

# PENN MEDICINE

UNIVERSITY OF PENNSYLVANIA MEDICAL CENTER ■ SPRING 2002



**Heading the Study of Head Injury**  
PATIENTS AS ADVOCATES  
ETCHING FROM EXPERIENCE  
BRAIN INJURY'S TOLL

## Big Bucks, Big Bang . . . and “Wild Thing”

The lobby of Penn's Clinical Research Building was crowded with medical students in white coats, faculty members, administrators of Penn's Health System, and a handful of reporters and TV cameramen. As the buzz of anticipation grew louder, Judith Rodin, Ph.D., the University's president, stepped to a lectern. In front of an immense blue backdrop with the repeated motif of “Penn Medicine,” she announced one of the largest gifts in the University's history: a \$100 million endowment to support patient care, research, and education programs of Penn Medicine.

Before I continue, please let me savor the illusion that by “Penn Medicine,” Rodin meant the magazine you presently hold in your hands. . . . Alas, no. What Rodin meant was a different Penn Medicine, an upstart — a newly established structure that integrates the governance of the various components of the University of Pennsylvania Health System (see p. 3).

The donor was the Philadelphia Health Care Trust, a charitable organization that traces its roots to the University's academic medical mission. Under the terms of the agreement, Penn Medicine will receive part of the income generated from the \$100 million for the next seven years; part of the income will also go to support the Trust's existing and future charitable undertakings. At the end of that time, the assets of PHCT will be transferred to Penn.

According to Rodin, the gift from PHCT “represents a significant endorsement of the Penn Medicine governance structure to effectively integrate the three-part mission of our academic medical center.” Bernard J. Korman, Esq., chair of PHCT, made the same point when he called Penn Medicine “a superbly crafted and effective governance structure for a complex academic medical center.”

In acknowledging the gift, Arthur H. Rubenstein, M.B., B.Ch., executive vice president for the Health System and dean of the School of Medicine, noted that it came at “a particularly

important time”: UPHS has embarked on strategic planning, meant to provide a direction for the next several years. Given the early stage of the planning, Rubenstein did not cite specific ways the income would be used, but he mentioned such priorities as recruiting and retaining the finest faculty and students and supporting the new discoveries that will benefit patients.

In his remarks, Korman gave a historical overview of PHCT, touching on its original connection with Graduate Hospital, which until the mid-1970s was owned by Penn. The charitable corporation gradually expanded its activities and became a private foundation dedicated to supporting health care in the Philadelphia area. Now, Korman said, “we have come full circle” — returning, in a sense, to Penn: “When faced with the challenge of making the most effective use of the assets with which we had been entrusted, the board of the Philadelphia Health Care Trust decided that the funds would do the most good for the community by being aggregated and placed where they would have a direct and substantial impact.”

Korman, a Penn alumnus, has been appointed to Penn Medicine's executive committee and will chair its finance committee. Rubenstein and Robert D. Martin, Ph.D., chief executive officer of the Health System, have joined PHCT's board.

As Korman told me after the announcement, the key is that the governance structure will be responsible for all components of the institution, thus avoiding “conflicts of priorities.” He also distinguished Penn Medicine from analogous models at other academic medical systems, which he described as mostly “fractionated.” Around the nation, he said, “A number of academic institutions are wrestling with the issue.”

Korman noted that he had “spent the last 35 years in the health-care area.” His latest initiative — aligning PHCT with Penn and becoming a member of Penn Medicine — “will either add 10 years to my life or take 10 years off,” he joked. He made it clear that he believes in the Health System's new governance structure; success for UPHS will depend on implementing it.






As Rodin emphasized, the endowment from PHCT provides additional assurance that the Health System would be able to continue “important programs to improve patient care in our hospitals and clinics, and the exciting biomedical research taking place in our laboratories. It will also support our medical school in its mission of training tomorrow's doctors and scientists.”

(Since the announcement of the gift, two community groups have filed a legal challenge to prevent the transfer of money to Penn Medicine, claiming the transfer would violate the original principles of PHCT.)

In this issue, we are able to show two different sides of traumatic brain injury. “Brain Injury: A Silent Epidemic” focuses on the research while suggesting some of its practical applications. “Another Alan” offers the perspective of a care-giver, Cathy Crimmins, who helped her husband, Alan Forman, recover from traumatic brain injury. It's an excerpt from a book recently issued in paperback, *Where Is the Mango Princess?* Part of Alan's care took place at the Hospital of the University of Pennsylvania. In the spirit of disclosure, I will add that I know both of them. In a book filled with memorable moments, I found it wrenching when Alan, just beginning his recovery and for no apparent reason, denied that there was a song called “Wild Thing.” Yet, as Cathy writes, Alan sang this old three-chord wonder at their wedding and other weddings: “Of all his addled comments, this one hurts the most.” On an earlier occasion, I backed him on guitar, and I have a calligraphic version of the lyrics that Alan gave me.



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## LETTERS

## APPRECIATION

In the latest issue of *Penn Medicine*, I found a wonderful appreciation of Phil Gottlieb, M.D. '35. In the early 1940's, Phil Gottlieb was a co-author of my father's book on allergy, one of the first and at that time certainly the most authoritative text on that subject. As a medical student, I found myself pressed into service to produce the index! I am delighted to see that Phil Gottlieb is still alive, and would very much like to contact him.

*Frederick Urbach, M.D., G.M.E. '46  
DrFredU@gateway.net, Emeritus  
Professor of Dermatology, Temple  
University School of Medicine*

*Editor's note:* Although Dr. Urbach and Dr. Gottlieb did make contact, we have just learned that Dr. Gottlieb died in April.

## PHOTOS SWITCHED?

In the summer issue of *Penn Medicine*, I am on page 26, wedged in among my illustrious classmates. There are two trivial errors, both of them my fault and of no consequence. But I do object to the photograph, which seems to be of the late Dr. Martin Sanders.

*Douglas W. Sanders, M.D. '51  
Akron, Ohio*

Thank you for the article on the Class of '51, but picture #4, which is supposed to be that of Ross O. Bell, M.D., is actually a photo of the late John C. Barr, M.D. This is actually an historical error which first occurred in our class yearbook, *The Scope*. Check out page 121 of our yearbook and I can assure you that Ross Bell's photo is printed above the name of John C. Barr by mistake. By the same token, photo #36, which is supposed to be one of Douglas W. Sanders, M.D., is actually a picture of the late Martin Sanders, M.D. The Alumni

Department ought to be much more careful about these matters.

Also, the so-called 50th Yearbook was a big disappointment in that the reproduction of the recent photos was carelessly done, to say the least.

Finally, I wonder how many of my surviving classmates remember the streetcar which some of us rode to get to the old Children's Hospital on Bainbridge or to the Graduate Hospital or possibly even to the Pennsylvania Hospital. We irreverently called that streetcar "The Spirit of Saint Lues." Do you still get it?

*James W. Grifone, M.D. '51  
grifone02@aol.com*

*The editor replies:* The mix-up of the photos of Drs. Barr and Bell, as Dr. Grifone notes, occurred 50 years ago and was not brought to the attention of Medical Alumni Affairs until now. Joan Adams Hewitt, director of Medical Alumni Programs, spoke with Dr. Bell to confirm the mistake. We are happy to print Dr. Bell's actual photo from 1951, along with the informa-



Ross O. Bell Jr.

Douglas W. Sanders

tion he had provided for the reunion questionnaire. *Penn Medicine* is responsible for the switch of the photos of Dr. Douglas W. Sanders and Dr. Martin Sanders, and I apologize to Dr. Douglas Sanders. The correct photo, along with his corrected information, is also printed here. As for "The Spirit of Saint Lues," the editor hesitates to comment, although he did consult

his dictionary. Dr. Grifone's classmates may reply to him directly.

*Ross O. Bell Jr., M.D., lives in Wheeling, W.Va., with his wife of 52 years, Wileta. Together they have five children and 14 grandchildren. Dr. Bell served as chairman for the Department of Pathology at the Ohio Valley Medical Center in Wheeling until his retirement in 1990, specializing in anatomic and clinical pathology.*

*Douglas W. Sanders, M.D., lives in Akron, Ohio, with his wife Jane. They have been married for 51 years and have three children. He specializes in internal medicine and was a member of the Council of Summit County Medical Society from 1998 to 2000. He has no plans to retire yet.*

*Joan Adams Hewitt replies to Dr. Grifone:* I wanted to also address your concerns with the production of the Reunion Booklet. We were not entirely pleased with the final product and are rethinking this process for the Class of 1952. This year we are going to scan the photos in the hope of getting a crisper image. Believe it or not, this may not look like an expensive publication, but when printed in a small quantity, it becomes very costly. I do appreciate your feedback and look forward to meeting you at future alumni events.

## A CORRECTION

I inadvertently gave the date of my retirement to my 50th year biographical review questionnaire as 1960. It was 1990. I'm afraid anyone who noticed will think I practiced medicine for only a few years instead of almost 40 years.

*Bernadine Z. Paulshock, M.D. '51  
Wilmington, Del.*

## A Change in Governance

As a way to enhance the oversight of an integrated health system, the Trustees of the University of Pennsylvania have approved a proposal to establish an umbrella governance structure called Penn Medicine. Its purpose is to operate, oversee, and coordinate the educational, research, and clinical operations of UPHS, which currently includes the School of Medicine, the Clinical Practices of the University of Pennsylvania, the Hospital of the University of Pennsylvania, Pennsylvania Hospital, Phoenixville Hospital, Presbyterian Medical Center, Clinical Care Associates, and Home Care and Hospice Service. According to Arthur H. Rubenstein, M.B., B.Ch., executive vice president for the Health System and dean of the School of Medicine, the new structure will support “the invaluable interdependency of our three missions.”

Addressing the University Council in November, President Judith Rodin also emphasized integration. As she put it, “The clinical components would continue to interact, but in a much more creative way with the School of Medicine. . . . Now with a unified board, no decisions will be made about the clinical component that aren’t in the interest of or tested against the importance of those decisions for the medical school in this overall entity.”

Given the new board’s multiple responsibilities, its membership is widely representative – drawn from University and UPHS trustees, as well as others who have been supportive of their missions and who have relevant expertise in health care and finance. David L. Cohen, Esq., who was chair of the UPHS board of trustees and of its executive committee, is serving as chair of the new Penn Medicine Board and of its executive committee. Cohen, chairman of the prominent Philadelphia law firm of Ballard Spahr Andrews Ingersoll, LLP, succeeded Russell Palmer as chair of the UPHS trustees on June 30, 2001. From 1992 to 1997, Cohen served

as chief of staff to Edward G. Rendell, the mayor of Philadelphia and played an important coordinating role in significant budgetary and financial issues, economic development activities, and other matters relating to the city.

In the spring of 2001, a special committee of trustees and members of the medical faculty examined the relationship between the University and the various components of the Health System. Its recommendation, approved by the Trustees, was to reshape that relationship by developing a separate

legal entity – a 501 (c) (3) for the health-services component that would be wholly owned by the University. This proposed structure was intended to make the health-services component more flexible in a demanding marketplace, among other advantages. According to Rubenstein, “While we are continuing to explore the creation of such an entity, the trustees and the leadership of the Health System believe that it should be considered at a more deliberate pace.” ■



Jeff Greenberg, a 3rd-year student, checks the glands of Ruth Nobel, a standardized patient, while Francisco Dominguez Jr. (4th year) and Seema Nagpal (3rd year) observe.

## Performing as Patients

Throughout the country, patients who are not really patients are helping to educate future doctors. In practice sessions, these “standardized patients” (SPs) provide medical students with an opportunity to experience realistic doctor-patient encounters that will be crucial as they learn the craft – and art – of medicine.

At the University of Pennsylvania School of Medicine, SPs are coached to simulate actual patients so accurately that their portrayals would fool even skilled clinicians. Ranging in age from 23 to 82, SPs can be actors, freelancers, retirees, or just regular citizens inspired by a desire to help others. They base

their actions on scripts and background information assembled by faculty members from previous cases. During their mini-performances, SPs not only discuss their apparent symptoms but imitate the body language, physical findings, and emotional and personality characteristics as well. Once they understand their roles, however, they can depart from the scripts and improvise. Although the students know that they are dealing with actors, the only other information they have are symptoms and vital signs, read off a chart. Yet, as they practice collecting necessary information through interviews, the students feel comfortable: they realize that even if they make mistakes in these ses-

John Shea

sions, nobody will be hurt. And that's a significant advantage to SP programs.

At a recent practice session in one of the examination rooms of the Department of Dermatology, Ruth Noble wore a HUP gown and sat on the edge of the examination table as three medical students simulated some of the procedures they would follow in a real doctor-patient encounter. Noble, who is over 60, is a personal growth and wellness consultant and an artist who works in silver. "I love it," Noble responds when asked why she takes part in the SP program. She mentions that she likes being paid for her work, but, more importantly, "It's really a valuable thing." Her former husband and her oldest daughter, she notes, are M.D.s, and Noble is convinced that an SP program can help both medical students and physicians. Her sense is that there is a higher level of stress among health-care givers these days, and she sees her role as helping to reduce it. "I'm a nice person, and I encourage them." In Noble's experience, the students become less anxious after dealing with an SP, "even if I've told them things they could improve on."

And, besides, she adds, "I get a chance to act!" Last year, Noble depicted "Mrs. Elton" and reprised her role this semester. According to Lynn Seng, director of the Standardized Patient Program at Penn, Mrs. Elton was such a success that the geriatrics faculty asked her back. As a geriatric case presenting numerous symptoms, Mrs. Elton offers several opportunities for the students to deal with special considerations, such as the effect of drugs on an elderly patient, depression, loss of autonomy, and physical instability. Noble refers to her own mother, who went through a difficult time as a geriatric patient and suffered from memory loss, which is another factor that care-givers must take into account.

"What SPs like Ruth bring," says Seng, "are their real-life experiences."

