Harlem and San Francisco’s Mission District. He settled in the area because his wife, who’s from Sweden, wanted to live a quieter lifestyle, with access to the slopes.) In urban areas, he notes, people often use the ED for primary care, but his hospital sees a different demographic. “It’s a healthier group of people than in the city,” he says. “They’re here on vacation—and nobody comes to Lake Tahoe to go to the doctor.”

— Susan Kelley

Birthday gift: Lillian “Lakey” Sharky’s centennial celebration included cake, a party at the Cardiac Health Center, and forty-five minutes of aerobic exercise.

Queen of the Rehab Clinic

Exercise maven marks her centennial

LILLIAN SHARKY CELEBRATED HER 100TH BIRTHDAY WHERE SHE spends most afternoons: at the gym. On November 1, the staff of NewYork-Presbyterian/Weill Cornell’s Cardiac Health Center threw her a party, with her niece providing low-fat apple and carrot cakes, plus a cake. Then Sharky, who goes by “Lakey,” worked it off with her usual forty-five minutes of biking, walking, and callisthenics. Although niece and caregiver Linda Resnick says Sharky is tickled to have made it to 100, the honoree herself is nonchalant. “I don’t feel any different,” she says. The retired Manhattan hatmaker has worked out at the Cardiac Health Center three times a week since a 1998 surgery to replace a narrow aortic valve. She has exercised throughout her life, from playing basketball in high school to walking in her later years. “When she was eighty,” says Resnick, “she would walk eighteen miles and back several times a week to go to lectures.” Sharky attributes her longevity to healthy habits: “I ate right, I lived right.”

Those habits inspire others, says senior staff nurse Mary Smith. “I call her the queen of the rehab clinic,” Smith says. “When people come in after their heart attack or surgery, they’re vulnerable. So when she tells them, ‘I’m 100 and I’ve been coming here seven years’; she’s actually therapeutic.”

— Beth Saulnier
m

All in the Family

Three siblings donate kidneys

OST PEOPLE ARE LUCKY TO GET ONE kidney should they need a transplant, but Tom McManus has been lucky three times over. That’s how many live-donor organs he has received—from his siblings. In November, his five brothers and sisters all gathered for the most recent transplant, performed at NewYork-Presbyterian Hospital/Weill Cornell Medical Center.

“We’re about as close as we can be at this point,” McManus says.

Greatest gift: Kidney recipient Tom McManus (front row, left) sits beside his most recent donor, his sister Mary Suzanne. Back row: Sister Siobhan, his second donor, brothers Paul and John (his first donor) and sister Patricia.

McManus first had kidney problems at the age of eighteen and faced end-stage renal failure six years later. His father, of his family.

“We’re about as close as we can be at this point,” McManus says.

NewYork-Presbyterian Hospital/Weill Cornell Medical Center.

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“figure that was a pretty good run,” McManus says. But it too began to fail after McManus suffered a heart attack in 2001. Another sister, Mary Suzanne, stepped up to the plate for the third transplant.

ty tissue posed a technical challenge for the surgeon, Sandip Kapur, MD ’90, chief of the transplantation division and an associate professor of surgery. But it was a familiar problem: 10 to 15 percent of the division’s cases involve re-transplants. “We don’t shy away from high-risk operations,” Kapur says. “We try to have every possibility available to allow the transplant to go forward.”

The procedure has improved significantly since 1977, when McManus got his first kidney. The availability of a wider range of immunosuppressive drugs means advanced centers can individualize therapy, so recipients experience fewer side effects such as compromised bone density. But the real strides have been on the donor side. Surgeons used to make an eight- to ten-inch incision on the donor’s back and take out one or two ribs to get to the organ. “It was tough on my sister and brother,” McManus says. “They look like they were bit by sharks.” Now surgeons remove the kidney through one of three nickel-size incisions. “Patients go home the next day or the day after,” Kapur says. “If they have a desk job, they’re back to work within three weeks.”

That may offer some comfort to the two siblings, Paul and Patricia, who are compatible but have not yet donated a kidney. After the most recent transplant, the family gathered in the recovery room and celebrated the successful operation. “One of the surgeons joked to my brother, ‘Hmm, I guess you’re up next,’” McManus recalls. “I looked at him and said, ‘I hope not.’”

— Susan Kelley

A Dose of Hope

Dr. Gaynor takes an alternative approach to cancer treatment

T’S A STRUGGLE NOT TO BE CALM around Dr. Mitch Gaynor. Even at the tail end of a gray Friday afternoon, after a crammed pre-holiday week, his smile is easy, his white coat crisp, and his speech soothing. His entire Upper East Side Manhattan office reflects his demeanor: plants, exposed brick walls, the soft sound of ocean waves piped into every room, patients snuggled on soft recliners and sipping green tea.

It hardly seems the kind of place where patients come to face one of their worst nightmares: cancer treatment. But that’s the point. Gaynor, an assistant clinical professor of medicine at Weill Cornell, has become a leader in the increasingly accepted movement toward integrative oncology—combining traditional Western medicine (chemotherapy, radiation, bone marrow transplants) with Eastern techniques such as meditation and yoga, along with lifestyle changes, nutrition programs, and dietary supplements. “When a patient comes to an oncologist for the first time, there’s a tidal wave of fear, a tidal wave of questions,” Gaynor says. But add some guided meditation and music therapy to the talk about chemo and surgery, he says, and “people invariably say they’re the most relaxed they’ve ever been.” It’s a bold statement and hard to believe—but his patients speak in equally gushing terms about their treatment. “The meditation is the most beautiful experience,” says breast cancer survivor Rosemarie. “I feel like I’ve been to heaven and back. I really never even felt sick.”

Another patient, Marisa, had been given just six months to live by a string of reputable doctors, but under Gaynor’s care went from being a Type-A corporate vice president of human resources to a holistic therapy convert. She credits meditation, along with a massive diet overhaul and Gaynor’s patient support group, with the fact that she’s still alive, her pancreatic cancer in check, seven years later. “Everyone else had said there was nothing that could be done,” she says. “But he said, ‘There’s so much you can do to fight this.’”

About fifteen years ago, Gaynor discovered Eastern spiritual practices—and their connection to healing—when he treated a Tibetan monk who introduced him to chanting and to the metal singing bowls that have become a staple of his practice. At the time he started prescribing Eastern approaches, he had already studied the wide-ranging effects of nutrition on cancer treatment and prevention, and had been using guided imagery with patients. But it was then, in the early Nineties, that his mission became as clear as the ringing of that monk’s bowls: he would use his extensive credentials in traditional medicine—and the growing number of reputable studies exploring alternative therapies—to take holistic practices to the masses.

Four books, a meditation CD, and countless lectures and media profiles later, he has helped the field move toward mainstream acceptance.

One area of research that’s currently exploding, Gaynor says, is neurocardiology, the study of nervous system connections...
between the brain and the heart. “When- ever you're stressed, your heart goes into irregular rhythms,” he says. “It then releas es chemicals throughout your blood stream that affect your immunity, your digestion, everything. We really are what we think.”

Another hot topic: nutrition’s role in dis-eases from cancer to arthritis and high blood pressure. “It’s important that people know they can eat to prevent cancer,” he says. “By far the biggest promise for cancer is to not get it in the first place.” In fact, that applies on a global scale as well, as he outlines in his book Nurturant Nutrition/Nurture Health. Gaynor blames cancer’s massive proliferation—not to mention developmental and learning disabilities—on environmental pollution. “It’s not just a fear thing,” he says. “People need to understand there’s something they can do.”

Integrative medicine has gained much more widespread acceptance since Gaynor started using it a decade and a half ago; there are now two peer-reviewed journals dedicated to the field. But he feels his work won’t be done until it’s standard care at hospitals throughout the country—especially since many of his patients still travel long distances to seek his alternative approach. He’s seen more and more medical schools starting integrative medicine programs and inviting him to speak to students, whose receptiveness to his ideas gives him hope for the future. He’s also seen student interest growing every year in his integrative teaching at Weill Cornell, to the point where many medical students see it as just another part of the program instead of some touchy-feely afterthought. “The third line of the Hippocratic oath is, ‘I will keep pure and free from the corruption of the body and mind.’”

“I didn’t have the drugs to offer him—so I told him what I could do.” — Beth Saulnier

### One in a Thousand

**That’s how many Americans are born with fetal alcohol syndrome—but Dr. Daniel Herrera’s research could help**

IT’S THE LEADING NON-GENETIC CAUSE OF MENTAL RETARDATION—AND it’s 100 percent preventable. In America, one out of 100,000 babies is born with fetal alcohol syndrome (FAS); one out of 100 is born with fetal alcohol spectrum disorder (FASD), a less debilitating form that nonetheless causes significant behavioral and cognitive problems. Despite decades of public education about the dangers of drinking during pregnancy, many women still haven’t gotten the message. “As I understand from the data, fetal alcohol syndrome is actually rising,” says obstetrician Dr. Catherine Spong, chief of the pregnancy and perinatology branch of the NIH’s National Institute of Child Health and Human Development. “And if you look at the spectrum dis-order, it’s more far-reaching than people had previously appreciated.”

Although the statistics frustrate public health officials, science may offer an effective countermeasure. In mouse studies, Weill Cornell assistant professor of psychiatry Dr. Daniel Herrera and colleagues have been exploring the potential of a vitamin B derivative to block alcohol’s potentially dire effects on the developing fetus.