Seng, who is also director of



John Shea

**During their mini-performances, "standardized patients" not only discuss their apparent symptoms with medical students but also imitate the body language, physical findings, and emotional and personality characteristics as well. As the students practice collecting necessary information, they feel comfortable: even if they make mistakes in these sessions, nobody will be hurt.**

special educational projects for the School of Medicine, reports that SPs have been used for more than twenty years in medical education to provide a safe, consistent, and reliable resource for students to practice their skills in taking a history, doing a physical exam, and sharpening their differential diagnosis. Penn's program was launched in March 1997, and Seng

estimates that millions of dollars have been invested in similar programs across the country in the last ten years. The Association of American Medical Colleges reports that only 62 of the 125 medical schools in the United States used SPs in 1992. Today, all have made standardized patients a "standard procedure."

A key component of any doctor-patient interaction is the interview. Through practice, students must become comfortable communicating intimately with strangers about personal issues, such as sexual histories. During any encounter, students must learn to ask the right questions in order to recognize symptoms. When patients are angry, frightened, or dying, doctors must be prepared to support them medically, emotionally, even spiritually. The SP program allows students to experience and manage fictitious, yet credible, circumstances before they face them in real life.

If trained appropriately, SPs can also provide constructive feedback concerning students' professionalism and interpersonal skills during these encounters. Their commentary can give students a welcome opportunity to learn immediately how they performed. Such feedback is missing when students see real patients during hospital rounds, which has long been the predominant learning tool. Since many patients are now treated as outpatients, rounds are even less instructive because students may see a minimal variety of diseases. Seng notes that the SP program is especially helpful in preparing students for clinical work in their first years of medical school, "making them capable of efficient and accurate patient workups so that they can contribute to the care of ambulatory and hospital patients." By being challenged early in their medical careers by a variety of complaints, students will be exposed to what she calls the "equivalent of an encyclopedia of disease and diversity."

During the recent SP practice session, Seng begins by asking the three medical students to wash

their hands – an essential first step. Before proceedings start in earnest, Ruth Noble is friendly and relaxed. “So what year are you guys?” she asks. Seema Nagpal, a third-year student, apologizes to Noble in case the stethoscope used for auscultation is a little cold, but it turns out to be fine. Seng also makes sure that the students do not place the stethoscope’s chest piece on the patient’s gown but on the patient’s flesh.

For the spring semester, Seng notes that there will be several other projects involving SPs: the Family Medicine and Surgery clerkships include cases with dizziness, acute abdominal pain – and ethical questions. For the history-taking exam, first-year students will have 45 minutes to conduct a complete history on an SP. For the Psychiatry clerkship, the SP program is offering new cases on generalized anxiety disorder and post-traumatic stress disorder. A new project will help teach first-year students how to take a sexual history.

At the end of their clinical clerkships last year, Penn students took a trial examination, the Pilot Clinical Skills Assessment. The test mirrors the one that may be added to the Medical Boards. Some medical schools, educators, and licensing bodies are increasingly concerned that multiple-choice exams only assess the recognition of isolated facts and that personalized assessments should be required on the Medical Boards as well. Some SPs even comment that students may know everything by the book but may be lost when it comes to dealing with people. Although studies have not yet been conducted to find out whether an SP program helps produce doctors with better clinical skills and bedside manners, its goal is not in dispute: to teach future doctors how to communicate effectively and compassionately with patients.

Or, as Noble puts it, the SP program “feels like an important thing” because it can help students “have an empathy for their patients.” ■

– Todd DiFeo and John Shea



*Nature* used this image of a normal blood clot, the work of John W. Weisel, Ph.D., a professor in Penn’s Department of Cell and Developmental Biology, and Yuri Veklich, a manager in the same department, on a cover last fall. The clot was visualized by scanning electron microscopy after preparation by a process Weisel and Sekar Nagaswami developed, which includes coating the clot with gold-palladium.

### **Bioterrorism: Preparedness vs. Paranoia**

**I**n the wake of September 11 and the anthrax-laced letters sent through the U.S. mail, a segment of Penn’s medical faculty has focused attention on bioterrorism, its clinical repercussions, and its ethical implications. Like many campuses, Penn’s was anxious, having experienced several false alarms regarding anthrax sightings. Both HUP and many primary-care sites were receiving dozens of calls from worried patients, often demanding Cipro for prophylaxis. No surprise, then, that an evening program called “Bioterror: Recognition, Management, and Response” was well attended by physicians, trainees, and medical students.

Neil O. Fishman, M.D., director of infection control for HUP, provided a historical context, beginning with some early examples of biological warfare – for instance, in 1347, the Tartars catapulted plague-infested bodies into the

Crimean town of Kaffa. Fishman then ran through the diagnosis and treatment of anthrax, smallpox, and the plague. The public, he said, has a right to be frightened of anthrax and other agents. “The threat is real.” The “responders” to terrorism are different depending on the cause: for biological terrorism, hospitals and other health-care services will be the first responders. Although anthrax has received by far the most attention as a pathogen for use in bioterrorism, Fishman noted that there is no human-to-human transmission of anthrax; in addition, for the most dangerous kind of biological attack, “aerosolization is critical,” and arranging an effective delivery system of the anthrax particles is very difficult.

Anthrax, caused by bacillus anthracis, has three forms: cutaneous, inhalational, and gastrointestinal. Inhalational, rarer than cutaneous but more deadly, has a mortality rate approaching 90 percent. Anthrax can lead to respiratory distress, bacteremia, and meningitis. To diagnose anthrax requires an index of suspicion, and Fishman emphasized that it is very difficult to rule it out. Treatment includes early administration of drugs like Cipro. Standard precautions, however, are sufficient for infection control.

With smallpox, the story is much different, because it is readily transmitted from person to person. “For all intents and purposes,” said Fishman, “the entire population is susceptible.” (Although the smallpox virus was believed to be eradicated by 1980, the Soviet government embarked on a program to develop it for use as a weapon.) The mortality rate for smallpox is about 30 percent, and there is no treatment, no effective chemotherapy.

Esther Chernak, M.D., of the Philadelphia Department of Public Health, spoke about bioterrorism preparedness in Philadelphia. The first response to bioterrorism, she said, is local rather than national. Yet hospitals, which would be most directly involved, have largely been overlooked when it comes

to training and funding. In the fall, Tommy Thompson, the secretary of Health and Human Services, had proposed \$50 million in aid to help hospitals become prepared, but Chernak believes that is “grossly insufficient.”

The CDC is the primary public health agency for bioterrorism, but Chernak described it as a “Johnny-come-lately.” One important element of the CDC’s emergency preparedness is the National Pharmaceutical Stockpile program, whose mission is “to maintain a national repository of life-saving antibiotics and materiel.” It provides 12-hour “Push Packages,” sent only when the state makes a request: these include such items as pharmaceuticals (antibiotics, etc.), IV supplies, airway supplies (ventilators, oxygen masks), bandages and dressing, and vaccines. Each of the 50-ton packages consists of 124 cargo containers, which she estimated would fill one or two hangars in Philadelphia’s airport. Even so, one Push Package, Chernak noted, “would not cover a major event in our city.” She also wondered whether the CDC staff is sufficient in such a situation and argued that the local level is critical to success.

According to Chernak, early recognition and surveillance are essential in identifying and managing an incident of bioterrorism. The Republican National Convention in Philadelphia, she added, offered some opportunities to try out monitoring and surveillance in case of a hypothetical attack. But, she explained, “syndromic surveillance” is extremely labor-intensive and expensive. The city’s preference is to use pre-existing data. Chernak also noted that the new HIPAA regulations on patient privacy are a “problem” for gathering accurate, up-to-date information about patients.

Chernak sketched out the Philadelphia Biological Response Plan for mass patient care in case of a bioterrorist attack. It would include: patient evaluation and triage; acute-care capacity expansion (which might mean reopening wards and floors that had been closed because of financial con-

straints); mass prophylaxis and immunization; patient tracking (“the bane of everyone’s existence,” as she put it); and transportation of people and supplies. If there were mass fatalities, the city would need more capacity – even, if necessary, use of ice-skating rinks to store bodies temporarily.

More than one person in attendance asked for clarification on what constituted an exposure to anthrax. As one physician noted, most of the patients flocking to clinics and physicians’ offices will

have flu-like symptoms – symptoms shared with common respiratory and gastrointestinal illnesses. Another pointed out that patients remained anxious even if they were told it was very unlikely that they had contracted anthrax. “It’s hard to just pat them on the back and send them home,” said the physician. What can they do for their patients? Until there was more evidence, Chernak said, “Pat them harder.” As she put it, “We just have to deal with hysteria.”

In December, the Center for



Barker (left) and Friedman

The portrait of Clyde F. Barker, M.D., who stepped down as chair of the Department of Surgery last summer, was unveiled last fall at a gathering in his honor. The portrait, by Jon Friedman, shows Barker seated with a copy of *Science* and plenty of evocative photographs on his wall. Arthur Asbury, M.D., who had served as interim dean of the School of Medicine for the previous year, described Barker as “truly a Renaissance man . . . an exceptional physician-scientist.” He praised Barker for his “18 years of superb stewardship” of the Department of Surgery. Barker’s suc-

cessor, Larry R. Kaiser, M.D., described him as a role model and mentor who has “the ability to distill the problem to its very essence.” Barker, said Kaiser, is “above all, a gentleman.”

The portrait, which can now be found in Medical Alumni Hall in the Maloney Building, was not the only likeness presented to Barker. He also received a caricature done by David W. Low, M.D., associate professor of surgery, and signed by dozens of well-wishers. The caricature shows Barker with a Penn pennant and a tennis racket, chewing on the stem of his eyeglasses.



Bioethics presented a symposium that concentrated less on clinical implications of bioterrorism and more on ethical and strategic questions, research directions and opportunities (such as new vaccines), and commercial implications (who would have access to drugs to combat bioterrorism, how would drugs be priced).

David Magnus, Ph.D., director of graduate studies for the Center for Bioethics, began the first session of the symposium with what newspapers like *The Philadelphia Inquirer* have been calling a “reality check.” In the same time that five people have died from anthrax, noted Magnus, “literally a couple thousand people died as a result of the flu.” Putting aside the fear of the unknown, he argued, the nation must consider “relative risks.” Magnus then turned his attention to the issues of access to pathogens and the “weaponizing” of the pathogens. “There are a lot of very formidable technical obstacles” to turn anthrax, for example, into a weapon – but “developing technology” will make it much easier. In the course of identifying and publishing the human genome, the “actual makeup” of several pathogens has also been published and more are on the way. In addition, it will become easier to genetically alter existing pathogens as well as to create new ones designed for increased virulence and greater resistance to vaccines.

In the face of these terrible possibilities, what should researchers do? In Australia, Magnus reported, some scientists working on mousepox abandoned their research. On the other hand, according to Magnus, Venter and his laboratory group “agonized” over publishing their work on the smallpox genome and consulted with bioethicists. Finally, they went ahead and published – with the idea, said Magnus, that “we need more research rather than less.” Research can provide “better and better technologies” to combat current pathogens and newly developed ones.

Another speaker was David Weiner, Ph.D., associate professor

### FDA Rejects Wilson's Letter

In February, the Food and Drug Administration rejected a letter from James M. Wilson, M.D., Ph.D., director of Penn's Institute for Human Gene Therapy, in which he dealt with allegations that the institute had violated safety procedures in the clinical trial that resulted in the death of Jesse Gelsinger in 1999. According to the FDA, Wilson's explanations “fail to adequately address the violations.”

The position of the University remains that the tragic death of 18-year-old Gelsinger was not foreseeable based on informed medical judgment and the best scientific information available at the time. The FDA letter said Wilson could request a hearing on the accusations or accept a consent decree that would prevent him from using human subjects in drug testing.

In a statement, Wilson said, “I will continue a dialogue with the FDA in an effort to reach a resolution satisfactory to all parties.”

of pathology and laboratory medicine. He noted that scientists in the former Soviet Union successfully “weaponized” many bioagents – but had focused in particular on smallpox, attempting to engineer more virulent strains. Why smallpox? Because it can be reproduced in large quantities; it is stable for transportation; it has a high mortality rate; it is highly infectious; and it is spread person-to-person. On the other hand, Weiner pointed out, the smallpox vaccine is highly effective and provides immunity for five to ten years. In fact, if given within three or four days of exposure, the vaccine is protective and it will decrease mortality by 50 percent.

In the question-and-answer period, Arthur L. Caplan, Ph.D., director of the Center for Bioethics, again raised the issue of information exchange among scientists. Should information be restricted because of the potential harm it could cause? “Should we take a Cold War attitude, as toward nu-

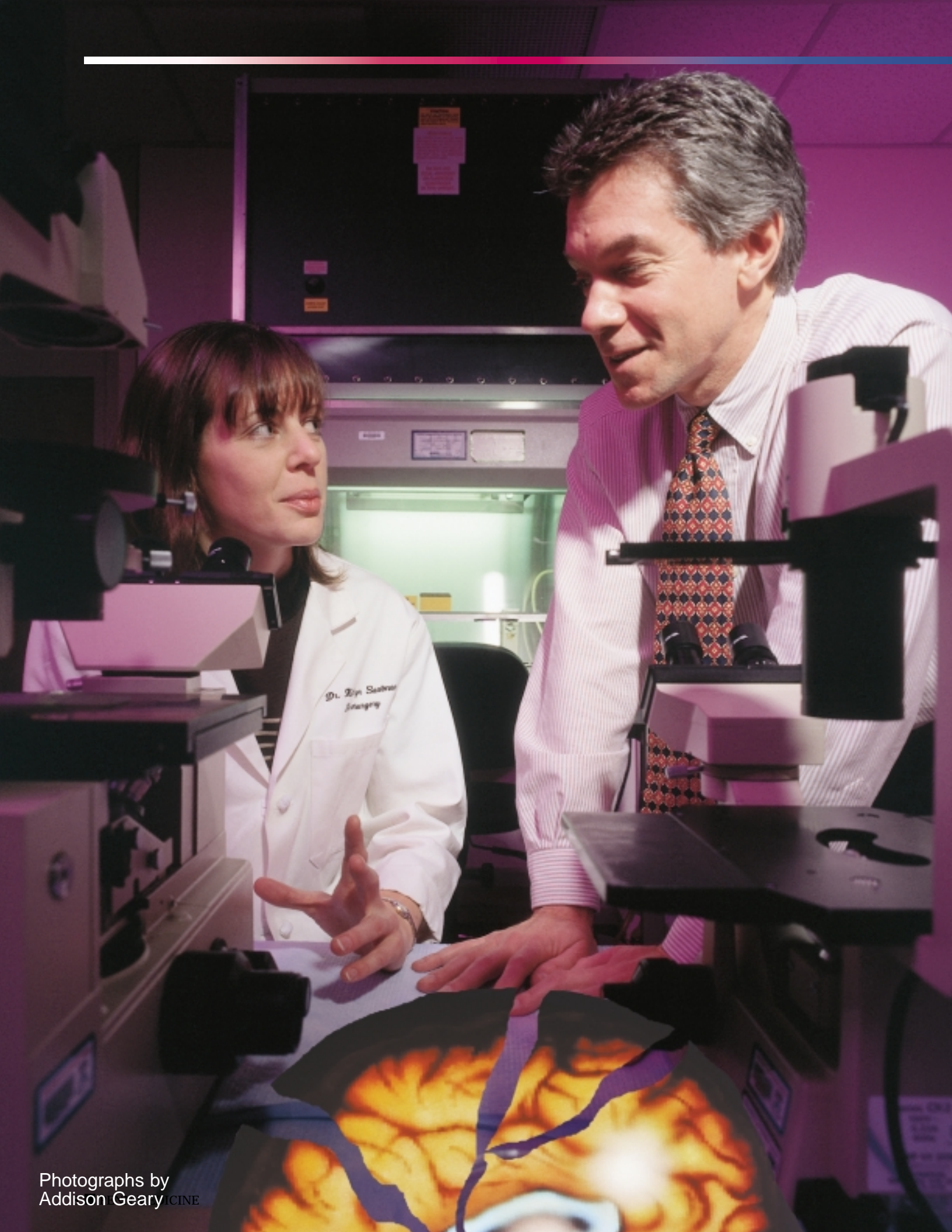
clear secrets?” In Magnus's view, the benefits would clearly have to outweigh the risks for research to continue. Weiner added that it was better to have the genetic sequences and be able to work on them for potential treatments than not to have them at all.

Given the justifiable concerns raised by these and other Penn experts, it is not surprising that President Bush's subsequently released budget plan for science includes an emphasis on ways to combat biological terrorism. A total figure of \$5.9 billion was cited, including \$1.7 billion to the NIH for developing a new vaccine for anthrax and for other bioterrorism research.

Some especially relevant research has been going on at Penn even before the terrorist attacks of September 11. In January of last year, Stuart N. Isaacs, M.D., an assistant professor of medicine who specializes in infectious diseases, and John D. Lambris, Ph.D., professor of pathology and laboratory medicine, were awarded a four-year \$1.1 million grant from the NIH to investigate new therapies against smallpox. Their plan was to create therapeutics that would attack two proteins the smallpox virus produces: one approach would prevent the virus from entering cells, the other would neutralize a protein the virus produces in order to bypass the immune system. Isaacs and Lambris are also studying B5R, a specific protein on the surface of the virus, which is essential for further spreading the virus within an infected host.

As Isaacs said at the time the NIH grant was announced, “I find it morbidly ironic that smallpox, the first disease ever to be purposely immunized against – and successfully eradicated – might come back from the dead to pose a threat now. Fortunately, we now have the tools and understanding to help take the risk out of smallpox vaccinations and potentially combat the threat of smallpox bioterrorism.” ■

— John Shea, with contributions from Greg Lester



# Brain Injury: A Silent Epidemic

*By Jon Caroulis*

As director of Penn's Head Injury Center, Tracy McIntosh leads a multidisciplinary team that draws from eight different departments across the University. Support has come from the National Institutes of Health – and the National Football League.

**W**alking south on 34th Street and crossing Walnut, Tracy K. McIntosh, Ph.D., spies a young man speeding by on a bicycle, heading for Philadelphia's Center City. McIntosh has seen him before – and again he calls out, "Get a helmet!"

"I always tell him that when I see him," says McIntosh. A distinguished neuroscientist, Macintosh witnessed what can happen in an accident to a cyclist who was not wearing protective headgear or to a driver of a car who was not wearing a seatbelt: trauma ranging from brain damage to death. As director of Penn's Head Injury Center, he leads a multidisciplinary scientific team investigating the effects of traumatic injury to the head and brain, as well as possible treatments. But yelling at a biker to use safety precautions seems just as important to him as discovering ways to repair injured brain cells.

Human beings are remarkably resilient creatures: many organs and body parts will heal after trauma and disease or even adjust to them. But the brain is not so fortunate. Trauma there – from a stroke or a blow to the head – can lead to irreversible damage and a greatly reduced quality of life, and the effects can sometimes be delayed for months or even years. According to McIntosh, who is the Robert A. Groff Professor of Neurosurgery, "Traumatic brain injury is a

silent epidemic in this country, affecting more lives than most people realize.” He describes traumatic brain injury as the leading cause of death and disability among persons under 45 years old, occurring more frequently than breast cancer, AIDS, or multiple sclerosis. About 5.3 million Americans are living with a disability as a result of severe brain injury, and the Head Injury Center estimates that the health-care cost for head injury patients is \$34 billion a year. In blunt, everyday terms: every 15 seconds, someone, usually a young person, suffers a brain injury.

At the same time, McIntosh says

there is no foundation for head injury on the scale of comparable foundations for heart disease, diabetes, and other common health problems. One of McIntosh’s goals is to get head injury “on the national map” – and he certainly believes Penn’s center is equipped to lead the effort.

According to McIntosh, the center he directs is the oldest in the country as well as the oldest continuously funded. It is in exclusive company, being one of about a half dozen centers designated a Head Injury Center by the National Institutes of Health. Not surprisingly, the NIH has been one of the primary funders of the center’s

faculty. For example, McIntosh has a grant to study “Mechanisms of Cell Death after Traumatic Brain Injury” (National Institute of Neurological Disorders and Stroke). The Veterans Administration has been another funding source for Penn’s center. McIntosh has a five-year grant for about \$200,000 a year to study “Mechanics of Delayed Central Nervous System Damage After Brain Injury.”

Another recent grant from the V.A. and the Department of Defense supported one of the center’s most promising and exciting research initiatives, “Therapeutic Potential of Neuronal Precursor Transplants in Brain Injury.” The

John Q. Trojanowski, M.D., Ph.D., has linked head injury and Alzheimer’s Disease.



origins of the study go back to 1997-98, when McIntosh used a Fulbright Award to study at the University of Lund, in Sweden. His research bore fruit, and last year, McIntosh was lead author of a study published in the *Journal of Neurosurgery*, written with colleagues from Penn, the University of Lund, and the Autonomous University of Spain. Although the article dealt with progenitor cells rather than precursor cells, the protective effects of transplantation remained the focus. In the study, McIntosh and his colleagues determined how progenitor cells, which he describes as “a more developed type of stem cell,” can restore cognitive and motor function to the brain. Even more, the progenitor cells, grown in culture and transplanted into rats with brain injuries, can counteract the secondary injuries that result from brain trauma.

Unlike stem cells, which are completely unspecialized, progenitor cells have begun the path to specialization. In McIntosh’s study, the stem cells used had already become progenitor brain cells, although they had not developed into a specific type of brain cell. The researchers found that the progenitor cells were able to survive in the hostile environment of the injured brains and actually promote the reconnection of brain pathways that were destroyed during trauma. Using tests to gauge cognitive ability and motor skills, the scientists determined that rats with the transplanted progenitor cells recovered substantially better than rats that did not have the transplanted cells.

The study’s other chief finding came about because the researchers used two different types of cultures of the same progenitor cells. One type was not altered. The other, however, had been transfected with a gene to produce Nerve Growth Factor (NGF). Although both types of cells helped regenerate brain function, those producing NGF had the additional effect of protecting against *further* damage in the brain. According to McIntosh, NGF also induces brain

cells to produce more antioxidant enzymes, which remove the free radicals that may trigger apoptosis (programmed cell death).

This listing of grants provides some of the “hard evidence” of the respect in which Penn’s H.I.C. is held across the country and indeed around the world. Ironically, another recent grant came from a source not often associated with biomedical research, NFL Charities, which is an organization of the member clubs of the National Football League. In January of 2001, NFL Charities awarded the Head Injury Center \$110,000 to study the long-term effects of concussions. Speaking shortly before the grant was announced, McIntosh noted that Troy Aikman, then the quarterback of the Dallas Cowboys, had just suffered his tenth concussion. (He retired a few months later.) Locally, McIntosh also showed a professional interest in Eric Lindros, then with the Philadelphia Flyers, who had recently suffered his sixth concussion.

Whether football or hockey, McIntosh is blunt: “People rarely associate concussions with what they really are – traumatic brain injuries.” Last November, a team led by McIntosh, who was senior author, published findings in the study funded by NFL Charities in the *Journal of Neurosurgery*. The principal author was Helmut L. Laurer, M.D., who had been a postdoctoral fellow of McIntosh’s; among the other authors were Virginia M. Y. Lee, Ph.D., M.B.A., and John Q. Trojanowski, M.D., Ph.D., G.M.E. ’80, the professors of pathology and laboratory medicine who serve as directors of Penn’s Center for Neurodegenerative Disease Research; and M. Sean Grady, M.D., chair of Penn’s Department of Neurosurgery. What they found is that a single head injury – even a mild one – can put athletes at risk for further traumatic brain injuries. The brain has an increased vulnerability to severe, perhaps permanent, injury for at least 24 hours following a concussion, which would make it foolhardy for people like Aikman, Lin-

dros, and countless other athletes to return to the game.

“If you look at the guidelines for mild head injuries in athletes – from high school to the pros – you’ll see that they are written with little hard scientific data,” says McIntosh. “Our findings represent the first real attempt to look at the science behind head injuries, and we were startled to see how permanent the damage can be.” According to the Penn researchers, the effects of repetitive head injury may not be felt until months later. By studying the effects of brain trauma in mice, the researchers were clearly able to see how a second head injury exacerbates the effects of the first one when delivered within 24 hours. Although at first the mice seemed not to have suffered permanent cognitive damage, the researchers detected a measurable breakdown in motor skills and in the cells of the brain starting about eight weeks into the study.

“This correlates with what we know about the nature of repetitive head injury in humans and its role in neurodegenerative diseases,” says McIntosh. In fact, Lee and Trojanowski were part of another team that established a molecular link between Alzheimer’s disease and the “punch drunk” syndrome, *dementia pugilistica*. Their findings, issued last summer, suggested that brain injury can cause Boxer’s Syndrome by activating mechanisms similar to those that cause tau lesions in the brain, one of the characteristic features of Alzheimer’s disease. More recently, Lee, Trojanowski, and McIntosh were among the authors of a study in the *Journal of Neuroscience* showing that repetitive head injury accelerates the pace of Alzheimer’s disease in mice (January 15, 2002). According to the researchers, brain trauma increases damage by free radicals and increases the formation of plaque-like deposits of beta-amyloid proteins in the brain. According to Trojanowski, “Here, we can clearly see a direct cause-and-effect relationship between repetitive concussions and Alzheimer’s.”

McIntosh and others involved with the center frequently refer to head injury and trauma as a “disease.” When asked why, he explains that brain injury becomes a disease after the initial physical damage is done: moreover, there appears to be a genetic predisposition among some people to suffer more than others from head injury. In addition, unlike many physical mishaps that leave the injured party with only a broken bone or scraped knee, head injury starts a chain reaction inside the brain by which complex and mysterious effects occur that do not manifest themselves until much later.

The brain controls who we are, how we think, how internal and external events affect us – yet a good deal about this multifaceted organ remains a mystery to medical science. And while neurosurgeons can do wonders for “organic” afflictions to the brain, such as aneurysms, science has yet to come up with treatments for “inorganic” injuries from external forces, like a fall from a ladder.

“Using molecular biology tools we didn’t have 5 or 10 years ago, we’re starting to get a handle on how the brain works,” says McIntosh. It’s also important that a wide range of University scientists are collaborating at the H.I.C.: neurologists, engineers, pharmacologists, pathologists, surgeons, and ER physicians.