Nicotinamide, the amide form of vitamin B3, is a familiar dietary supplement. It’s available in health food stores and has long been used to treat the vitamin-deficiency disease pellagra as well as other conditions such as type-I diabetes. But research has shown that the amide is also a neuroprotectant, preventing apoptosis—cell death due to oxygen deprivation—by inhibiting the release of the protein cytochrome-c. Herrera and Alessandro Ieraci, a former postdoctoral fellow who has since returned to his native Italy, injected seven-day-old mice pups with enough ethanol to simulate a severe drinking binge in a human mother. (Because of differences in brain development, postnatal mice are roughly akin to a third-trimester fetus.) “It was a very high dose,” Herrera says. “Analogous to getting so drunk you’d end up in the ER—close to a comatose level.” Some of the pups received nicoti-namide injections a few hours later, while others did not.

Dissections performed on some of the mice showed two weeks of age found that those who received only the alcohol had significantly fewer neurons in certain structures of the brain than the animals who got either both injections or none. At three to four months of age, there were striking behavioral differences as well: “It was like they couldn’t stay in one place,” says Herrera, who holds a PhD as well as an MD. “They couldn’t pay attention, they couldn’t learn as well. But the animals that received alcohol and nicotinamide performed behaviorally as well as those that didn’t receive any alcohol.”

The problems of the alcohol-damaged mice mirror those of children with FASD, which include hyperactivity, attention deficit disorder, and learning disabilities, those with full-blown FAS can also suffer stunted growth, mental retardation, and dysmorphic facial features. Unsurprisingly, the conditions are particularly prevalent in groups with typically high levels of alcohol consumption, such as Native Americans, Spong says.

One in twelve American women admits to drinking while pregnant—and one in thirty admits to bingeing, defined as five or more drinks in one sitting. Although some see maternal drinking as a cultural issue—many Frenchwomen enjoy a glass of wine with dinner while they’re expecting—the researchers strongly believe that the only safe level of alcohol during pregnancy is zero. Different people metabolize alcohol differently, so it will have dif-ferent effects,” Spong says. “What one person might be able to tolerate, and their baby might be able to tolerate under cer-tain circumstances, might be very different for another person. So you can’t say, ‘If you have one binge it’s fine’ or ‘a little drinking every now and then.’”

Ultimately, Herrera and Ieraci’s research could lead to nicotinamide being approved as a treatment for pregnant women who have consumed alcohol. But, given human nature, that raises a concern: Some women might plan a night out fol lowed by a quick trip to the doctor for their nicotinamide shot. The fetus could still suffer damage if the timing isn’t right— and although nicotinamide appears to be harmless, Spong stresses that it’s not worth the risk. “Pregnancy is an incredibly vulnerable time for the baby—everything is developing,” Spong says. “Although the nicotinamide may be able to prevent alcohol damage, it may affect other systems. Do you really want to introduce another variable?”

### Herrera doesn’t plan any clinical trials at this point, concentrating on the bench science. And, with millions of people suffering the after-effects of in utero alcohol exposure, he’s also looking at the possibili-ty that nicotinamide could ameliorate symptoms even decades after birth. Early work with adult mice, he says, has been promising. And while Herrera—whose youngest child is a toddler—rarely goes out in the evenings, he says that if he ever saw a pregnant woman drinking in public, he’d feel compelled to intervene. “I’d say, ‘You’re doing dangerous. You’re damaging your baby.”’

— Beth Saulnier

**Dr. Daniel Herrera**

**Bad for Baby: Fluoro-Jade B staining (a marker of neuronal degeneration) shows the effects of alcohol on the brains of neonatal rats and the protective effect of nicotinamide. (The top row depicts a region of the hippocampus; the bottom row the latero-dorsal nucleus of the thalamus.) At left is tissue after the administration of saline; in the center is ethanol alone, and at right is ethanol with nicotinamide.**
HE LIFE OF A FIRST- YEAR medical student is filled with challenging decisions. Although it may seem like the big decisions have been made—what school to attend and where to live, not to mention the option to choose to enter medicine in the first place—students are encouraged almost immediately to begin making their next life-altering decision: an area of specialty. To clarify their options, many students join peer-led interest groups. Luring medical students away from their textbooks, labs, or limited free time to discuss the ins and outs of a field is not as difficult as it sounds in the competitive world of medical studies, advice about the future is welcomed.

The number of specialty interest groups at Weill Cornell Medicine has grown immensely in recent years. First- year students are encouraged to consider groups devoted to neurology, orthopedics, family medicine, sports medicine, pediatrics, and more. To explore their options further, it’s common for first-years to sign up for multiple interest groups. Usually organized and led by a second-year, the events and activities vary in content and regularity, but most interest groups meet monthly.

Second-year student Dean Arnaoutakis joined the Slimsonn Study Group last year and is now one of its organizers, two faculty advisers oversee scheduling and events, which usually draw more than two dozen students. Attendees often watch the show. “Attending sports about their schedules, the number of days in the clinic and days operating. They talk about how they says. “Attendings speak about their sched- ules operating. They talk about how they.

frank conversation about a summer membership program known as MSTAR (Medical Student Training in Aging Research). With their backpacks and books at their feet, the students listened intently as GIG president Eugene Licht and other second-year students talked about their MSTAR experiences, and Dr. Mark Lebov, co-chief of the Division of Geriatric Gerontology, along with neurologists Dr. Melissa Nirenberg and Dr. Guzmán Gouras, weighed in on the benefits of the summer program. “GIG students tend to find a home with our division and see our faculty in clinical settings as well as at dinners and summer barbecues,” says GIG faculty adviser Dr. Carole Capello, who also attended. “They see us as real people, with real lives.”

Licht, who joined GIG in his first year, plans on attending meet- ings while graduation, he enjoys the group’s focus on community service and student-run seminars, as well as the opportunity to meet and make close connections with faculty. “The projects that I have been involved with because of GIG are some of the most rewarding activities that I’ve participated in at Weill Cornell,” he says.

Also at the meeting was GIG vice president Dan Li, a second-year student whose interest in geriatrics came as a surprise: he entered medical school fairly sure he would specialize in otorhinolaryngology, for which there was no interest group. During his first year, Li attended almost every GIG meeting, and it changed his perspec- tive by giving him the opportunity to make close connections with faculty. “Geriatrics is a growing field,” Li says, “and now I find myself completely torn.” Li plans on attending as many meetings as he can, including those of the otorhinolaryngology interest group. He created it this year.

— Michelle Orange

Mock trial: Lear’s competency is debated as attorney Daniel Kornstein (standing) questions Dr. Robert Michels. And my fair kingdom, with all its holdings including the best condos in West Palm plus all my loot down to the model trains— HA! the kind you can no longer get. I did bespook to them, except— dammit!—the good one. Please don’t ask me my reason’s rhyme. It seemed a good idea at the time. He opened and closed with a far- away look and tuneful, if odd, whistling—a detail that seemed to call into question the competence he claimed to have regained. As the trial progressed, the fundamental question of cog- nizance emerged. Did Lear understand what he was giving away and that the gift was irrevocable? Dr. Paul Appelbaum, director of Columbia University’s Division of Psychiatry, Law, and Ethics, took the stand as a forensic psychiatrist siding with Lear citing Shakespeare’s play; Appelbaum said that at the time of the trans- fer, the king was no longer the kind, effective manager he once had been. Rather, he had become arguonmetal, irritable, irra- tional, and occasionally abusive—all symptoms of early onset dementia. But Warner, representing Lear’s daughter, pointed out that people often display these traits and are not necessarily demented. Lear was functioning well, he knew, for example, the size of his land when he gave it away, and his memory seemed intact.

Besides, Warner said, one reason Lear gave away his kingdom could be that he would remain. "Now that’s a rational idea, isn’t it?" he asked Appelbaum. "Have you been to Florida?" Appelbaum replied. The institutions of medicine and law got their share of ribbing, too. Warner: “It’s also true, isn’t it, that in determining incompetence we have to remember no one makes ideal deci- sions? Dr. Gouras, I assume you’re excluding judges.”

If the trial’s tone was often tongue-in-cheek, the issues it raised are serious. Future physicians will witness more family disputes involving questions of competence as the population ages and wealth becomes increasingly concentrated in elderly hands. “This is an important social issue,” says Michels. “The trial gave the students another way of thinking about something they’re going to see in the future—demented or older patients.”

After the lawyers made their summations, Judge Glen ruled that the king had, in fact, been competent. “Although Lear may have done a terrible, foolish, or unfortunate thing,” Michels says, “that doesn’t mean you can overturn his decision, because he knew what he was doing.” — Susan Kelley

E DUCATED GUESS

Interest groups help students choose a specialty

Hat if KIng Lear HAD Lived? And What if he sued his daughters to get his kingdom back? That was the scenario played out in September in a mock trial called “Law & Order: Elizabethan Unit,” sponsored by Weill Cornell’s Humanities and Medicine Program. Lear, played by Dominic Chiaruse (similarly, “Sopranos” devotees as Uncle Junior), claimed he had been incomp- etent when he handed over his throne to daughters Cordelia and Regan—and he wanted his decision reversed. “The key question was whether or not Lear was demented,” says Dr. Robert Michels, a professor of medicine and psychiatry and former dean of the Medical College, who testified as a medical expert for the defense. “Was he confused, or uncertain of what he was doing?”

Like the television show it mimicked, the trial blended fact and fiction, puns and intellectual jousting. Real-life lawyers, med- ical experts, and a judge played themselves. They included attor- neys Kenneth Warner, who at the time was defending the son of 104-year-old socialite Brooke Astor against charges he had neg- lected her and appropriated funds, and Daniel Kornstein, the author of a book about Shakespeare and the law called Kill All the Lawyers! The judge was the Honorable Kristin Booth Glen, who, often rules on similar cases in Surrogate’s Court in Manhattan. About 200 students, staff, and faculty packed Uris Auditorium to watch the show.