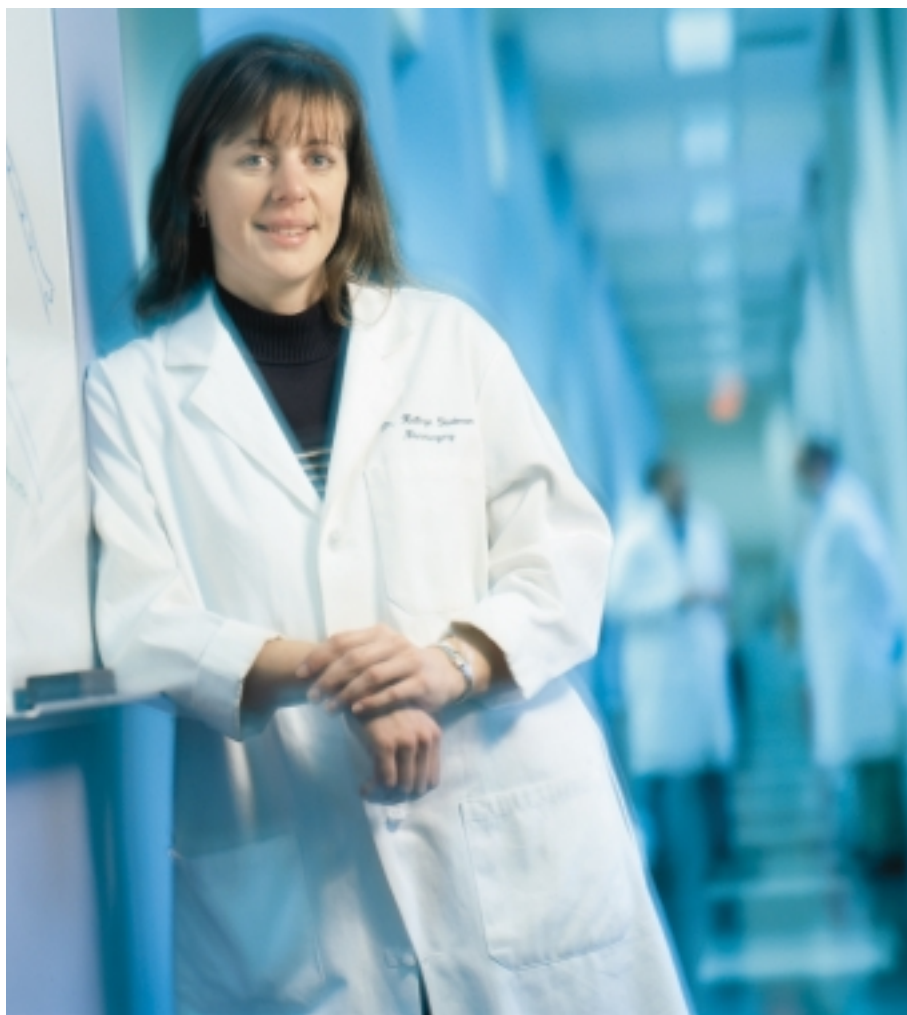
“The brain is fascinating because of its complexity,” says Kathryn Saatman, Ph.D., a former postdoctoral student of McIntosh’s who is now an assistant professor of neurosurgery and a member of the center. Her research focuses on mechanisms of damage to the neuronal cytoskeleton, axonal injury, and calcium-mediated neuropathology in traumatic brain injury. “There’s so much we don’t know about the brain, such a diversity in different types of cells in the brain and what they can do. The brain is so exquisitely vulnerable because, unlike peripheral nerves designed to undergo stretching and movement, the brain isn’t supposed to move around. It’s really vulnerable to traumatic in-

juries, such as car accidents or falling off a bike or a ladder. The brain is really not naturally designed to take that kind of an insult.”

Saatman says she makes use of her training as an engineer in her approach to head injury. “I think of the cell not just as a biochemical machine, but as a physical structure,” she says. “That’s where I see myself linking the neuroscience

enon may explain why a blow to the head might only startle a person at first but months later lead to serious brain damage or death. Understanding this process, McIntosh believes, may lead to a way to treat brain injury.

The genetic predisposition to brain injury may be related to the expression of RNA inside the cells, says another senior member of the



Kathryn Saatman, Ph.D.

aspect and the bioengineering aspect.”

Adding to the complexity of brain injury is the phenomenon of apoptosis or programmed cell death, which McIntosh and many others call “cell suicide.” Research appears to show that when a cell is damaged in head trauma, signals are sent to other parts of the cell that in effect tell it to shut down and kill itself. This phenom-

H.I.C., James H. Eberwine, Ph.D., a professor of pharmacology and of psychiatry. In head injury, RNA can either increase or decrease; either way, the change causes an imbalance of proteins to be distributed throughout the cell. In the past, tracking RNA expression was more difficult; with new tools in the genomics era, scientists are now able to look for simultaneous changes in thousands of mRNAs,

the form of RNA that carries “messages” between DNA and proteins. “Why those particular RNAs are expressed in head injury, that’s what we’re hoping to find,” says Eberwine. “Is it a function of the biological role of the proteins that are encoded by these mRNAs or are there some differences in the gene sequence that give rise to the susceptibility of genes [during

that are associated with head injury. If so, researchers could develop a genetic test for human susceptibility to head injury. Boxers or soccer players who might be especially susceptible to brain injury could then be made aware of the potential for serious head injury. Furthermore, if different individuals show different susceptibility to head injury, then particular

harm. Saatman explains that when a cell is damaged, calcium flows into it; the calcium is toxic to many of the cell’s internal components. Yet calcium is needed to help carry information between cells, so there is an abundance of calcium outside the cells. Researchers at the H.I.C. are currently testing drug compounds that are designed to minimize the damage done by calcium after it enters an injured cell.

David F. Meaney, Ph.D., another member of the H.I.C., is associate professor of bioengineering in the School of Engineering and Applied Science. Last year, he and Douglas H. Smith, M.D., associate professor of neurosurgery and one of McIntosh’s former postdoctoral students, collaborated on an unusual project that involved stretching neurons, offering a new way to bridge damaged areas of the nervous system. (See *Penn Medicine*, Spring 2001). In addition, says Meaney, “We have a series of studies in which we really target the reaction of the neurons of the brain and how they respond to mechanical force that mimics brain injury. We look at the very early changes in neurons and how the injuries occur within minutes – and the changes affecting those can determine if the neurons live or die within 24 or 36 hours.”

Like other members of the H.I.C., Meaney appreciates the collaborations the center fosters. Collaborations have broadened the focus of his work so that he examines reactions in an entire brain cell and not simply in the neurons. “I’ve benefited in many ways” from working with the H.I.C., he says. For one thing, “it’s given a clinical focus to the work. It made it very clear for my students and those who work with me exactly how the research they do can eventually help patients.” The Head Injury Center, he adds, “has given me access to different investigators and helped me grow and make my research program very different than I would have envisioned five years ago.”

In the fall, Meaney and other researchers received a five-year, \$3.1 million grant from the Nation-



James H. Eberwine, Ph.D.

head injury] to differentially express themselves?”

Eberwine suggests that if investigators knew how to find the RNA strands affected by head injury, they could conceivably find ways to modulate the expression of those RNAs or encoded protein in an effort to ameliorate the effects of head injury. The next step would be to determine whether there are genetic polymorphisms

therapeutics may be more or less beneficial for different people. As Eberwine puts it, “One’s susceptibility to head injury may help tailor appropriate therapeutic intervention strategies and consequently would be important information for all of us to have.”

Other approaches to traumatic head injury involve experimental drugs called neuro-protectants, which shield cell components from

al Institute of Child Health and Human Development to study the genes and proteins altered in single neurons in the brain as a result of brain injury. Meaney's team, which includes several H.I.C. investigators, will focus initially on contusions, bruises to the brains that are often localized in regions along the surface of the brain. Contusions can affect the brain's ability to process data and sensory input. "In a sense, we want to 'listen' to injured neurons by looking at the genes and proteins that are preferentially expressed in these cells," says Meaney. "We're hoping the response of these cells can give us a better idea of how to treat such injuries."

As indicated earlier, some recent studies have established interesting links between traumatic head injury and Alzheimer's disease, which has been one of the chief areas of study for John Trojanowski and Virginia Lee. As directors of Penn's Center for Neurodegenerative Disease Research and faculty members of the H.I.C., they bring a valuable perspective to the study of head injury. Lee and Trojanowski have made several notable discoveries in the pathology of Alzheimer's disease, a degenerative disorder in which brain cells accumulate twisted fibrils, lose function, and die. There appears to be a genetic component to Alzheimer's, and theories about the cause of the disease run the gamut from a viral infection in the brain to other environmental factors such as a build-up of aluminum or other heavy metals. Yet there is evidence to suggest that traumatic head injury can lead to Alzheimer's, too.

Shortly after McIntosh arrived at Penn in 1992, he met with Trojanowski. With Grant Sinson, M.D., G.M.E. '96, a neurosurgeon and another of the postgraduate fellows McIntosh supervised, they began working together on understanding traumatic brain injury and its long-term consequences – including an increased risk for Alzheimer's disease. In 1997, they performed a study in which they

tried to protect damaged brain cells by inserting a Nerve Growth Factor into the brains of rats that had been injured in a controlled lab setting. The rats had significantly higher memory scores on maze tests and a much slower rate of cell loss than untreated rats with head injury. The treated rats also showed a much slower rate of cell loss. In addition, the researchers reported that the improved mental ability lasted after the treatment was stopped.

The collaboration of McIntosh and Trojanowski is indicative of the interdisciplinary approach McIntosh has fostered at the H.I.C. For many years, Penn has encouraged its researchers from various disciplines to collaborate, particularly at the medical and engineering schools. According to several of his collaborators, McIntosh brings an enthusiasm and purpose to his work that compels them to join him in the center's research program. As Trojanowski makes clear, scientific research today and in the future will rely on interdisciplinary teams working together in order to tackle complex problems.

"In terms of scientific discovery, the easy stuff has been done," he says. "The skill sets needed today to make new discoveries are more than any one person – or discipline – can know. So it's critical to have teams of researchers from different disciplines approach a problem."

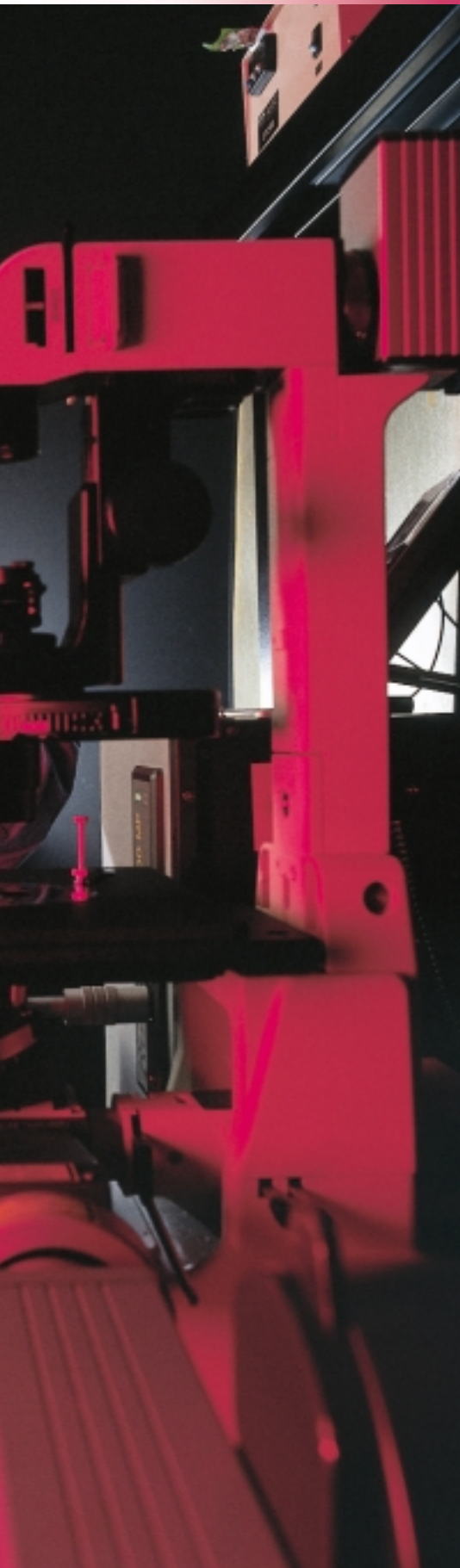
Sinson recently completed an 18-month fellowship at the H.I.C. and has joined the Medical College of Wisconsin. At Penn, he came into contact with a multitude of researchers and directions. For him, a dialogue between researchers and clinicians is essential: "If you want research to move forward, it behooves the researchers in the lab to learn the language of the clinician and to find allies in other fields you can use as a resource."

While at Penn, Sinson collaborated on projects with Saatman, McIntosh, Frank A. Welsh, Ph.D., and Ramesh Raghupathi, Ph.D., including much of the work done



David F. Meaney, Ph.D., brings a bioengineering perspective





on neural transplantation for trauma. Says Sinson, “Some of the early work in that field I performed myself, during which I benefited from the experience of working with Dr. McIntosh in learning to effectively do laboratory-based research.”

Sinson was also involved in several follow-up studies “to help maximize both the scientific value of the studies and the potential applicability of the information to patients. It is a very symbiotic relationship that we have.”

According to McIntosh, one of the most exciting discoveries in recent head injury research is one that belied the medical dogma that the human brain is incapable of creating new cells. This revisionist view is not wholly accepted by the scientific community; for example, in December, *The New York Times* reported on the disagreements between a Yale neuroanatomist, who argued some 25 years ago that the adult brain did not form new neurons, and a Princeton researcher who recently claimed to have found newborn neurons in the adult cortex. “Adult neurogenesis” – regrowing nerve cells in the brain – was the subject of a national symposium in February. For McIntosh, the possibility of regeneration has opened up an entire new vista for the Head Injury Center. He would like to see a therapy devised using new cells that would enable the patient to recover some of the abilities lost because of head injury or stroke.

“When I first heard about this,” recalls McIntosh, “my first thought was, ‘Hallelujah!’ It blew away the old doctrine, proved that everything we learned in school about the brain’s inability to regenerate wasn’t true. Thankfully, we now have this tool to devise new strategies to jump-start regeneration in the injured brain.”

In a related development, Trojanowski and Lee have developed a technique by which they grow neurons in a laboratory, then “graft” them onto a stroke patient’s brain. The new neurons then collaborate with damaged cells, in effect help-

ing to “rewire” or jump-start them, explains Trojanowski. First in animal studies, then with humans, the stroke patients have shown neurological improvement. But a crucial step, according to Lee and Trojanowski, is getting a large number of neurons to the stroke-damaged areas of the brain. Their solution: inject the therapeutic neurons into the cerebral fluid and have it carry them to the affected areas. “What we think takes place is that our cells fortify the remaining but effete neurons and the penumbra of the shadow of the infarct,” says Lee, referring to the area surrounding the stroke.

It is tempting to say that McIntosh was fated to enter his current line of research. When he was 18, he was the first person on the scene of an automobile accident in which the occupants had not been wearing seat belts and had crashed through the windshield. In the 30 years since, he recalls being the first person on the scene of a car accident scene another five times. Watching an ambulance carry away a driver, he can’t help but wonder what type of brain trauma was occurring. At those times, it also hits home how crucial it is to get a brain-injured person to the hospital as quickly as possible.

The other, more pleasant occurrence that suggests McIntosh was destined for his work took place in a hot tub. The night before a conference in Colorado, McIntosh went for a soak and met Alan Faden, M.D., then a neurologist in San Francisco, who was setting up a center to study brain injury. As McIntosh remembers it, Faden “pointed out all the unknown potential of brain-injury research and how we knew so little of how the brain responded to injury.” Faden was indeed persuasive: McIntosh decided to go with him to learn. From 1984 to 1988, McIntosh was a research professor at the University of California at San Francisco. He later spent four years at the University of Connecticut before coming to Penn in 1992 as associate director of the H.I.C. From the beginning, he sought to broaden

to head injury.

his perspectives, arriving not only as a professor of neurosurgery but of bioengineering in the School of Engineering and Applied Science as well. In 1993, he gained another secondary appointment, this time in the Department of Pharmacology. Two years later, he advanced to director of the Head Injury Cen-

(PETA) broke into Penn labs and obtained a tape of head-injury experiments done on primates. The graphic images of animals were powerful propaganda used by PETA to call for an end to the use of animals in test situations. One outcome was that Penn and other institutions halted testing on pri-

measuring effects on “living systems” – and only when anesthetized.

McIntosh has been recognized both for his work as a scientist and as a builder of a world-class center. In 1999, for example, McIntosh received the William Fields Caviness Award for Excellence in Brain Injury Research. The award is given by the Brain Injury Association, which noted that McIntosh “has made a major impact upon our current understanding of the sub-cellular and molecular responses of the brain to traumatic injury. The numerous pre-clinical trials in which he has been engaged have led to important new advances that have translated into better care and management of individuals with traumatic brain injury.” He has also received the Dorothy Russell Memorial Award from the Royal Society of Neuropathologists. A former president of the Neurotrauma Society, he received its Service Award in 1997.

In the nearly 20 years since that chance encounter in a hot tub, McIntosh has seen some of the mysteries of the brain clarified. More important, he believes chances have improved for people who once had no hope of survival or recovery.

“We’ve been visited many times by families of traumatic brain injury survivors,” he says. “They often bring their relatives, and we’re extremely grateful for their visit and motivated when we see how difficult it is to care for a patient who has sustained long-term disabilities associated with brain injury.” Far from depressing the staff of the Head Injury Center, such visits, he says, “motivate our wonderful team of 20 young people to work even harder, to stay late in the lab, or even work on weekends to come up with a treatment.” With understandable pride, he says, “At what we do, we’re the best.” ■

*Jon Caroulis previously wrote for Penn Medicine on David W. Hartman, M.D., G.M.E. '80, a blind psychiatrist. Greg Lester, science writer for the Department of Public Affairs, contributed to this article.*



Virginia Lee, Ph.D., right, observes as Dr. Peter Nelson, a neuropathology fellow, dissects a brain.

ter. A constant champion of the center, McIntosh emphasizes the cooperative spirit of the center’s faculty. Penn, he says, “is a tremendous place to build a program like this.”

The program’s most difficult period likely was the mid-1980s, when members of People for the Ethical Treatment of Animals

mates, and the University established a board to oversee all research involving animals.

For McIntosh, there is little resemblance between the treatment of laboratory animals then and now. “We maintain the highest standards of animal welfare in all of our studies,” he says. The animal models are used only when

# “We Are All Patients”

*By Linda Bird Randolph*

Today, patients need a third party to serve as their advocate as they move through the health-care system. Even more, they must learn to be advocates for themselves.



As a teenager, Marie A. Savard, M.D., '76, G.M.E. '80, viewed medicine as a noble, romantic career. Her mother had been a dedicated nurse and a strong influence, and Savard wanted to follow in her footsteps – to help others, to make a difference.

“Growing up in York, Pa., at the time I did, girls who wanted to go into medicine became nurses,” she explains. “That’s just what we did. My mother had gone to the University of Pennsylvania, so I chose to enter the nursing program there. From the start, I wanted to become a ‘real nurse’ – I wanted to be involved and truly know and care for each patient, to be each patient’s advocate.”

As a nursing student, Savard was surprised to find that the health-care system wasn't very much like what she had expected from TV shows like *Marcus Welby, M.D.* Physicians had neither time nor inclination to get to know each patient personally. As Savard saw it, patients often left appointments with their questions unasked or unanswered – and sometimes more confused than when they walked in – yet they would rarely venture to assert themselves. When they did speak up, Savard says, patients were often quickly “put in their place” by paternalistic physicians who insisted on being in charge.

“I witnessed so many patients completely cowering before their physicians,” says Savard. “That huge gap in power made no sense to me.”

In addition, relations between physicians and nurses often were not the partnerships that Savard had hoped for. As a nursing student, she often felt she had no voice. She began to doubt her dream of promoting change and becoming an effective advocate for patients. “I realized that doctors gave the orders; nurses carried them out. That wasn't my personality,” she says simply. Shortly after she graduated in 1970, she says, “I decided I wanted to become a ‘real doctor’ and started fulfilling the requirements I needed to get into medical school.”

As a student in Penn's medical school, Savard found a pattern she liked. She established one-on-one relationships with patients, encouraging give and take. Yet, she says, her peers often raised an eyebrow at her efforts. “In medical school, my peers would watch me interview patients and afterward comment on how comfortable I was and how much time I spent with each person. Really, all medical students are afraid of patients at first. But for me it was very easy to just talk.”

Savard's ability to communicate well stayed with her throughout her residency in internal medicine at Penn and her fellowship at the

University of Colorado. (It was in Colorado, she adds, that young physicians “learned to be the patient's ‘gatekeeper’ – and that term had a positive connotation at the time!”) During those years, she feels, she became a “different” sort of internist. “Internists tend to think in terms of medication, tubes, treatments. I wanted to learn about family, nutrition, emotional aspects – a more holistic approach.”

Savard began a solo practice, then later joined a group. And as much as she tried to maintain intimate relationships with patients, the times were changing. Because of managed-care plans, she says, “Many of my patients began needing referrals to specialists. A lot of them started using complementary

In nursing school, “I witnessed so many patients completely cowering before their physicians. That huge gap in power made no sense to me.”

care. Some of them were spending winters in the Sunbelt, which meant they saw a different doctor for half the year.” Some patients arrived for initial visits with no records at all and little memory of what their health history had been. To Savard, care was becoming very “fragmented.” All the time, Savard notes, patients had the power to coordinate their medical care – and to become advocates for their own health – yet they frequently did not take advantage of their own power.

Last fall, Savard described this problem, and her suggestions for change, during a panel discussion at Penn called “Our Bodies, Ourselves: What You Know May Make the Difference.” (See pp. 18-19) “I would like to remind everyone that we are all, at one time, first and foremost, patients,” she said.

Medical students, residents, fellows, and even seasoned physicians need to “walk a mile” in the shoes of their patients. On the other side, she continued, patients need to develop skills to nurture relationships with their physicians. It doesn't hurt for patients to bring along their own advocates – parents, children, friends – when they visit physicians. It is helpful to have someone along to listen, observe, take notes, and help interpret medical history, especially when patients are ill or confused about treatments.

According to Savard, the best approach is for patients to collect and maintain records of their health-care history and to try to understand what their history, lab results, and other findings mean. She describes techniques in her two books, *The Savard Health Record: Six Steps to Managing Your Health Care* (Time-Life, Inc.) and *How to Save Your Own Life: The Savard System for Managing – and Controlling – Your Health Care* (Warner Books, Inc.), both published in 2000.

In *How to Save Your Own Life*, Savard outlines 18 common complaints that bring patients to the physician. For each, she describes the “best-case scenario” (redness in the eye usually indicates conjunctivitis), and the “worst-case scenario” (redness in the eye could indicate acute glaucoma, uveitis, or a foreign body in the eye). In both books, she attempts to help patients learn to interpret results and, if they need help, to direct them to reference books or websites. Savard also provides a glossary so that patients can make sense of their physician's notations on records (for example, DM indicates diabetes mellitus; SOB indicates shortness of breath).

Still, patients often face an uphill battle to obtain their medical results and records. As Savard recounted in *The Savard Health Record*, there is a long tradition of physicians not sharing records, or even observations, with patients: “Hippocrates, the ‘father of medicine,’ who lived during the fourth

century B.C., recommended ‘concealing most things from the patient while you are attending to him . . . revealing nothing of the patient’s future or present condition.’”

Savard also cites Oliver Wendell Holmes, who in 1871 “was still preaching that same message. He gave a medical-school graduation address during which he told the newly minted doctors, ‘Your patient has no more right to all the truth you know than he has to all the medicine in your saddlebags . . . He should get only so much as is good for him.’”

In contrast, Savard draws inspiration from T. S. Szasz and M. H. Hollander, who wrote about a “model of guidance cooperation” and a “model of mutual participation” in a paper on doctor-patient relationships published in 1956 in *Archives of Internal Medicine*. Savard encourages patients (and readers of her books) to keep track of the exams and tests they need. Pap smears, complete blood counts, and bone-density scans, for example, generally should be done on a regular basis. Her book provides charts and explanations of various exams and immunizations, and schedules of when they should be taken. There is ample room to take detailed notes and keep records. As she puts it, in today’s world, “You can’t expect your physician to remind you each time you need to be checked; you must be in charge.” Remembering and retaining medical records – especially in writing – is vital, says Savard. At the same time, physicians must be available to offer all reasonable treatment options to patients and must let educated patients choose their plan.

In a profile in *The Philadelphia Inquirer* last year, Savard’s views were described as amounting to “a kind of Marxist theory of health care, in which those who feel they have ownership in the means of production are more motivated to do the job well.” One of the more interesting attempts to apply Savard’s method is taking place at The University City High School

in Philadelphia, where Savard teaches a course to inner-city youth. A press release from Savard announcing the course cites the “revolutionary system of patient empowerment” she developed. If getting and maintaining medical records can be difficult for mature, well-connected patients, it seems even more daunting for the young and less affluent.

Savard is former director of the Center for Women’s Health at MCP/Hahnemann and an associate professor there. In recent years, she has cut back her practice and currently serves as the internist and medical director for approximately 40 retired missionary nuns at the Cabrini Nursing Home. In her practice, Savard works hard

“I feel it is my job to provide women with the facts, facilitate their decision, and let them choose what is right for them.”

not to direct patients “one way or another” when there are multiple choices that deserve attention and thought. “With hormonal replacement therapy, for example,” Savard said, “I never had a specific view. Even in cases where I do have an opinion, I know there are many outlooks. I feel it is my job to provide women with the facts, facilitate their decision, and let them choose what is right for them.”

As Savard sees it, care for women is especially fragmented. Women go to their gynecologist for reproductive concerns and to their internist or another doctor for others. They have an array of physicians, but no one to coordinate it all. Continuity of care is rare.

What also concerns Savard is that, whether the patients are female or male, they often have difficulty getting essential infor-

mation from the health-care professionals. Savard tells the story of her father, who had a stroke in 1996 and was hospitalized. “I wanted to see the ultrasound report to see if there was severe blockage, if he needed surgery,” she says. But the chart by her father’s bedside contained only his vital signs. The information she wanted to see was at the nurse’s station. When Savard asked the nurses if she could review it, she was told, “You’re not allowed.” In the course of a positive review of *The Savard Health Record* and comparable “tools” for consumers, *The Wall Street Journal* noted, “Legally, you are entitled to copies of your medical records” – but apparently the message is not universally recognized.

After his ordeal, and after Savard compiled her two books, her father sent her a note confirming her campaign: “A well-kept record would have been a big help during the times I had to go to the emergency room. You were stressed at that time, yet you had to keep repeating my story to each of the caregivers. It would have been better if we could have provided them with written material.”

These days, in the era of genetic testing and other advanced modalities, patients have more choices than ever. In terms of treatments and therapies, the choices become even more complicated. For example, women with strong family histories of breast cancer may choose to be tested for the BRCA1 or BRCA2 breast-cancer genes. If they test positive, they have many further choices to make – prophylactic mastectomy, controversial medication, “wait and see,” and more. These women need their physician’s time, as well as their physician’s educated assessment of the situation. They also need to do their own research and, Savard argues, to feel the freedom to choose the best approach for them.

In addition to writing her popular books, Savard has been a columnist for *Women’s Day* magazine and host of a radio show, *Medical Frontiers*. She is also senior med-

ical consultant to *Strong Medicine*, a TV drama featuring two female doctors who share a practice in Philadelphia. According to a recent article in *The New York Times*, it is the highest-rated show on the Lifetime cable channel. In the *Times*, Savard noted that Dana Stowe (more aloof, more dependent on research) and Lu Delgado (more passionate and personally involved with her patients) “represent two ends of the spectrum. . . . The very best approach would be a balance of the two, but leaning more toward Lu.” In the professional sphere, Savard is a member of the Pennsylvania Women’s Commission, and she served on the American Board of Internal Medicine’s Subcommittee on Clinical Competency in Women’s Health.

Earlier this year, Savard joined Medical Broadcasting Company, a marketing and communications firm that serves the pharmaceutical and health-care industries. She is expected to provide insight into physician behavior and help develop new approaches to providing health-care information to professionals and consumers.

Asked to select a career highlight, Savard mentions being invited to attend the United Nations World Conference on Women in Beijing as technical adviser for the World Health Organization, in 1995. “I went there to advise, but really I learned so much,” she recalls. “The speakers from Africa stand out most in my mind. Many women in Africa don’t trust Western doctors, yet they trust the women in their own communities. Many women are afraid to take vitamins and iron during pregnancy, for example. It can seem a scary concept. But if the information is presented to them in a way that makes sense, and in a form they can understand, they are more willing to accept it. I really learned that world issues are our issues. We are all patients, at one time or another, making difficult decisions.” ■

*Linda Bird Randolph last wrote about Robert K. Ross, M.D. '80, for Penn Medicine.*

As part of a celebration honoring *125 Years of Women at Penn*, the University assembled a panel of health-care experts in November to discuss the theme of “Our Bodies, Ourselves: What You Know May Make the Difference.” Drawn from Penn alumnae and faculty, the panelists agreed on one general message to women: Get smart.

Claire M. Fagin, Ph.D., R.N., who served as dean of Penn’s School of Nursing from 1977 to 1992, was moderator. She led the panelists through a vast assortment of broad health-care and disease topics.