Before the trial began, narrator Stephen Giller, a law professor at New York University, set the stage. Lear, he said, emerged in 2005 from a forest near Stratford, England, wearing a crown of twigs and making two startling claims. He hadn’t died—Shakespeare had killed him in the play in a scene he had cut before the work was published. Second-year student Dean Arnaoutakis joined the Slimsonn Study Group last year and is now one of its organizers, two faculty advisers oversee scheduling and events, which usually draw more than two dozen students. Attendees offer insights not only into the career track of a surgeon but also the lifestyle. “I think it provides a realistic picture,” Arnaoutakis says. “Attending sports about their schedules, the number of days in the clinic and days operating. They talk about how they

TALK OF THE GOWN

SPRING 2007

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we see of each other, the more opportunities we’ll find.”

In 2004 the University announced a program of one-year seed grants for intercampus research teams. It awarded a dozen last year and will distribute an additional $400,000 in 2007. In 2006 Cornell formed a steering committee to investigate ways to overcome the 250 miles between the two campuses, including improved fiber-optic communication and such transportation initiatives as the Campus-to-Campus Bus. “The distance is certainly a consideration because some things have to be done on-site,” Gotto says. “But with the videoconferencing we’ve developed using broadband technology, we’re able to communicate, in some cases, almost as well as we could if we were down the hall.”

Although collaboration is now in the spotlight, some projects have been going on for years. Dr. Mark Lahy, director of Weill Cornell’s Center for Aging Research and Clinical Care, and Ithaca-based gerontologist Karl Pillemer are long-standing collaborators on the subject of elder abuse, and Ithaca computer engineer Anthony Reeves has been working with Weill Cornell radiologists on a lung-imaging project for a decade. Ithaca physics and engineering professor Watt Webb has also been conducting research on various topics in multiphoton microscopy with a cadre of Weill Cornell faculty, including biochemist Dr. Frederick Maxfield, urologist Dr. Douglas Scherr, and neurologist Dr. Gunnar Gouras. “With Ithaca and the Weill Cornell campus working together, we should be able to bring new inventions closer to clinical reality than either could alone,” says C. C. Chu, a professor of fiber science and biomedical engineering who is collaborating with Kent. “We have to work as partners to achieve that goal, to touch someone’s life.”

There are challenges, of course. Flying out of Ithaca is expensive, so is spending the night in Manhattan. “The day-to-day contact is difficult,” admits Abrahan Stroock, an Ithaca engineering professor who is working with Weill Cornell faculty. “There’s an obvious challenge due to geography; it’s always best to collaborate with the guy in the office next door who has a lab across the hall from yours. But I think the University has lubricated this process—by subsidizing transportation, for example. I have been to New York many times in the last two years and my collaborators have been to Ithaca, and we’ve been able to write proposals together and start to get experimental results published. My feeling is that, based on these new connections, I’ve learned a significant amount and initiated projects that would not have been initiated.”

To show the range of collaborative projects now underway, here’s a look at five that received 2006 seed grants.

Collaborating on a wide variety of research projects, investigators in Ithaca and at Weill Cornell bridge the gap between the two campuses.
A
braham Stroock is a professor of chemical and bio-
molecular engineering on the Ithaca campus, but he
has a pair of research projects ongoing with collabora-
tors in Manhattan. Stroock specializes in microflu-
idics, a field that involves the manipulation of fluids on an
extremely small scale. With his Weill Cornell colleagues, he’s been
applying microfluidics to blood-vessel propagation and wound
treatment. “Clinicians are great because they’re so enthusiastic,”
Stroock says. “They’re optimists, they make things happen.”

One project, with Weill Cornell cell and developmental biolo-
 gist Thomas Sato and Ithaca-based biomedical engineer Lawrence
Bonassar, involves the study of how blood flow—a physical rather than a
chemical stimulus—affects blood vessels. In in vitro work that may soon
go to animal models, the researchers are examining the potential for
using a patient’s adult stem cells to culture a network of new vessels. The
research could have applications, Sato says, to “almost all the diseases
that affect the cardiovascular system”—for example, to regenerate dam-
aged tissue after a heart attack or stroke. “If we do conventional biologi-
cal studies, it’s hard to separate chemical components from physical
components,” Sato says. “So Abe and I have been working together to
make an artificial blood vessel network in culture, where we can apply
only physical forces.”

Sato has been studying the chemical side of blood vessel generation
for fifteen years, work that has taught him that physical cues are needed
in addition to chemical ones. That focus on blood flow taps into Stroock’s
expertise in fluidics; Bonassar, who studies cartilage, plans to test their
concepts in vitro on bone tissue. “Once we figure out what physical forces
are necessary to make normal patterns of blood vessels, then we could
potentially invent some way to modulate the physical cues, such as
changing the blood flow or its viscosity,” Sato says. “By combining that with chemicals, we
could make healthier, more normal-patterned
blood vessels.”

Stroock has also been working with Dr. Suzanne Schwartz, a surgery professor in the
William Randolph Hearst Burn Center at Weill Cornell Medical Center, to develop an active
dressing that could deliver drugs to chronic
wounds while remaining sterile and in place. It
could have particular applications to diabetic
patients, whose wounds often resist healing
under current standards of care. Such a dress-
ing, he says, could also be used as a diagnostic
tool. “The idea is that it would have a continu-
ous flow of, in the simplest cases, saline—it’s a
dressing on a drip,” Stroock says. “That fluid
comes back out and is analyzed. And part of our
longer-term interest would be to develop a sys-
tem in which you would do protein analysis, for example, on the out-
stream. Then the analysis of those results would lead to feedback, so the
clinician could change the treatment as diagnosis is made.”
At the Ready
Prepared for a health crisis

In the event of a major emergency—be it a terrorist attack, a disease outbreak, or a natural disaster—governments, agencies, and health-care providers need to know how to respond to the inevitable medical demands. How many doses of which drugs should be distributed? Which personnel should be deployed, and where? How do you manage the flow of information? Such questions and more are the subject of an intense collaboration between Dr. Nathaniel Hupert, an assistant professor of public health and medicine at Weill Cornell, and Ithaca-based Jack Muckstadt, the Acheson Laibe Professor of Engineering in the School of Operations Research and Information Engineering.

The pair have been in daily contact for nearly two years, working to develop computer models to guide logistics planning for a variety of emergencies in the hope of optimizing patient outcomes. Although some issues translate across disasters, each type of crisis has its own demands. “If you have a hurricane, you have some time to react—but its impact plays out over a long period,” Muckstadt says. “Then you have something like 9/11 where a number of crisis has its own demands. “If you have a hurricane, you have...”

Hupert cites the example of pandemic flu, which raises myriad questions about patient needs and hospital resources. “I want to know what my predicted surge of arrivals might be,” he says. “Who is in my hospital right now? What proportion of them can discharge safely and with what requirements for outpatient care so they don’t send up coming back? What might individuals with influenza require during their hospital stay? How long will they be in the hospital? How many staff will be required to treat them? What’s the health of my staff and what proportion of them might be out with the flu themselves? Where might I send patients if I’m full? What’s the optimal allocation of patients given our transportation resources? 

But there’s a major challenge to the effort: data collection. Although health officials and government agencies have stepped up information-sharing protocols since 9/11, data systems are often incompat-ible. “That’s the hardest part about this: getting actual data,” Hupert says. “It’s a huge issue that’s...”

Hupert has long been interested in the field of disaster preparedness, he created simulation models for New York City’s first modern larg-scale mass prophylaxia exercise in 2002. Operations researchers like Muckstadt study how systems work and try to optimize them, from airline scheduling to factory throughput. “What Jack brings to the table is an incredible breadth of expertise across different modeling and analysis fields,” Hupert says. “In supply-chain and logistics modeling, he has brought our ability to create this platform to a much higher level. We could not have done this on our own.”

First response: Researchers at Weill Cornell and the Ithaca campus have designed a model (below) for giving antibiotics or vaccines to hospital staff with the least disruption. The work will be published in Hospital Epidemiology and Infectious Control.

In Circulation
Can plastic mimic a human vein?

For years, researchers have been trying to develop an artificial alternative to saphenous vein grafts—the procedure in which a vein from the leg is used in heart and other bypass operations. Although the procedure works “reasonably well,” says vascular surgeon Dr. K Craig Kent, oftentimes the vein is simply unusable. “It’s already been taken for another bypass, it’s clotted, it’s small, or it’s never been well-developed,” Kent says. “In a large number of patients, there isn’t a saphenous conduit available.”

Bypasses are performed for many reasons, such as to circumvent a kidney artery blockage, improve leg circulation to avoid amputation, or prevent a stroke due to an occlusion in the carotid artery. Unfortunately, progress in developing an artificial bypass method has been slow. Human blood vessels are made of many types of cells and have natural anti-clotting properties, which researchers have so far been unable to mimic. “Plastic grafts clot frequently and they don’t last very long,” Kent says. “Although they’re fairly easy to sew in place, they’re not very durable.”