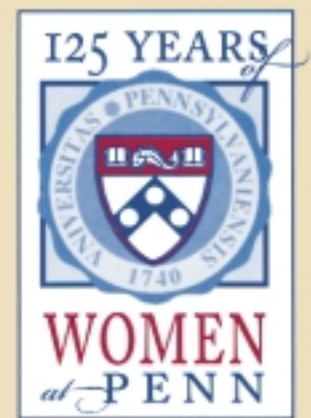
According to Barbara L. Weber, M.D., a professor of medicine and genetics at Penn, “The biggest advance in breast cancer genetics is that it is now possible to do more than just look at things generally. We are now able to look at a specific woman and say, based on certain factors, ‘this is your specific risk.’” In this context, she continued, the most important development was the discovery of the genes BRCA1 and BRCA2 in 1994 and 1995.

At the same time, Weber, who directs Penn’s Breast Cancer Program, noted that genetic testing for breast cancer has become a political issue. “There are many very powerful breast-cancer advocacy groups that are run by women who have had breast cancer. . . . Some of the groups protested testing, and others were very supportive. Some took a very paternalist approach, saying, ‘We are not ready for this; we shouldn’t be doing this.’ There are so many social implications – insurance issues, political issues. The whole issue has caused a lot of fear over the years.”

Yet Weber hopes that, soon, more women will have access to this testing in a standard clinical setting and that researchers will have the opportunity to interpret, and benefit from, results on a large-

er scale. She expressed pride that women researchers are largely responsible for the progress of breast-cancer research.

Pursuing Weber’s point, Ruth Katz, J.D., M.P.H., argued that women “have a great opportunity to play a role” whether they are for or against genetic testing. “We have made tremendous progress in Medicare coverage for mammography and in providing screening service for low-income women,” said Katz, associate dean



for administration at Yale University School of Medicine. “Large groups can make a difference.”

Marie A. Savard, M.D. '76, physician and author, continued the discussion of breast cancer as a way to introduce her own message. “About 12 months ago, a close friend was diagnosed with Stage 3 breast cancer,” she said. “The truth is, she knew something was wrong with that breast.” At first, she wanted to believe what her doctor told her, “that everything was O.K.” The friend did not follow through

on her suspicions, believing that “no news is good news.” It is a common story, said Savard. “We know that there is a large chasm between the health care that we could provide and the health care that we do in fact provide.”

According to Savard, women represent 52 percent of the population and use two-thirds of health-care dollars; 80 percent of health-care decisions are made by women; and 90 percent are caregivers in one way or another. It is time, said Savard, for women to assert themselves, to have a stronger voice, and to effect changes.

“The best thing anyone can do is get informed,” said Savard. “We have the Internet at our fingertips. Additionally, personal health information is the most powerful thing that doctors have to rely on. So, patients need to be the center point of their care. . . . When you have your health history information available, you are giving doctors what they need most. Form a collaborative relationship with all providers, including pharmacists and so on.”

Later in the discussion, Susan Taylor, M.D., director of The Skin of Color Center at St. Luke’s Roosevelt Hospital Center in New York City, elaborated on Savard’s point. “It is now more important than ever, given the remarkable advances in technology, for patients to value and to nurture their relationship and partnership with their health-care provider,” she said. “Healing is not just a scientific process. . . . Diagnosis is an intimate relationship between two individuals – with your physician obtaining your history and talking with you about your physical history and your emotional history. A specialist will probably see you as an organ system, and he or she will come back to your primary-care physician with a diagnosis. But it is the primary-care physician who will weave these facts

together, who is going to put the pieces of the puzzle that is uniquely you back together – mind, body, spirit.”

Katz raised another topic of interest to many in the audience. Women at Ivy League medical schools are well prepared to help women enter the medical profession. Indeed, about 50 percent of medical students today are women. Yet, Katz noted, “Many of these women do not go on to have an academic career. Across the country, 28 percent to 30 percent of medical-school faculty are women. These women are not becoming full professors, chairs of departments, section chiefs. And that is something that I think universities, and particularly the Ivy Leagues, must address.”

While agreeing in part with Katz’s argument, Weber noted that she has been involved in a committee to look at the matter. The opportunities for women are there, she said; it’s not that women are being turned down for promotions. Instead, Weber continued, “A lot of it has to do with the kind of life that women lead, combining family and an academic career. They may not have the support to combine the two fully. We also need to encourage women to stick with it and try and realize their full potential.”

From the time she started her career, Weber said, “I have never been shy about saying, ‘I don’t come to work until my kids get to school in the morning,’ or ‘I was late for the breakfast this morning because my kids were not off to school yet.’ My bosses don’t ask me to come to 7:00 a.m. meetings unless it is essential. These are the kinds of things that women have to be brave enough to assert ourselves about. And now, men around me are doing the same thing.”

Another member of the panel was Sheila Moriber Katz, M.D.,

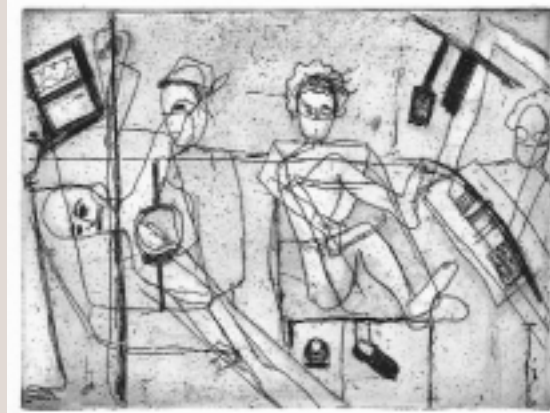
M.B.A., president and CEO of NewMedicine and a former professor of pathology at MCP-Hahnemann, whose present interest is complementary/alternative medicine. “The good news,” she said, “is that the biomedical revolution is benefiting us exponentially. The bad news is that we are getting intoxicated – I call it technologic intoxication – from mass-produced conveyor-belt medicine. So we are turning to alternative medicine in record numbers.”

She provided some figures: more than 80 percent of Americans routinely use alternative medicine and spend more than \$25 billion annually out of pocket. But, added Moriber Katz, “There is too much information to weed out. An important role for health-care providers is to educate patients about alternative medicine.” Fortunately, in her view, there are two useful developments. The National Institutes of Health has established a National Center for Complementary and Alternative Medicine. “This center is conducting and sponsoring science-based research in alternative medicine to help us be able to understand what works, what doesn’t work, and what are the adverse effects.” The second development is the formation of the White House Commission on Complementary and Alternative Medicine, which Moriber Katz helped to launch and to lead. “One of the missions of that commission is to develop a CAM curriculum,” she noted. The curriculum, she said, includes fostering open-minded communication between providers and CAM patients; working to amalgamate Eastern and Western approaches; and knowing and teaching proven CAM methods, such as pain management, palliative care, and nutrition. ■

— Linda Bird Randolph



b.



c.

d.



a.



# Etching From Experience

By John Shea

Last year, several Penn medical students exhibited their art at a campus show. The varied work was testament that some students felt the need to go beyond their scientific and clinical training – and somehow managed to find the time in their busy schedules for artistic expression.

Among the pieces on display were some accomplished, eye-catching etchings by Dan Raz. A fourth-year student who will be taking his residency in general surgery at the University of California at San Francisco, Raz came to Penn from M.I.T., which is not usually thought of as a hotbed of artists. Before beginning his medical studies, he had worked on his painting technique at Belazel Academy of Art and Design in Jerusalem. While still learning the basic sciences in Penn's medical curriculum, Raz continued to paint. He worked for a while with painter Barbara Grossman, an adjunct associate professor at Penn's Graduate School of Fine Arts, bringing in his work every week or two for her expert perusal.

The etchings, however, are a departure for him, and he readily admits that he's still learning. Done in a style that may remind some people of the pen-and-ink drawings of Ralph Steadman, all four of the etchings have themes drawn directly from his clinical training. But that's not surprising, as Raz points out, because "It's all I do." In time, he predicts, "I'll get sick of it," and some other subject matter will no doubt take its place.

Raz learned how to make etchings in a "little class" at Philadelphia's Fleisher Art Memorial. To make a metal plate for printing, he uses a piece of metal – zinc or copper – and covers it with "ground" such as asphalt. He then uses any sharp tool to etch into the ground. When he puts the metal in acid, it burns only where the tool has exposed the metal. Finally, he makes the print.

"It's just really important to me," Raz says of his art. "It's a way for me to organize my thoughts or to comment on my experiences." Not only that, he says, when he creates his art, "I find I learn things about my experience."

The etching called "I do too eat my fiber!" (a.) is subtitled "3 Silver." (Raz took his three-week rotation in ambulatory care at the Silverstein Pavilion.) It is inspired by "an actual scene": two elderly sisters came in arguing with each other and did not stop for the whole visit.

"S/P facelift" (b.) comes from Raz's plastic-surgery rotation. The standing figure, looking a little ominous, is an anesthesiologist.

"Surgery in Two" (c.) seems both somewhat more primitive in style (there is less detail) and more surrealistic (the patient's body does appear to be in two pieces).

"Labor and delivery" (d.) expresses Raz's sense of "how chaotic the deliveries were" during his rotation. It shows the patient, the resident, family members – and a cat, casually perched on the patient's upraised knee!



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# Another Alan

*By Cathy Crimmins*



A WRITER HELPS NURSE HER HUSBAND BACK FROM **TRAUMATIC HEAD INJURY** – AND WATCHES A DIFFERENT PERSON EMERGE IN RECOVERY.

In the summer of 1996, Alan Forman was struck on the head by a motorboat while his family was on vacation in Canada. That terrifying event began an ordeal that his wife, Cathy Crimmins, eventually felt compelled to record in writing. A widely published author of humorous books, Crimmins brought a different palette to this wrenchingly personal story of Forman's traumatic brain injury and his long recovery. But she also made use of humor, if only to help keep herself sane as she took on the role of caregiver and learned to deal with the changed man who was her husband. Four years after his injury, Forman had recovered well enough to attend a book-reading in Philadelphia and chat with questioners. Yet his personality, according to Crimmins, had changed.

*Where Is the Mango Princess?* was published in 2000 by Knopf and issued in paperback by Vintage in the fall of 2001. The title is one of the first sentences Forman uttered after coming out of his coma – and it was a question Crimmins was unable to answer. This excerpt from the book illustrates in an engaging, often poignant way how the hospital experience looks from the eyes of a family member and caregiver.

As a Philadelphia resident who had attended the University of Pennsylvania, Crimmins knew the reputation of its hospital. One of her early struggles was to get Forman moved from Canada to HUP.

They're moving Al to a "real" hospital room, and I've been busy making arrangements for our eventual return to the States. It hasn't been easy. Sometimes I think they'll need two stretchers – one for each of us – after I have a heart attack screaming at HMO representatives.

Every phone call is grueling, since I must explain the accident and Alan's condition over and over. Dr. Andy, a family friend, has recommended a number of

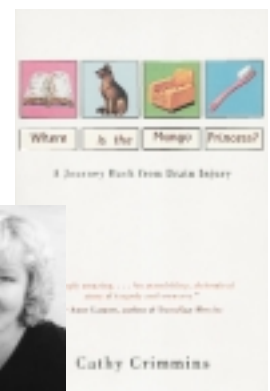
neurosurgeons he knows in Philadelphia, because I can't get Alan flown back home until he is officially accepted as a patient by a neurosurgeon at an acute-care facility. We will then move him to a rehabilitation hospital. But both

places have to be approved by our HMO, as does any doctor. . . . My writing partner, Tom Maeder, calls doctors he knows at the Hospital of the University of Pennsylvania, which everyone in Philly calls by its odd acronym, HUP. "Cathy is not only looking for a good neurosurgeon," he tells them, "she is looking for someone who can communicate with her. She gets pissed off easily at pretentious doctors." Dr. Eric Zager's name emerges as a possibility: "You'll like him," Tom's doctor friend says. "Eric is not only good, he's a mensch." That's just what I want to hear.

I'd never met David Nicklin, M.D. '81, Alan's primary-care physician. Al had switched to him only a few months before because he had been impressed by David's caring attitude toward an elderly client. I enter David's life screaming. He is a very patient man. He gets involved, talking to me on the phone and trying to sort out just what Alan needs and how we're going to get it for him. He speaks with the Canadian doctor and sets things up with HUP. Now there is the matter of getting Alan down there by plane ambulance.

"We're not so sure that your husband's condition warrants an air ambulance," says Timothy Somebody, Al's so-called case manager from our HMO. (I often wonder why these people don't proudly print the title Benefits Denial Specialist on their business cards.)

"I don't think you understand that my husband has suffered a severe brain injury. No way is he going



by land ambulance. That's over eight hours!"

"Well, I am doing my best. I will let you know."

That is just the first conversation about Al's transfer to the United States. Eventually Tim Somebody angers me so much that I start swearing as soon as we begin talking. I imagine him, his top shirt button undone, tie askew, sitting in a cubicle in a corporate park in North Carolina. He goes to work each day, puts on a headset, and listens to some crazy lady in Canada scream.

A social worker shows up to interview Alan and evaluate his level of independence, using the Functional Independence Measure (FIM). Realizing immediately that Alan cannot answer any questions, she asks if I will accompany her to the lounge, where she begins: Can your husband walk? Can he use the bathroom? Can he dress himself? Can he feed himself? Can he groom himself? "No" on all counts. Al scores a perfect zero on the FIM scale of independent living. He is now officially totally disabled and dependent.

When we get to HUP, it is nearly eight at night. Al is dehydrated and totally disoriented. For the first time since he awoke from his coma, he cannot respond to simple commands. And when the doctors at HUP ask him who I am, he says in a slurred voice, "I don't know."

The first night, they've put Alan in a double room. He's seriously regressed since the ordeal of the flight. Even his speech is less clear. He is fascinated by the other guy's television set. "Wha dat?" he keeps saying, trying to move his head to catch the images.

The neurosurgeon doesn't come around that first night (we've gotten to HUP too late for rounds), but some residents do, and we have our first skirmish. Exhausted, I can't believe I have to start pissing all over my turf again.