With biomedical engineer and fiber scientist C. C. Chu and Weill Cornell cell biologist Bo Liu, Kent has been working to develop an alternative. Their artificial vessel is made from polyester, a new family of biodegradable biomaterials (synthesized mainly from amino acids) invented in Chu’s Ithaca lab in 2003. The material is sent to Weill Cornell in the form of a fabric or film, which Kent’s lab is studying in cell cultures, testing on animals is the next step. Implants made from these new bio-matter materials have been particularly useful in patients at risk for intimal hyperplasia, the thickening of the innermost layer of an artery that leads to reocclusion following angioplasty or a bypass. “We have a hypothesis that nitric oxide, which is a biological messenger the body produces upon stimulation, would be able to counteract the formation of intimal hyperplasia if nitric oxide could be locally delivered along with the synthetic vascular grafts,” says Chu, who is also working with surgeon Dr. Roger Yurt, director of the William Randolph Hearst Burn Center at NewYork–Presbyterian Hospital/Weill Cornell Medical Center, to develop therapeutic biodegradable artificial skin for burn patients. The fabricated vascular graft is both an implant and a nitric oxide delivery device, Chu says, “so with one stone you kill two birds.”

Ultimately, the researchers hope to develop an implant that will spur the body to make its own new blood vessels. They would like to be able to provide a scaffold for an artery made of collagen produced by the inflammatory process—i.e., spurred by the dissolving implant. Although such advances may be many years off, Kent says, he hopes that his and Chu’s different perspectives will help them succeed in an effort that has stymied researchers for a quarter century. “It’s great to put together a bioengineer—who understands the complexities of the structure of an artery in a way that I never will—and a vascular surgeon who understands the disease process and works hands-on with arteries,” he says. “He has ideas that I had never thought of. I have different ideas and a different perspective. Blending our knowledge and expertise has the potential of leading to developments that neither of us would be able to achieve on our own.”
It’s an experiment done over and over in endovascular labs around the world: a small piece of plastic with a sphere on the end is inserted into a blood vessel in a rat’s brain to cause a stroke, which can then be studied. The most common method of fabricating the tiny implement is hardly precise: researchers melt the tip of a plastic suture over a flame to form a glob of molten plastic, then let it harden. “Of course, everybody who does that gets a different device,” says William Olbricht, a professor of chemical and biomolecular engineering on the Ithaca campus. “So it’s tough to compare results between experiments, and you probably use more animals than you need to because sometimes the device doesn’t cause the proper blockage.”

In collaboration with the lab of the Dr. Pierre Gobin—Weill Cornell’s Director of Interventional Neuroradiology and inventor of the MERCI Retriever, a corkscrew-like device that can remove blood clots from the brains of stroke patients—Olbricht and Conor Foley, a chemical engineering graduate student, have created a microcatheter intended to standardize the experimental protocol. The device is constructed (in both Cornell’s nanofabrication facility and in Olbricht’s lab) from plastic tubing bought from a company in Florida and shipped to Ithaca, the experiments are done at Weill Cornell. The tubing, several inches long, is just 0.27 millimeters in diameter, the sphere at the end is about half a millimeter wide: “The idea is that we use animals of the same size, 260 to 300 grams, in all the experiments, and the catheters are the same size,” says Dr. Walter Zink, an MD-PhD radiology resident working on the project. “There’s a narrow range of blood vessel sizes in those animals, so we can pretty much advance the same catheter into the same-sized rat every time and get similar-sized strokes. That’s very useful when we test new therapies.”

In addition to inducing the strokes, the microcatheter also treats them: the tubing has holes laser-drilled into the side, each about one-twentieth of a millimeter wide, that can be used to deliver neuroprotectants. Gobin’s lab played the world’s best and learned more from that. So you get the world’s best physician, and you use them to train the computer, which is distributed as part of the scan.

The data contributed by research partners at more than forty institutions around the world will help the team develop algorithms for analyzing images to identify and diagnose early signs of lung cancer. Some day, Reeves says, every scanner will come with sophisticated software that will process images and flag potential problems—not only for lung cancer but heart disease, emphysema, and other conditions. Rudimentary versions already exist for lung screening and mammography; the team’s software for measuring pulmonary nodules has been licensed to General Electric.

For a decade, Yankelevitz and Reeves have been working to develop ways for computers to aid in image interpretation. Last fall, some of the results of their International Early Lung Cancer Action Project (led by Weill Cornell professor of radiology Dr. Claudia Henschke) were released, sparking extensive media coverage about their claim that long-term survival rates can be vastly improved—from 5 percent to upwards of 90 percent—via routine CT screening for at-risk patients. But that finding, while striking, was just one element of their long-term project, which has included the development of a highly efficient computerized data-gathering system—one that integrates not only images but pathology data and clinical trial results.

The most common method of fabricating the tiny implement is hardly precise: researchers melt the tip of a plastic suture over a flame to form a glob of molten plastic, then let it harden. “Of course, everybody who does that gets a different device,” says William Olbricht, a professor of chemical and biomolecular engineering on the Ithaca campus. “So it’s tough to compare results between experiments, and you probably use more animals than you need to because sometimes the device doesn’t cause the proper blockage.”

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Who’s the world’s best chess player? Reeves muses. “It’s a computer.” The computer was trained through all the great games that have ever been recorded, and then played the world’s best and learned more from that. So you get the world’s best physicians, and you use them to train the computer, which is distributed as part of the scanner. Once we solve that problem, once we have the algorithm, you’ll have an expert diagnostician in the computer.”

Reeves and Yankelevitz stress that the algorithms aren’t intended to be a substitute for a radiologist’s reading; rather, they would give the physician an efficient way of pinpointing areas of concern. With the advent of more complex scanners, Yankelevitz says, some images are already overwhelming to the human eye, and the use of computer aids is reaching a tipping point. “The software is really an assist to the radiologist—everything is looked at again,” Yankelevitz says. “People have said that it’s going to replace the radiologist, but it’s nowhere near that. It’s a tool that we need to help sort through the enormous amount of information that is now available and ultimately to make our interpretations more accurate and meaningful.”
As the first dedicated clinical care building in the Medical College’s history, the Weill Greenberg Center raises patient services to a new level. by Beth Saulnier photographs by John Abbott

the height of healing

Convenient care: The Weill Greenberg Center’s lobby features water pools and a hanging glass sculpture by artist Ray King.
From the moment you walk in the door, it’s clear that this is no ordinary trip to the doctor. In fact, that’s obvious even before you step into the building, a fifteen-story tower of gauzy, undulating glass at the corner of East 70th Street and York Avenue.

A few days prior to your first visit, you’ve gotten a phone call to take a comprehensive health history. If you came by car, you’ve driven into an underground garage complete with valet service and a sixty-foot-long wall of water. The lobby floors and walls are made of travertine marble, but the focal point is a suspended sculpture designed by Ray King, consisting of some 10,000 sparkling glass elements. Beyond a series of pools is an escalator that takes you one flight up to the Myra Mahon Patient Resource Center, where you’re greeted by a friendly receptionist and a wall of windows offering a sweeping view of Manhattan.

Weill Cornell’s new $232 million ambulatory care and medical education building is designed to revolutionize the patient experience—not only through streamlined services but by creating a serene atmosphere that’s conducive to healing. Named the Weill Greenberg Center in honor of longtime Medical College benefactors Joan and Sanford Weill and Corinne and Maurice Greenberg, the building is the centerpiece of the successful $750 million “Advancing the Clinical Mission” campaign—to which the two couples gave a combined $150 million. The Center welcomed its first patients on January 8, with a formal dedication ceremony following on January 26. About 100 physicians and 900 support staff will be housed there, including dermatologists, radiologists, neurologists, otolaryngologists, cardiologists, gastroenterologists, fertility specialists, and pain management specialists. “Our ability to deliver clinical services will be enhanced dramatically by this modern, convenient facility,” says Sanford Weill, chairman of the Medical College’s Board of Overseers. “It will enable us to come closer to achieving our goal, which is providing the best possible services to our patients.”

Of the building’s fifteen floors, the top two are devoted to mechanical functions. The second floor features the Selma Ruben Conference Rooms as well as the Myra Mahon Patient Resource Center, offering coffee service, Internet access, help with billing and referrals, a librarian, and a wealth of information about health and disease. The tenth floor houses the innovative Clinical Skills Center, where medical students will be observed and recorded while examining both interactive mannequins and actors portraying patients. “The building will aid dramatically in the education of doctors,” Weill says. “Students will be learning from the best and the brightest in one of the most modern facilities in the world for clinical care.”

The building was designed by Polshek Partnership, a New York-based architecture firm that has created a number of notable medical and scientific facilities, as well as the Rose Center for Earth and Space at the Museum of Natural History in New York City and the Clinton Presidential Library. In designing the Weill Greenberg Center, the architects sought to integrate a modern facility with the existing campus structures—from the historic character of the original hospital (Polshek partner Todd Schliemann calls it “a white brick pile of Gothic arches and a lot of masonry”) to the sleeker look of the newer additions. “We wanted to create something that’s refined and simple,” says Schliemann, a 1979 graduate of Cornell’s College of Architecture, Art, and Planning, “as if it’s the next step in the evolution of the institution’s identity and its approach to giving care.”

One key design element is the fritted glass that covers the building’s north and east sides. Assembled in Minnesota, the double-paned glass is covered in a white ceramic stencil that mimics heat from the sun and offers a distinctive visual element.