The neurological resident orders a neck brace for Al, and I tell him I don't want it.

"But we don't know for certain that his neck isn't involved," he says.

"We do," I say. "His neck is fine. The chart will tell you. Check the chart. He's been cleared. Please don't put a collar on – it will make him even more nuts."

"The neurosurgeon recommends it."

"Well, I refuse it. I don't want it."  
"I'll have to note that you are refusing our recommendation."  
"Fine."

The resident writes "WIFE UNCOOPERATIVE" on the chart.

A team of rehabilitation doctors comes by, and Al does terribly. He has ceased playing with the TV re-



mote and is now a zombie. He won't even respond to commands – no lifting his arms and legs, no squeezing hands. I try to tell them that he is "oriented in one sphere" – in other words, he knows who he is but not where he is or what day it is. But now he doesn't even know his name. He no longer seems to recognize me.

Eric Zager, the neurosurgeon, comes to see Al that first morning, and afterward we go to his office to talk. He's wearing his scrubs and bright yellow rubber clogs. He apologizes for the neck brace. I like him a lot. He's interested in what our lives were like before this accident and who Alan really is. He has ordered some MRIs and other tests. The diagnosis is not a surprise: severe traumatic brain injury (TBI), with no real certainty of a good outcome. He says it will be a long time before Alan gets better and that he won't be exactly as he was before. I tell him the whole story of the accident, and we discover that Eric worked with Dr.

Andy, too, and really admires him. Whether it is because Al is obviously going to drive any roommate crazy or because Eric Zager likes us, I find out that Al is being moved to a private room.

The room, tucked away in a corner behind the nurses' station, has only one drawback: it's next to the rooftop helicopter pad. HUP is a well-known, respected hospital. People and organs are flown in and out nearly hourly, but Alan never seems to notice the deafening whirring noise of the choppers outside his room's tiny window. It's like being in a *M\*A\*S\*H* episode. The copters are so loud during a landing or takeoff, you can't hear a person speak even a foot away, but Al never even asks about the noise.

Yet other, smaller noises or stimuli now plague him. I will be trying to talk to him, and he'll hear a phone ring at the nurses' station fifteen feet away. "What dat?" he will say immediately. Or a nurse will be taking his temperature and he'll suddenly become disturbed about an open paper bag sitting on a radiator across the room. He won't be happy until I go over and close the bag or move it somewhere else. Like a child, he can be distracted by the tiniest things.

Distractibility. So far Al's biggest symptoms have been agitation and confusion, but I am learning that he will manifest more side effects, adding them like lasagna layers to the casserole of bizarre behavior that constitutes TBI. The injured brain loses its ability, either briefly or forever, to filter out distractions and concentrate on the task or conversation at hand. Sometimes such behavior is called "inattention." In physical or occupational therapy for the brain-injured, the therapist must get the patient to pay close attention to the task at hand, whether it be learning to walk or creating a list of chores. HUP's physical therapy area is terrible for Alan – it's big, with lots of swirling action all about. When they take him down there daily, they just drape him over some parallel bars, and he does nothing. He never makes any progress.

He's like a toddler, too, in that he could play peek-a-boo endlessly. He's lost his sense of object permanence. As soon as someone leaves the room, he forgets entirely that the person has been there. I can be with him for hours by his bedside and then go to the ladies' room out in the hallway. When I return three minutes later, he's genuinely surprised to see me. "Wow," he says. "Hi!"

For weeks, masturbation becomes Al's hands-on public hobby. One nurse tells me that Al is upsetting everyone and it's up to me to keep him from masturbating.

The frontal lobes control our sense of propriety, and when they are damaged, disinhibition becomes a major symptom. Like a small child or a sloshy drunk, the severely brain-injured person just says or does whatever pops into his head, especially in the early stages of recovery.

The masturbation is just the first sign that Alan has entered an extreme disinhibited phase. He now has two speeds: zombie and loony. He throws things, too. One day his parents are visiting. Someone hands Alan a nectarine and he looks at it closely, as if he doesn't have the slightest idea what it is. Then, without warning, he hurls the fruit directly at his father's head a few feet away. Later he will do the same with oranges, plastic forks, and hard candies.

Aside from its general entertainment value, disinhibition after brain injury has its bright side as a brain injury sequela. Our friend Dr. Andy is glad to hear about Al's shenanigans. He tells me over the phone that it's much better to exhibit disinhibition than its opposite symptom, a general withdrawal from life. He says a brain injury patient like Alan can eventually learn to control his disinhibition.

Nurse Megan Dougherty, a tall, sturdy blond woman, is particularly good at jollying Al into doing things. Megan doesn't cringe when he yells obscenities at her or throws his food.

One day Megan is there with Alan when I arrive, and rolls her

eyes as I enter the room.

"We were a little wild today already," she says. "He's a wild thing."

"Wild Thing," I say. "That's Al's favorite song. He sang it at our wedding. Right, Al? The song 'Wild Thing,' remember? 'Wild Thing, I think I love you - but I gotta know for sure!'"

Al stares at me with the poker face of brain injury. "There is no song called 'Wild Thing,'" he says.

Of all his addled comments, this one hurts the most. We have a painting done by a friend that shows Al singing "Wild Thing" to me. He's also sung it at four other weddings. Oh, God, to lose "Wild Thing"! It is tantamount to saying that our past together doesn't exist, and right now that's all we have.

A day later, I'm sitting in the lounge, crying, when Megan comes in and sits down beside me.

"This happened to my brother," she says. "And he did all of these things. We're just beginning to tell him some of the crazy things he did after his brain injury."

It took eight months, she says, but her brother, who sustained his injury in a car accident, eventually went back to work. An engineer, he now needs to carry a book with him at all times to remind him of people and dates and specific tasks. But he has gone back to work. "It passes, this stuff," she says as I sob.

Al is also being attended by another doctor at HUP, Everett Hills, a rehabilitation specialist. Soon he will make the transition to a rehab hospital, and Everett is evaluating his strengths and weaknesses.

The first time Dr. Hills arrives, Al is in one of his agitated states. He seems to have particular hours, like a colicky baby, when he is impossible, especially at the end of the afternoon. I feel protective and wish that the doctors would stop by when he is "sharp," although I've lowered my definition of that term considerably.

This time, Al is an inarticulate mess. He is moaning and groaning. He squirms as if in excruciat-

ing pain. "Do you have a headache, Mr. Forman?"

"Nah."

"How about your legs or your back?"

"Nuh."

"Mr. Forman, can you tell me where it hurts? Where does it hurt?"

"It hurts in my soul," Alan says.

One day, around lunchtime, I return from an errand to see Al propped up in bed, regaling visitors with his mastery of baseball statistics. I've never seen Al quite this comfortable being the center of attention - this is the good side of disinhibition. He appears totally confident in his power to entertain. He looks great, he sounds totally lucid. These people are probably wondering why I've been making such a fuss about his brain injury.

But all of a sudden Al stops talking and turns to me. "I want to call Cathy."

I laugh lightly. "Al, I'm here. You don't have to call me. Here I am."

"No, I want to call Cathy. The Other Cathy. The one at home."

The relaxed tone of the room collapses as Al continues to insist on calling "the Other Cathy." Eventually I hand him the phone. The visitors shift uneasily in their seats.

Alan remembers our phone number and dials it, getting the answering machine. It is a very odd feeling, hearing him leave a message for me while I am sitting right there beside him. I try to keep smiling. He doesn't say much, just that he is calling me to say hello and that everyone is there with him and they wonder how I am doing. "This is your husband," he says. When I get home, I play it back, and I realize how appropriate it is that he wants to talk to the Other Cathy; after all, he is now Another Alan.

*From Where Is the Mango Princess? By Cathy Crimmins  
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## A Medical Colossus Dies

Jonathan E. Rhoads, M.D., G.M.E. '40, 94 years old, professor of surgery and an inspiring presence at the School of Medicine and the Hospital of the University of Pennsylvania for nearly seven decades, died during the early morning hours of January 3. His death followed a battle with gastric cancer. Rhoads had been a patient in the hospital pavilion that bears his name, dedicated in 1994.

Born in the Germantown section of Philadelphia on May 9, 1907, Rhoads arrived at HUP for his internship in 1932. In the time since then, as the administration's memo announcing Rhoads's death put it, "he became one of Philadelphia's most distinguished citizens, renowned as a researcher, scholar, and leader in medicine, academe, and civic affairs." When Rhoads received the first honorary Doctorate of Medical Sciences awarded by Yale University in 1990, the citation noted that "you are considered by Philadelphia colleagues to be a clone of Benjamin Franklin." Rhoads's admirers considered it entirely appropriate that he received the Philadelphia Award during the nation's Bicentennial celebrations and later served for eight years as president of the oldest and most exclusive of the country's learned societies, the American Philosophical Society, founded by Franklin.

Despite the many accolades he received, Rhoads retained a sense of modesty. In "Memoir of a Surgical Nutritionist," published in *JAMA* (1994), he wrote: "I have

personally benefited from discoveries made by people whom I knew, and my life has been frequently enriched by the privilege of working with, and being with, people who were gaining new knowledge. Without these collaborators, it is doubtful that I alone would have accomplished much. But one's failures can be more illuminating than one's successes."

Rhoads held more than 20 hospital and University positions over the years. In addition to serving as chairman of the Department of Surgery from 1959 to 1972, Rhoads was provost of the University from 1956 to 1959, the first member of Penn's medical faculty to hold the position of Penn's chief academic officer. Rhoads was a close colleague of I. S. Ravdin, whom he credited for helping launch his career. In 1959, he succeeded Ravdin as the John Rhea Barton Professor and Chairman of the Department of Surgery. Under Rhoads's leadership, Penn's surgical residency program produced more than five dozen surgeons who have served as faculty members in more than 30 schools; eleven have been chairmen.

Rhoads also served as director of the Harrison Department of Surgical Research. He was one of the very few recipients of the School of Medicine's Distinguished Graduate Award (1993) who had not earned his M.D. from Penn.

On the national scene, Rhoads held numerous positions of leadership and received many honors. A

former president of the American Cancer Society, he was editor of its medical journal, *Cancer*, for two decades. He was appointed by President Nixon to the National Cancer Advisory Board, which he chaired from 1972 to 1979. Rhoads was the recipient of the Medallion of the Surgeon General of the United States, the American Medical Association's Sheen Award for Scientific Accomplishment, the National Cancer Institute Medal, and the American Cancer Society National Award. He was also a member of the Institute of Medicine of the National Academy of Sciences.

A prolific author, Rhoads published more than 350 articles and papers. He was editor of a leading textbook in the field, which went through four editions. His research culminated with the development of an intravenous nutrient mixture that was demonstrated for the first time to be capable of supporting normal growth in young animals and in children with severe bowel disease who received no food by mouth – in short, total parenteral nutrition. Rhoads and his younger colleague, Stanley J. Dudrick, M.D. '61, G.M.E. '68, received the Goldberger Award from the American Medical Association for this work. Rhoads was also recognized for his work in cancer surgery and was a leader in the study of shock, burns, and the use of Vitamin K and coumadin for coagulation defects.

Rhoads was chairman or president of numerous organizations, including the American College of Surgeons, the American Surgical Association, the Society of Surgical Chairmen, and the College of Physicians of Philadelphia. He also received honorary degrees from numerous institutions, including the University of Pennsylvania.

Rhoads married Teresa Folin, the daughter of a well-known Harvard biochemist, in 1936, but was widowed in 1987. He is survived by many children, grandchildren, and great-grandchildren, as well as by his second wife, Katharine Evans Goddard Rhoads. ■

## Progress Notes

compiled by Erin Hennessy

Send your progress notes to:  
**Office of Medical Alumni Relations**  
University of Pennsylvania  
Medical Center  
Suite 750  
3535 Market Street  
Philadelphia, PA 19104

### 30's

**William I. Gifter, M.D.** '39, is the author of *Quality Living in the Semicircle of Life*. Recently published by Rutledge Books, Inc., the book is based on a series of lectures given at elderhostels and learning-in-retirement programs. Gifter addresses ethical issues affecting health care and quality of life, including doctor-patient relationships, diet, medication, biotechnology and medical research, decision-making about late-life care, and health-care reform.

### 50's

**Walter M. Bortz, M.D.** '55, serves as coordinator for the development of the Palo Alto Medical Foundation's Wellness Center. His most recent book, *Living Longer for Dummies*, was published by Hungry Minds in 2001.

**Tsung O. Cheng, M.D., G.M.** '56, professor of medicine at the George Washington University, was elected honorary president of the China Heart Failure Association at its 6th Annual Scientific Meetings (the 10th anniversary of the association's founding). In 2000, Cheng served as a visiting professor at the University of Madrid, the University of Cordoba, and the University of Las Palmas, all in Spain, and was the invited guest at the Annual Congress of Spanish Society of Cardiology in Granada.

### 60's

**Stanley A. Plotkin, M.D., G.M.E.** '63, a consultant to Aventis Pasteur, in Paris, was named this year's recipient of the Richard D. Wood Distinguished Alumni Award, presented by The Children's Hospital of Philadelphia. The award recognizes his internationally renowned research in the field of immunology and infectious disease. Plotkin has worked on the development of vaccines for polio, rabies, varicella, and cytomegalovirus and is the inventor of the rubella vaccine now used to prevent illness in children throughout the world. A former professor of pediatrics and of microbiology at Penn, he also served as director of infectious diseases at CHOP.

**Marvin L. Corman, M.D.** '65, writes that, after 20 years in Southern California, he has become vice chair of the Department of Surgery at both the North Shore Medical Center and Long Island Jewish Medical Center. He also serves as associate surgeon-in-chief at Long Island Jewish.

**William M. Thompson, M.D.** '69, was honored by three national societies last year. He received the Canon Medal from the Society of Gastrointestinal Radiologists, the Gold Medal from the Association of University Radiologists, and the Achievement Award from the Association of Program Directors.