Just the Facts

Groundbreaking: May 25, 2004
Topping out: May 16, 2005
First patients seen: January 8, 2007
Cost: $232 million
Financing: Entirely by philanthropy
Height: 200 feet
Floors: 15 (13 occupied, 2 mechanical)
Square footage: 330,000
Frame: 4,000-ton steel
Estimated annual traffic: 1 million people

Have a seat: The waiting areas (above) are designed to be stylish as well as comfortable, with plenty of natural light. Left: a close-up of the ceramic “frit” that covers the windows, offering privacy and energy savings as well as a distinctive visual element.
The Waiting Game  Replace those stale magazines: environment matters

Research has shown that a pleasant atmosphere in doctors' waiting rooms isn't just a matter of taste: it can have a profound effect on patient satisfaction, says Franklin Becker, chairman of design and environmental analysis on the Ithaca campus. In 2005–06, Becker and former graduate student Stephanie Jones Douglass studied six Weill Cornell medical practices—some housed in older buildings, others in newer facilities such as the Jay Monahan Center for Gastrointestinal Health and the Iris Cantor Women’s Health Center. After conducting 720 hours of direct observation and surveying 120 patients, Becker says, “we found a strong relationship between the overall attractiveness of the patient areas and perceived quality of care.” The link, he says, lies in the fact that the longer people wait to see their doctor, the less satisfied they are with their visit.

That may not sound particularly surprising. The twist is that there was no relationship between the actual amount of time patients waited and their perception of the care they received—but their opinions were heavily influenced by how long they thought they waited. And in a nicer atmosphere, the researchers found, people tend to underestimate their wait times. They may have to sit there just as long, but if they have a pleasant setting—rather than, say, uncomfortable chairs, outdated magazines, and harsh fluorescent lighting—they don’t mind so much. Providing a more attractive waiting room, in other words, makes patients feel better about their treatment—an important factor in healing.

Although the study’s findings were not specifically incorporated into the Weill Greenberg Center’s design due to timing issues, Becker and Weill Cornell Physician Organization chief administrative officer Nancy Farrell, they confirmed the value of its essential principles. Becker plans to follow up the research by studying the practices that relocated from older facilities to the new building, to see if patient satisfaction improves.

"There’s a light gauze across the glass, which puts a kind of distance between you and the street," Schliemann says. "From the outside, the building takes on a lightness and an opacity that doesn’t allow people to look in." The glass has a low iron content, which reduces the typical greenish hue; Polshek dedicated an employee to overseeing the technical aspects of the glass curtain wall, comprising approximately 2,500 individual faceted panes, most measuring five feet by seven feet. "The way the glass ripples and facets was meant to break down the scale of the building by making fractured reflections," Schliemann says. "It also gives it a kind of Gothic air, which harkens back to the earlier motif in the institution."
Immunology, have made significant discoveries about Hendra and Nipah, deadly Henipaviruses that the U.S. government lists as potential bioterror agents. Their new approaches involve the use of small peptides that stop the viruses from entering cells. The initial results of this work were published in the October issue of the *Journal of Virology*. “This is our first paper to present these new ways of thwarting infection with Hendra and Nipah viruses, and we have some even more encouraging results coming out soon,” says Moscona. “Our next step is to develop more effective antiviral agents based on refinements of the strategies in the October paper. We’re now writing up the results of our recent experiments, showing how we have made the peptides even more active against live viruses.”

Moscona and Porotto are the core of the Program, but the laboratory environment is one of lively interactions among scientists at all levels—graduate students, postdoctoral fellows, clinical fellows, high school and college students, medical students, and faculty. For the last twenty years, the Moscona lab has focused on pediatric respiratory viruses, including parainfluenza, a major cause of croup and bronchiolitis in young children. Because of the similarities between parainfluenza and the Henipaviruses, Moscona and Porotto were able to apply their expertise to combating these newly emerging pathogens. Human immunodeficiency virus (HIV) is another zoonotic pathogen, one that crossed over from chimps to humans about seventy years ago. Moscona and Porotto are now interacting with Weill Cornell HIV researchers, including microbiology and immunology professor John Moore, to share advanced techniques and learn from each other’s experiences.

The stereotypical image of researchers battling zoonotic diseases brings to mind scientists in HAZMAT suits handling lethal virus strains or studying diseased animals. But the Program’s laboratories look little different from many others within the Medical College—no spacesuits are needed here. And the atmosphere, although intense, is far from frightening. Nestled between brightly colored offices on the Department of Pediatrics’s research floor—the Friedman Family Pediatric Research Laboratories—the research space contains tissue culture hoods, gel systems, power supplies, flasks, small centrifuges, and microscopes, all lined up neatly on counters, surrounded by journals, notebooks, and calculators. The scientists wear casual clothes under their lab coats and

Weill Cornell researchers work to stop the spread of zoonotic diseases.
The Department of Pediatrics may seem like a surprising place to study potential bioterror agents, but it is the natural home for this Program. Moscona is a specialist in pediatric infectious diseases who for the past two years has been a professor of pediatrics, microbiology, and immunology and vice chair of pediatrics at Weill Cornell. Throughout her career, her driving motivation has been to find ways to prevent and cure the infections that hurt and kill children.

The experiments leading to Moscona and Porotto’s recent discoveries on Hendra and Nipah viruses were the culmination of years of work. Moscona had conducted a great deal of fundamental research on how paramyxoviruses infect lung cells, she was convinced that understanding how this process occurs was key to preventing or curing the infection. Porotto, a PhD from the University of Genoa and now an assistant professor of microbiology in pediatrics, came to the lab with extensive experience in molecular biology and a dream of applying his abilities to curing childhood infections. Together, the pair first focused on parainfluenza and other viruses in the same family—known as paramyxoviruses—that are responsible for numerous animal and human diseases. When the experiments with parainfluenza revealed a possible strategy for stopping the virus from entering cells, the investigators decided to try the same strategy on Hendra and Nipah, another deadly virus whose discovery has coincided with the current AIDS epidemic.

Deadly pathogen: There are currently no vaccines or drugs to combat Hendipaviruses such as the Hendra virus (above).

Five years later, another, similar Hendipavirus called Nipah emerged in Malaysia, killing 105 people. The most likely primary factor behind this emergence was the housing of millions of imported pigs in confined quarters. Local fruit bats took up residence with the pigs, infecting them with Nipah. Both Hendra and Nipah cause respiratory infections, hemorrhages in the lungs or brain, and central nervous system disease. Most alarmingly, Nipah can cause what is known as relapse encephalitis—the onset of brain hemorrhaging up to four years after an initial infection. “One virus jumped into humans from horses, and the other infected humans via contact with pigs, and they have different symptoms,” says Moscona. “But because we now know they infect cells in much the same way, we can try to counter the two viruses using a similar strategy.”

There are currently no vaccines or drugs to combat the Hendipaviruses, the best chance for preventing deaths in an outbreak would be a drug that could be administered either just before, or soon after, infection. Hence the researchers are targeting an early step in the life cycle of the viruses. Both the Hendipaviruses, as well as paramyxoviruses and other paramyxoviruses, go through similar steps to infect a host. In the binding stage, a viral receptor-binding protein (“G” protein in the case of Hendra and Nipah) attaches to receptors on target cells (in this case, molecules called ephrin B2 that are found on cells that line blood vessels). Once bound to a receptor, the G protein induces the fusion protein (called “F”), allowing the virus to fuse with the cell’s membrane and enter the interior, where it can replicate. The researchers have been concentrating on strategies to prevent this fusion process. “There are three main ways we could do this,” says Moscona. “We can block the G protein from binding to cells; we can prevent it from ‘triggering’ and activating the F protein, or we can stop F from undergoing the shape change, after triggering, that allows it to fuse the virus with the cell.” The researchers are focusing on all three strategies, and they expect each to generate useful leads. Their first success has been finding a way to paralyze the function of F protein with a blocking compound, a small peptide that they now hope to turn into an effective drug. While developing ways to prevent disease, the team is also trying to understand the process of pathogenesis—how these viruses and their interaction with the various cells in the body actually cause disease.

Zoonotic diseases have been around since the dawn of civilization. Over the centuries humans have developed immunities to all but the hardest of them, while some, like influenza, have evolved into epidemic diseases that are transmitted directly from human to human. When humans first encounter a new zoonotic infection to which they have little or no immunity, the effects can be devastating. The Bubonic plague first swept through Europe and Asia in the fourteenth century—spread by rodents and encouraged by societal conditions, including poor sanitation—killing 25 to 30 percent of the population. HIV has caused 25 million people to die of AIDS since its crossover from chimpanzees during the last century. While recent threats of deadly, rare zoonoses such as Ebola and SARS have been in the headlines, others quietly kill thousands—in India 80,000 die every year from rabies. “In my experience,” says Dr. Sherif Zaki, pathologist and branch chief with the Centers for Disease Control and Prevention in Atlanta, “90 percent of the more virulent diseases emerging in the last twenty years have been zoonotic in nature.”

The threat, he says, is “definitely” growing.

The factors known to be involved in the development and spread of zoonotic disease include deforestation, agricultural devel-

“We’re letting go of the old idea that we can find “silver bullets” for each and every disease out there,” says Moscona. ‘The trick is to turn emerging diseases into an enemy we know and understand, finding solutions that apply to groups of pathogens and that are flexible enough to deal with rapidly changing situations.’
Safety First

Cutting-edge techniques allow scientists to study deadly viruses—without the safety suite

Handling dangerous pathogens such as Hendra and Nipah viruses requires a Biosafety Level 4 lab, complete with HAZMAT suits, filtered air and water, and specialized safety equipment—as well as facilities to house, feed, and treat the animals used in experimentation. Since the researchers in Weill Cornell’s Program for Respiratory Virus Infections and Biodefense have a Biosafety Level 2 lab with none of those facilities, how are they able to study such lethal pathogens? Answer: by using the latest research techniques and some creative thinking.

“We knew that some of the key mechanisms involved in transmission of human paramyxoviruses were also used by Hendra and Nipah,” says assistant professor of microbiology in pediatrics Matteo Porotto. “And those mechanisms were similar in important ways to how another, non-lethal cow virus works.” Porotto and Program director Dr. Anne Moscona used this knowledge to engineer a version of the harmless cow virus so that its surface bears spikes from the Hendra virus instead of its own. To do this, they took DNA copies of the genes of the two Hendra virus protein spikes, G (the protein that binds to the ephrin B2 receptor and activates the F protein) and F (the fusion protein that allows the virus to fuse with the human cell), and combined them with the other genes of the cow virus. The new, hybrid virus, with the Hendra G and F proteins on its surface acted exactly like its more lethal cousins when fusing with a cell. But the hybrid, known as a “pseudotype” of Hendra, is not capable of sustaining an infection, even in cell cultures—so it is not dangerous to work with and can be studied in a Biosafety Level 2 lab. The scientists further engineered the pseudotype virus so that when it enters a cell it makes a fluorescent protein; the infected cells turn bright red under the microscope. The researchers made a similar pseudotyped virus based on Nipah, allowing them to study the mechanics of both Hendra and Nipah infection without risk to themselves or their colleagues.

Other Weill Cornell researchers are using pseudotyping to study lethal pathogens under normal lab conditions. Microbiology and immunology professor Dr. John Moore has been studying HIV with a similar goal—to prevent it from fusing with, and entering, the host cell. Like Hendra and Nipah, HIV is an enveloped virus, although it is a member of a different family, the retroviruses. The molecular details may be different, but the basic strategy is much the same: making assays that are simpler and safer to use.

Such cutting-edge lab techniques allow Porotto and Moscona to study lethal viruses in a deceptively simple facility. All the cells and viruses used in the Program’s research are stored in two freezers. The coldest, filled with liquid nitrogen at −150 degrees Celsius, stores master stocks of viruses and backup supplies of the cells used in the culture systems. The other, at −20 degrees Celsius, contains bacteria used for cloning and engineering DNA as well as ready-to-use cultures of viruses that can be rapidly thawed and used in experiments. Scientists working with living cells and viruses that are growing in culture (in plastic sterile flasks) do so with their gloved hands under a laminar-flow hood, which sterilizes and circulates the air via filters. The process, Porotto says, is much more cost-effective and efficient than experimenting directly on lethal viruses in a Biosafety Level 4 lab, which are enormously expensive to build and maintain. (There are only a few in the country; Weill Cornell does have a Biosafety Level 3 lab used for research on tuberculosis and malaria.) “We don’t need anything other than the safety conditions built into the lab when it was constructed,” says Porotto, “yet our results can be applied to some of the most lethal viruses on the planet.”

Colin Parrish, who studies paramyxoviruses that infect mainly dogs and cats but are potential zoonotic threats to humans, and Edward Dubovi, director of the Virology Section in the University’s Animal Health Diagnostic Center, has been investigating suspected outbreaks of canine influenza in dogs. Since Moscona and Porotto contend that common themes in viral entry mechanisms are key to developing new drugs to prevent or treat viral infections, they set up a collaboration with Parrish to study how paramyxoviruses and paramyxoviruses enter cells. Moscona and Porotto also expect to collaborate with Dubovi and other Ithaca-based researchers to analyze newly emerging zoonotic viruses.

Dubovi’s research into canine influenza has disturbing implications for the future transmission of zoonotic diseases. The first significant natural canine influenza virus outbreak was diagnosed in 2004 at greyhound racetracks. Generally the infection results in mild clinical signs that mimic kennel cough, but the mortality rate can be 5 to 8 percent in stressed infected dogs. Canine influenza virus is not currently considered dangerous to humans. However, when sequencing the dog flu genome, the research team realized that all the segments of the genome were from equine influenza—a horse flu that has been studied for fifty years. “The idea that a virus can ‘jump’ species depends not just on whether it is usually transmitted from one to the other,” says Dubovi, “but also whether it adapts to attain the ability to spread within its new host species.” This jump from horses to dogs clearly shows the adaptability of influenza virus, as does the infection of Asian dogs and cats with the H1N1 virus.

An interdisciplinary approach to studying zoonotic viruses could be the key to combating infection, Porotto says. “The veterinary community knows a lot about these diseases, but may not realize what that knowledge means to humans,” he says. “And we specialists in human viruses often don’t learn enough about their research.” Moscona stresses that researchers need to continue studying the common themes that these viruses share on a molecular level as well as the ways in which they differ, she sees these basic studies as key to understanding which features are more likely to make certain viruses pathogenic in humans. And since the spread of zoonotic diseases is directly linked to increased human-animal contact, she advises increased surveillance of wildlife and stray animals. Dubovi agrees, but thinks that we might need to do more: “We require vaccinations for domestic animals,” he says, “but we might need to seriously start thinking about vaccinations for wildlife as well.”

then there’s the issue of pets. A 2001 study in the Postgraduate Medical Journal noted that while domestic pets can carry more than 100 zoonotic diseases, only twenty occur regularly in humans and those are rarely fatal. However, the increase in exotic pets concerns Moscona. Exotic birds can harbor microbes that infect people, and snakes can carry salmonellosis—a zoonotic disease transmitted by reptiles.

Moscona and Porotto try to temper their eagerness for new breakthroughs with patience. Although they’re intensely focused on studying viral entry, Porotto says, they’re well aware that it can take years of experiments to uncover new mechanisms. “In forge ahead, they depend on funding; support has come from grants from the National Institutes of Health, the Northeast Biodfee Center (an NIH-funded Regional Center of Excellence in Biodfee), the March of Dimes, and the American Lung Association. Meanwhile, the threat of zoonoses to human health remains pressing—and the pathogens themselves continue to evolve. ‘Zoonotic diseases occur because of relatively isolated, unconnected, and unplanned events,’ says Dubovi. ‘That makes them extremely unpredictable.’”
Dear fellow alumni:

This is the first of several columns I will have the pleasure to offer as president of the Alumni Association. It was an honor to be elected at the biennial Business Meeting in October, held as part of Reunion 2006 (more on that shortly). I hope these next two years are marked by as much growth, progress, and excitement in our association as is evident at the Medical College itself.

Our organization has more than 1,300 members, distributed around the U.S. and several foreign countries; they represent about 25 percent of living alumni of the Medical College. It’s a good number, but we can do better. As you read this, I hope you will think of alumni whom you can actively encourage to join. In Spring 2008, we will welcome members from the Qatar branch. As was written here by my predecessor, Ken Swan, MD ’60, a devoted and tireless ambassador for our college, the students in Qatar are just as diverse, talented, inquisitive, and successful as our New York students. It will be exciting to welcome them.

The graduates of the Medical College are vibrant and engaged, and those who take the opportunity to reconnect with the College bring that energy to our interactions. I was fortunate to meet quite a few who live and work in the Pacific Northwest at an outreach program in Seattle in October. The range of attendees included Elizabeth Welty, MD ’41, whose eyes twinkled with curiosity and who wanted to see more of her classmates at Cornell events, and Drs. Philippa Ribbink and Carolyn Paris from the Class of 1991, who were attending their first such function.

Ken Swan’s last column noted Reunion 2006, which was then approaching. I am delighted to report it was a smashing success, with record attendance during the talks and panel discussion as well as at the gala at Chelsea Piers. We entertained more than 600 alumni and guests in true New York style. There were two 50th Anniversary classes, and four other classes celebrated anniversaries of more than fifty years.

I see the mission for the leadership of the Alumni Association to be focused in three main areas. First, we will continue to engage alumni as we attempt to provide an easy, user-friendly, helpful conduit for information and interchange. We will immediately engage new graduates, in the hope of building life-long relationships. Second, we will continue to support student programs and events that augment the students’ quality of life and access to career information. Our mentor program is a wonderful example: alumni host students during residency interviews or other regional travel, and provide local knowledge about hospitals, training programs, and lifestyle. And finally, the Association will continue its fund-raising efforts to support student education and scholarship relief. Ideally, we want alumni generosity to reflect gratitude for the education that has given us the professional credentials and training that have formed our lives. Alumni gave more than $3.4 million to the Medical College through the Association in the last fiscal year—an impressive number, but one that I know we can surpass.

You will, in this column, suffer my musing from time to time on matters germane to Medical College alumni. I welcome your ideas, input, questions, and comments, and look forward to serving you and meeting many of you in these next two years.

With my very warmest regards,

Gene Resnick, MD ’74
President, CUWMC Alumni Association
gene.resnick@alumni.med.cornell.edu
Bernie Siegel, MD '57: “I have a new book out on healthy parenting for both parents and children, Love, Magic or Mad Pies (Rodale Press).”

Beverly Billinger Shaver ’54, MD ’58: When she opened a copy of the book Soldiers of Misfortune in 1992, Beverly learned that her first husband, Navy pilot James B. Deane Jr. ’54, who was shot down off the coast of China in 1956, may have survived. Katherine Shaver, Beverly’s daughter, wrote an article “Truth and lies,” published in the Washington Post (May 7, 2006), about her mother’s frustrating search for the truth. Former Secretary of Defense Donald Rumsfeld pressed the Chinese government for information about Deane’s fate. [Rumsfeld and Deane were fellow Navy pilots stationed in Pensacola, FL, in 1954 and became friends.] Beverly made two trips to China to seek answers, and her daughter made repeated inquiries with the Chinese Embassy, to no avail. Kathryn quotes her mother “After all you’ve done and all I’ve done, there is no question in my mind that we have probably exhausted the possibilities.” The article is posted online at: www.washingtonpost.com/wp-dyn/content/article/2006/05/02/AR200605/021831.html

Edward E. Wait elevation, intercollegiate, residency, and two years of service in the USPHS Division of Indian

NOTEBOOK
Health, I have had two jobs. The first was on the faculty of the University of Pennsylvania and the second at Johns Hopkins, where I moved in 1984 to chair the Dept. of Gynecology and Obstetrics. I remain at Hopkins, where I teach and mentor, conduct research, see patients, participate in the assisted reproduction technology program, and do far less administrative work than during my first ten years here. I’ve initiated a multi-institutional program to determine the influence on couples of having cryopreserved embryos in storage—quite timely in light of the University of Pennsylvania and the second at Johns Hopkins, South Carolina. Recently shot my age in golf. Appointed to the faculty of MUSC in Charleston, SC, as clinical assistant professor.

Richard Conroy, MD ’99: “I retired in 1997 as director of psychiatry at Northern Westchester Hospital in Mt. Kisco, NY. We moved to Florida, but after five years I got a hunch. More important, the market dropped. Around that time, I got a call from my old hospital in my old job while a search committee was looking for a new chief. Last summer I was in White River Junction, VT, for the first time since I graduated from medical school there, and I served as the chief of staff of the White River Health Care System. I had a psychiatric elective our senior year. The highlight of last year was the marriage of my daughter Sue to Bill Frith of Bermuda in Palm Beach.”

Thomas Almy ’35, MD ’39, and Leslie Almy ’36: “Since I have had reason to believe that I am a member of a select few, I am often asked to speak to medical students nationwide and abroad. I am co-founder and medical director of the Commonwealth Cancer Help Program featured in the Bill Moyer’s PBS series “Healing and the Mind.” Rachel is founder and director of the Institute for the Study of Health and Illness at Commonwealth, an undergraduate and post-graduate CME program for physicians who wish to deepen their compassionate commitment and satisfaction in their work. She has a 52-year history of Crohn’s disease, and her work is a unique blend of the viewpoints of physician and patient. She is the author of Kitchen Table Wisdoms: Stories that Heal and My Grandfather’s Blessings: Stories of Strength, Regret and Belonging.”

Nicholas L. Tlusty, MD ’62: “I am now president (2006–08) of the Transplantation Society, a large international organization dedicated to the art and science of organ and tissue transplantation. My experiences in New York are at the forefront of my mind: Bud Pruyser, and I had a psychiatric elective our senior year. The highlight of last year was the marriage of my daughter Sue to Bill Frith of Bermuda in Palm Beach.”

Cooking interments and discovering there was a huge shortage of psychiatrists willing to do inpatient psychiatry. Since then, I have worked five or six months a year. I have been in upstate New York, Maine twice, New Jersey, and Tallahassee, FL. In 2005 I was back at my old hospital in my old job while a search committee looked for a new chief. Last summer I was in White River Junction, VT, for the first time since I graduated from medical school there, and I served as the chief of staff of the White River Health Care System. I had a psychiatric elective our senior year. The highlight of last year was the marriage of my daughter Sue to Bill Frith of Bermuda in Palm Beach.”

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John P. Hayslett, MD ’60, and Leslie Almy ’36: “This is a story of the first class baby, Rosemary, passed away July 5, 2003. Our three remaining children and seven grandchildren keep her memory alive. The old saying, ‘When the going gets tough, the tough get going,’ is often attributed to Dr. Cornell. This fall, she set the bar high for the other two. Six more will be applying this year. Our youngest granddaughter, Sage, 12, Rosemary’s daughter, reminds us to remember the good times. It is hard. We all live in Nassau County, Long Island, but spend the winter in St. Thomas. VI. I have been retired since the end of 1995 after a major heart attack in 1989. I believe the warm winter has been a significant factor in my survival. We have six hotel rooms in our three different classmate families, which are, at this time, our families, and we are always welcome, but very early arrangements are necessary. Sandy Weill was our undergraduate classmate. He has done well. Nice guy too.”

Paul E. Romano, MD ’59, received an official speed certificate in April 2006 from the Big Bend Open Road Race for attaining the speed of 200 mph in a 1972 White Landry Saab.

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Laughing out loud. The whole production was kind of a video vignette/SNL/Cornell show simile. Great fun.

1980s

Steven Karla, MD ’80: “After hours I manage my 3000-square-foot house. I try to exercise three weekly. I have been involved with a number of nonprofit organizations. I videotape my son’s soccer games for his coaches and teammates. It helps that his high school team was recently ranked ninth in the Wachusett Prep. I love teaching and miss the GPO Washington, medical students and house staff who used to rotate through my hospital. I most remember going to Camp Kho-a-Dang as one of the first medical students to rotate through that Cambodian refugee camp. The gunfire sounds at night and the cases of malnutrition and deadly measles will stay with me forever. I would like to hear from Andy Shadid, my roommate for two years, who moved to California and has not been heard from in a while.”

Kenil Kelly, MD ’80: “A few years ago, after a couple of decades of private practice in psychiatry with a smattering of voluntary academic activity on the side, I had an unplanned mid-life career change. In the aftermath of 9/11, I began volunteering psychiatry care to members of the FDNY. Some months later my volunteer job morphed into a salaried position, and I am now a medical officer with the rank of battalion chief. I have a uniform, badge, and parking placard, but (fortunately for all concerned) they don’t let me fight fires. I still have a part-time private practice and do a few academic activities. I enjoy the package, and I enjoy knowing that I’m not yet too old to learn some new tricks.”

Andrew M. Casden ’79, MD ’83: “I am well and happy and living in Fort Collins, CO, working as a pediatrician for Children’s Hospital Denver, covering pediatrics in Colorado and Wyoming, and traveling abroad for international surgery trips. The last time I was in El Salvador was last March with Rotaplast, a thousand volunteer surgeons from San Francisco. I’m divorced, no children, two cats, great garden, love to ski, volunteer every winter at Copper Mountain. All classmates are always welcome for a ski tour.”

Douglas S. Butter, MD ’82: “I continue my solo private practice and am attending surgeon in ophthalmology at New York Eye & Ear Infirmary. Married redhead Diane Margaret Butler in March 2005. Hoping for more happy news one day.”

Gary Wilton ’75, MD ’79: “After 22 years in Florida, Lisa and I are moving to the desert in Las Vegas, so we’ve been preparing for that. Sorry I missed the 20th, but I will try to be more diligent and make the 30th. After my 50, I just couldn’t read another film, so the movie business as such is a thing of the past for me. I will, however, try to grow hair all over my head except the top of the head, I am hoping reasonably well. No hair transplants or laser treatments yet.”

Montgomery B. Douglas, MD ’86: “On July 1 I was appointed acting chairman of the Department of Family Medicine at the University of Alabama at Birmingham. After an early career in general surgery, for the male epistaxis cure, I then moved into primary care with the rank of battalion chief. I have a uniform, badge, and parking placard, but (fortunately for all concerned) they don’t let me fight fires. I still have a part-time private practice and do a few academic activities. I enjoy the package, and I enjoy knowing that I’m not yet too old to learn some new tricks.”

Sam Chaplin, MD ’80: “I have a uniform, badge, and parking placard, but (fortunately for all concerned) they don’t let me fight fires. I still have a part-time private practice and do a few academic activities. I enjoy the package, and I enjoy knowing that I’m not yet too old to learn some new tricks.”

Walter A. Klein, MD ’87: “I am well and happy and living in Phoenix. For my 50th, Lisa threw me a surprise ‘casino night’ party. After hours I manage my 3000-square-foot house. I try to exercise three weekly. I have been involved with a number of nonprofit organizations. I videotape my son’s soccer games for his coaches and teammates. It helps that his high school team was recently ranked ninth in the Wachusett Prep. I love teaching and miss the GPO Washington, medical students and house staff who used to rotate through my hospital. I most remember going to Camp Kho-a-Dang as one of the first medical students to rotate through that Cambodian refugee camp. The gunfire sounds at night and the cases of malnutrition and deadly measles will stay with me forever. I would like to hear from Andy Shadid, my roommate for two years, who moved to California and has not been heard from in a while.”

Lawrence W. Robinson, MD ’84: “I joined the Endocrine Group in Albany, NY, as the only surgeon for a ten-man endocrinology practice in July 2005. Really a great group. My practice e-mail is: lawrence.robinson@theendocrinegroup.com.”

Jeffrey R Gold ’74, MD ’78: “After practicing cardiac surgery in Russia, 1985, and more recently serving as the professor and chair of the Department of Cardiothoracic Surgery of the Albert Einstein College of Medicine from 1995 through 2005, Jeff was appointed as the sixth dean of the College of Medicine and senior vice president for medical affairs of the Medical University of Ohio in May 2005. Jeff currently serves as the executive vice president and provost of health affairs and dean of the College of Medicine of the University of Toledo. In this capacity, he is leading this newly forged entity through a complex merger process, with responsibility for the colleges of medicine, nursing, graduate health science and pharmacy, health sciences, and health and human services in addition to the university-owned hospitals, clinics, research centers, and health-care related programs. Jeff and his wife, Robin (Hayworth), MD ’78, who practices ophthalmology, have two children, Matthew, 22, and Stephanie, 17.”

Paul Skudder, MD ’76: “I am sad to report the loss of my father, Paul Skudder, MD ’53, on June 24, 2006. Many of the class of 1953 will remember him as a member of the surgery department at NIH-CUMC during our years at the Medical College. Fortunately, he remained generally well until the last weeks of his life. I and my family are doing well otherwise, and enjoying the fruits of family career.”

Gary Wilton ’75, MD ’79: “After 22 years in Florida, Lisa and I are moving to the desert in Las Vegas, so we’ve been preparing for that. Sorry I missed the 20th, but I will try to be more diligent and make the 30th. After my 50, I just couldn’t read another film, so the movie business as such is a thing of the past for me. I will, however, try to grow hair all over my head except the top of the head, I am hoping reasonably well. No hair transplants or laser treatments yet.”
family complete. If you’re ever in this area or live in the city, we’d love to catch up."

Natalie E. Azar, MD ‘96: “Following graduation, I completed my residency in internal medicine at NYU Medical Center and went on to do a fellowship in rheumatology at NYU Hospital for Joint Diseases. I’ve been in private practice at NYU since 2001, spend a great deal of time teaching both medical students and house staff, and participated in medical and bench research as part of my fellowship training. I married Michael Huhner, a lawyer, in November 2000, and gave birth to my precious little boy, Lucas, in June 2005."

Michael S. Suzman, MD ‘96 and his wife, Leesa, welcomed the birth of their third daughter, Brooke Josephine, last November. She joins her older sisters, Chloe and Maisie. They live happily in Scarsdale, NY, where Michael is director of plastic and reconstructive surgery at the Westchester Medical Group, a large multi-specialty group practice in Westchester County. He continues his Cornell affiliation on the clinical faculty.

Chery Wongtrakool, MD ‘97, and her husband, Vin Tungricha, welcomed Lucas Narong Tungricha on April 28, 2006. Big sister Natalie is extremely proud of her new brother. Chery says, “We remain on faculty at Emory University School of Medicine and enjoy living in Hotlanta.”

Manisha Juthani-Mehta, MD ‘98, was appointed assistant professor in the Section of Infectious Diseases at Yale School of Medicine in July 2006. She dedicates most of her time to clinical research in the area of infections in older adults, particularly UTI and pneumonia in nursing home residents. In addition, she attends on the HIV inpatient medical and ID consultation service and teaches medical students, PA students, residents, and ID fellows. Manisha lives in Fairfield, CT, with her husband, Raj Mehta, daughters Ishani, 6, and son Shaan, 3. She would love to hear from any classmates at manisha.juthani-mehta@gmail.com.

Tim Dutta, MD ‘99, has finished training and is practicing endocrinology at Weill Cornell.

Patricia Kozuch, MD ‘99, joined the Division of Gastroenterology and Hepatology at Thomas Jefferson University Hospital. She is a specialist in inflammatory bowel diseases, including Crohn’s disease and ulcerative colitis. Kozuch worked at the University of Chicago Hospitals where she completed an IBD advanced fellowship. She also worked as a research assistant at the National Institutes of Mental Health and Johns Hopkins School of Medicine and held a fellowship in gastroenterology at Montefiore Medical Center.

2000s

Natalie Igel, MD ‘02: “I am finishing my radiology residency at NYU/West. I am staying on here as a fellow in Women’s Imaging/Body MRI for the next year.”

Francine Samuels, MD ‘02: “I am in my second year of fellowship at Morgan Stanley Children’s Hospital of NY-Presbyterian/ Columbia University Medical Center. My fellowship is in pediatric gastroenterology, hepatology, and nutrition. I graduated from Yale’s pediatric residency and have decided to return to New York, as my brother and sister are both physicians in the city. It has been great to be back with family and friends, and I would love to be in touch with anyone else who wants to contact me.”

Jonathan Lee-Melk, MD ‘03: “I am thrilled to have finished my residency training in psychiatry at Phoenix Children’s Hospital. I am excited to relocate to southeastern Arizona, where I will work with a nonprofit health organization (as the region’s only pediatrician) to provide preventive and curative care along a remote stretch of the US-Mexico border.”

Douglas V. Weine, MD ‘04: “Romy Park and I were married last June in New York City. Thanks to my medical school classmate, Lily Wang, MD ‘04, for setting us up. Romy is working toward her master of fine arts in graphic design at Yale, and I am in my final year of internal medicine residency at Cornell, where I will be staying for a gastroenterology fellowship.”

Rafael Vazquez, MD ‘06: “I managed to compete in two amateur bodybuilding competitions during my intern year. I won the men’s overall at the INBF Long Island Bodybuilding Competition and recently placed first at the men’s middleweight class INBF NYS Bodybuilding Championships.”

IN MEMORIAM

39 MD—Francis G. Casey Jr. of Maplewood, NJ, October 7, 2006, surgeon and anesthesiologist, St. Peter’s Hospital, New Brunswick, NJ, veteran, active in professional and religious affairs.


46 MD—Lyman Maass of Palm Desert and Sacramento, CA, September 26, 2006, neurosurgeon, chief of Neurological Surgery Section, Banner General Hospital, assistant professor, University of California–Davis School of Medicine, veteran, active in professional affairs.

46 MD—Robert Shera of Scarsdale, NY, June 21, 2006, orthopedic surgeon, White Plains Hospital, veteran, worked for NYWY’s Compensation Board, also worked for Riverfront Associates, active in community, professional, and religious affairs.

46 MD—Robert W. Iwas of Sun City City, FL, October 11, 2006, urologist, veteran, pilot, active in community, professional, and religious affairs.

46 MD—Lynn Poucher Thompson (Mrs. David D. ‘43, MD) of Columbia Foreside, ME, June 24, 2006, physician, cancer researcher, chair of auxiliary, Cornell Medical Center, where she founded the “Art Cart” program, artist, active in community, professional, and alumni affairs.

49 MD—Melvil D. Goodman of Houston, TX, July 15, 2006, psychiatrist, forensic psychiatrist, worked at Vernon State Hospital and Rusk State Hospital in Texas, director of mental health, Westchester County, NY, director, Day Care Hospital at Tappan Hill General Hospital, veteran, author, active in professional affairs.

49 MD—John G. Rogers of Amelia Island, FL, November 14, 2006, cardiologist, chief of medicine, Zurburgh Memorial Hospital, Riverside, NJ, veteran, active in community and professional affairs.

50 MD—Frank Reda of New York City, July 4, 2006, chief of pediatric surgery and professor emeritus of surgery, NYU–Cornell Medical Center [1960–95].

51 MD—David S. Burgwyn of Phoenix, AZ, July 8, 2006, psychiatrist, chief of staff, Phoenix Camelback Hospital, veteran, former president of the Arizona Psychiatric Society and the Phoenix Psychiatric Council, active in professional affairs.

53 MD—John B. Branche of Orlando, FL, August 13, 2006, pediatrician, chief of pediatrics, Mercy Hospital, officer with the Tuskegee Airmen, worked with the NAACP, active in civic, community, professional, and religious affairs.

54 MD—Richard T. Furr of Ocean Springs, MS, October 19, 2006, family practice and intern medicine physician, operated the Furr Clinic, associate professor of medicine at the University of Mississippi Medical School and Tulane University School of Medicine, president, Howard Memorial medical staff, chief of medicine, Biloxi Regional Medical Center, host of radio program “House Call with Dr. Furr,” veteran, musician, active in community, professional, and religious affairs.

The patient came into the Burn Unit with severe injuries: her estranged husband had set her on fire. A pair of NYPD detectives interviewed her at the bedside, the victim gasping for breath and in extreme pain. Dr. Roger Yurt looked on—not to treat her, but to make sure her fake burns looked realistic.

Yurt, a surgery professor at the Medical College and director of the William Randolph Hearst Burn Center at New York-Presbyterian Hospital/Weill Cornell Medical Center, spent a day last fall as a consultant on the New Jersey set of "Law & Order: Special Victims Unit." After reviewing the script in advance, he sat beside the episode’s director and offered advice on two scenes: one when the patient is first brought in, and another when she’s being treated in the tank room. “It’s important for the public to get the right perspective on medical care,” he says. “I wanted to assist in any way I could to make sure it was accurate.”

Still, medical realities sometimes give way to dramatic license. When Yurt read that the script included the use of maggots for debridement, he noted that they’re not standard treatment; the producers opted to leave them in anyway. And during the six-hour gap between the first and second scenes, Yurt pointed out, the patient would become markedly swollen with fluid—but approximating that with make-up was impractical. However, he did successfully lobby to change a cardiac arrest to a respiratory arrest, since the former would have made it all but impossible for the patient to speak to detectives just six hours later. “It can still be dramatic,” he says, “but you could reasonably interview her.”

Yurt’s other responsibilities on the three-to-midnight shoot included deciding when it was appropriate for TV cop Mariska Hargitay to remove her surgical mask and devising realistic ways for the nurses to clean the patient without drowning out the dialogue. He also gave the actress playing the victim some perspective on what her character would be going through. “I told her that every time they touched her it would be excruciating. She’d ask for pain medication, and she’d have trouble breathing because of inhalation injury.”

Before shooting the episode, which aired in mid-January, show representatives visited the burn unit to take notes. “The sets were remarkably accurate,” Yurt says. “Their tank room was perfect.” He was joined on the set by four nurses from the unit, who had background roles.

Yurt had his own dressing room and was “treated like royalty.” But he learned that the wheels of drama grind slowly: each scene was shot ten to fifteen times. “I felt like I was at work, but I wasn’t,” Yurt muses about his brush with Hollywood. “I was doing what I do, but there were no patients.”
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