**John N. Thurman, M.D.** '67, who practices at Internal Medicine Associates of Delaware County, received the Sylvan Eisman Outstanding Primary-Care Physician Award. The award is presented annually to five physicians in the University of Pennsylvania's network of primary-care practices.

### 70's

**Joel A. Griska, M.D.** '71, who practices at McKee, Shepard, and Griska Medical Associates, was named one of the five recipients of the Sylvan Eisman Outstanding Primary-Care Physician Award. Each year, winners are selected among the physicians who are part of Penn's primary-care network.

**Alan R. Cohen, M.D.** '72, G.M.E. '76, professor of pediatrics and chief of the Division of Hematology at The Children's Hospital of Philadelphia, was appointed chair of the Department of Pediatrics at Penn's School of Medicine. He was also named physician-in-chief at Children's Hospital. A well-known expert in thalassemia (Cooley's anemia), hemophilia and other bleeding disorders, and sickle cell disease, Cohen is a former president of the American Society of Pediatric Hematology/Oncology. Chair of the medical advisory board of the Cooley's Anemia Foundation, he serves on the scientific advisory board of the Thalassemia International Federation.

### 80's

**S. Bruce Malkowicz, M.D.** '81, was inducted into the Society of Pelvic Surgeons last year. Associate professor of urology at Penn, he is co-director of its Urologic Oncology Program.

**Mark H. Schiffman, M.D.** '82, an environmental epidemiologist at the National Cancer Institute, has been elected to the Johns Hopkins University Society of Scholars. The Society, which elected 14 other scientists and clinicians this year, honors former postdoctoral fellows as well as junior or visiting faculty. Schiffman was honored for his studies of papillomavirus in the etiology of uterine cervical cancer.

**Jeffrey L. Apfelbaum, M.D., G.M.E.** '83, was recently ap-

pointed professor of medicine and chairman of the Department of Anesthesia and Critical Care at the University of Chicago.

**Moshe Sadofsky, M.D.** '85, Ph.D. '85, is now associate professor of pathology at the Albert Einstein College of Medicine.

**James T. Handa, M.D.** '86, writes that, after 8 years at University of California at Davis, he has accepted a position as associate professor in the vitreoretinal service at the Wilmer Eye Institute at Johns Hopkins University, where he will have both clinical responsibilities and a laboratory effort. Handa recently was awarded an RO-1 grant from the NEI to study mRNA phenotypic changes during the development of age-related macular degeneration.

### 90's

**Alan D. Dardik, M.D.** '90, Ph.D., has joined Yale University School of Medicine, as part of its Section of Vascular Surgery. He had been at Johns Hopkins Hospital.

**Kenneth G. Schellhase, M.D.** '94, M.Ph., notes that he is now on faculty at the Medical College of Wisconsin in the Department of Family and Community Medicine. He also has joined Wisconsin's Center for Patient Care and Outcomes Research. He continues to do research in clinical care and health services in addition to teaching in the department's residency program.

**David J. Collier, M.D.** '97, has joined CMEA Ventures in San Francisco as a general partner in its new \$163 million life science venture capital fund. Collier was formerly a managing director at Burrill & Company.

**Monisha Seth, M.D.** '98, has joined the staff of Internal Medicine Associates of Delaware County, part of Penn's network of primary-

care practices. She had been seeing patients at the site while training through Penn's Internal Medicine Residency Program.

**Eric Fleegler**, M.D. '99, is in his third year of pediatric residency at Boston Children's Hospital. He notes that he will likely pursue a fellowship in pediatric emergency medicine.

## OBITUARIES

**Herman Gold**, M.D. '31, Glen Mills, Pa., a retired cardiologist at Crozer-Chester Hospital in Pennsylvania; May 19, 2001. Born in Kamonetz-Poldosk, Ukraine, he emigrated from Argentina to the United States when he was 16. He earned his B.S. degree from Penn in 1928. He served a rotating internship at Chester Hospital and went into private practice in Chester. He subsequently undertook post-graduate training in allergy, in internal medicine, and finally in cardiology. Gold played a critical role in the development of Crozer-Chester Hospital into a regional medical center. He recruited many of the original physicians and developed the cardiology department, the executive health program, and teaching programs affiliated with Hahnemann Medical School, where he became a professor of medicine (cardiology). During his days of general practice, he cared for many patients who had contracted anthrax at Sackville Mills in Wallingford, Pa. Gold collaborated with the Centers for Disease Control in the development and clinical testing of the first effective vaccine against anthrax. His research on tetanus toxoid provided the basis for routine immunization of U.S. troops during World War II and the elimination of tetanus as a complication of war wounds.

**Edwin Ragnar Irgens**, M.D. '32, Sarasota, Fla.; March 5, 2001.

**Maj. Gen. Henry S. Murphey**, M.D. '32, Mineral, Va., former commanding general of Walter Reed Army Medical Center; June 26, 2001. He served with the United States Army from 1932 to 1965. He was in Honolulu at the time of the attack on Pearl Harbor and commanded a General Hospital during World War II. He landed at Normandy in July 1944 and set up his hospital at sites like Verdun and Berlin. His decorations included the Army Distinguished Service Medal, the Legion of Merit, and the Bronze Star. He commanded Walter Reed from 1962 to 1965. After retiring from the Army, he was medical director for Landis State Hospital in Philadelphia. A fellow of the Society of Military Otolaryngologists, Murphey was also a member of the American College of Surgeons and the College of Physicians of Philadelphia.

**Edwin L. Lame**, M.D. '33, Gladwyne, Pa., a retired radiologist who has been on the medical staffs of several Philadelphia-area hospitals; June 3, 2001. As director of radiology at Presbyterian Hospital from 1947 to 1966, he was among the earliest physicians in the country to use high doses of x-rays to treat patients with malignant lymphoma. A former chief of radiology at Jeanes Hospital, he had been a clinical associate professor of radiology at Penn's School of Medicine. Lame was a member of numerous professional societies, including the American College of Physicians and the American Roentgen Ray Society.

**Sydney Borow**, M.D. '34, G.M. '46, Philadelphia; May 11, 2001. A pediatrician, he practiced out of an office in his Mayfair home for 58 years. He was also on staff at St. Christopher's Hospital for Children, Frankford Hospital, and the Albert Einstein Medical Center. During World War II, he served as a captain in the Army.

**John Paul English**, M.D. '35,

Philadelphia; February 12, 2001. He was a resident and then first assistant in medicine at the Mayo Clinic in Rochester, Minn., before joining the South Bend Clinic in South Bend, Ind. An internist, he was a fellow of the American College of Physicians and a Diplomate of the American Board of Internal Medicine.

**Herbert F. Sudranski**, M.D., G.M. '39, Roanoke, Va.; May 18, 2001. He was an ophthalmologist for Veterans Affairs Hospital in Salem, Va.

**Shelly Allender Swift**, M.D. '40, Bountiful, Utah; July 28, 2001. He was director of St. Mark's Hospital Laboratory for 35 years, a professor at the University of Utah, and medical examiner for the State of Utah. He also combined teaching with his extensive travels, teaching classes for the American College of Pathologists across the country. During World War II, Swift received a Bronze Star for his service in China and Burma.

**Edward A. Bachhuber**, M.D., G.M. '41, Mayville, Wis.; January 8, 2000.

**Harry Colombo**, M.D., G.M. '41, Montpelier, Vt., November 1, 2000.

**Merrill Alpheus Swiney III**, M.D. '41, Spring Lake, N.J.; May 5, 2001. He practiced obstetrics and gynecology at the Margaret Hague Maternity Hospital in Jersey City for twenty years, and then switched to family medicine until his retirement in 1985. Swiney was a professor at the New Jersey College of Medicine and a fellow of the American College of Surgeons.

**Donald R. "Coop" Cooper**, M.D. '42, Gladwyne, Pa., June 16, 2001. He taught at the Medical College of Pennsylvania and at Penn's School of Medicine. Well known for his pioneering work on electrolyte balance in trauma and surgery, he served as chief surgeon and later consultant surgeon at Philadelphia General Hospital.

He was also a consultant surgeon at the Veterans Administration Hospital and at the Philadelphia Naval Hospital. He served on the board of governors of the American College of Surgeons and on the board of Pennsylvania Blue Shield.

**John C. Lilly**, M.D. '42, Maui, Hawaii, a neuroscientist and writer; September 30, 2001. In World War II, he did research on the physiology of high-altitude flying and invented instruments for measuring gas pressure. Back at Penn, he studied biophysics, focusing on the physical structures of the brain and devising pain-free methods for introducing electrodes deep in an animal's cortex. In 1953, he took a position with the Public Health Service Commissioned Officers Corps, where he studied neurophysiology. In the mid 1950s, he designed the isolation tank for studying sensory deprivation. Later in the decade, he began his well-known studies of dolphins and established the Communication Research Institute on St. Thomas in the Virgin Islands. In the early 1960s, Lilly and colleagues published several papers showing that dolphins could mimic human speech patterns with their clicks, squeaks, and rasping. Among Lilly's 12 books are *Man and Dolphin* and *The Mind of the Dolphin*, and he sought to find ways to bridge the gaps between humans and dolphins. *The Center of the Cyclone* (1972) described the first time he used LSD in an isolation tank. His work inspired two movies, *Day of the Dolphin* (1973) and *Altered States* (1980).

**Victor Montilla**, M.D., G.M. '42, San Juan, Puerto Rico; June 4, 1994.

**Josephine Nina Randall**, M.D. '42, Abington, Pa.; June 29, 2001. Randall and her husband opened a pediatrics office at their home in 1947; she continued to practice until her death. She was a physician in the Abington School District and director of health services



at Beaver College. In 1976, she helped found the National Association for Anorexia Nervosa and Associated Disorders, and she served as its director. Randall also served as president of the Philadelphia Academy of Pediatrics.

**I. Lewis Chipman Jr., M.D.**, '43, G.M. '49, Jacksonville, Fla.; March 7, 2001.

**Sanford Marcus, M.D.**, '44, G.M. '51, Daly City, Calif.; April 2, 2000.

**Alexander H. O'Neal Jr., M.D.**, '45, G.M.E. '49, Wayne, Pa., a retired family-medicine practitioner; March 4, 2001. At Bryn Mawr Hospital, he had been chairman of the medical advisory committee of the home-care department and was senior attending physician in the family-practice department. After retiring, he remained active with the Radnor Fire Company ambulance service, the Neighborhood Visiting Nurse Association, and other community causes.

**Mark W. Muir, M.D.**, '46, G.M. '50, Salt Lake City, Utah; April 18, 2001. He practiced surgery in Salt Lake City for 37 years, mainly at the LDS Hospital and Primary Children's Medical Center. A fellow of the American College of Surgery, he represented the Utah Chapter for six years on the college's Board of Governors.

**Clyde T. Stoner, M.D.**, '46, G.M. '60, Pompano Beach, Fla.; February 27, 2001. During World War II, he was a doctor in the Army Air Corps. He practiced in Portland, Ore., and Wynnewood, Pa., before moving to Pompano Beach in 1967. He was on the staff at North Broward Medical Center.

**Mary Cregar Berwick, M.D.**, G.M. '49, Wallingford, Pa.; May 21, 2001. She joined the pathology department of the School of Medicine in 1951. She interrupted her career to have a family, but returned to Penn Med in 1972 as medical librarian, where she remained

until her retirement in 1992.

**Howard J. Fuerst, M.D.**, '49, La Jolla, Calif., a retired internist; October 4, 2001. He practiced internal medicine in South Florida for 35 years and was first chief of staff of Aventura Hospital in North Miami Beach. He served on the board of the Prostate Cancer Research and Education Foundation.

**Harold Harvey, M.D.**, G.M. '49; Lincoln, Neb.; August 10, 2000.

**Joseph T. Ichter III, M.D.**, '51, Millersville, Pa., former medical director of Qual-Med of Pennsylvania; March 2, 2001. He served in the Navy during World War II. He was a fellow of the American Medical Association.

**Aureo Calderon, M.D.**, G.M. '52, Carolina, Puerto Rico; March 1982.

**Charles O. Rose, M.D.**, '52, Bryn Mawr, Pa.; May 21, 2001. He practiced obstetrics and gynecology for more than 35 years, serving on the staffs of Bryn Mawr and Lankenau hospitals. He also served as chairman of obstetrics and gynecology at Riddle Memorial Hospital. During World War II, Rose served with the Navy in the South Pacific and commanded a landing ship transport.

**Ben Estes, M.D.**, G.M. '53, Fort Worth, Texas; October 14, 1998.

**Phillip W. Hall, M.D.**, '58, G.M. '62, Daytona Beach, Fla.; January 3, 1991.

**Hubert C. Swartout, M.D.**, G.M.E. '58; Estes Park, Colo.; September 26, 2000.

**William A. Stark, M.D.**, G.M. '59, Michigan City, Ind., a retired orthopaedic surgeon; June 3, 2001. An elder of First Presbyterian Church in Michigan City, he was a former major in the United States Air Force. He had served as president of the Indiana Orthopedic

Society and of the LaPorte County Medical Association. He had also been president of the medical staff of St. Anthony Memorial Health Centers.

**Laurence H. Snow, M.D.**, G.M.E. '62, Bryn Mawr, Pa., former clinical professor of psychiatry at Penn; May 4, 2001. He earned his medical degree from Temple in 1956, then served in the U.S. Navy before completing his residency in 1962. He taught at Penn from 1979 to 1984. Earlier, he founded and directed the graduate program in social sciences at the Medical College of Pennsylvania. He was author of a textbook, *Contemporary Psychiatry* (1972), that had been used at several colleges.

**Robert Berberich, M.D.**, '64, North Bethesda, Md., psychiatrist; February 22, 2001. Chief of psychiatry at Suburban Hospital in the early 1980s, he was a member of the American Psychiatric Association and of the Baltimore-Washington Institute for Psychoanalysis.

**Sterrett Mayson, M.D.**, '74, Wyndmoor, Pa., psychiatrist; September 28, 2001. He did part of his psychiatric training at Tufts New England Medical Center and was on the faculty of the Institute of the Philadelphia Association for Psychoanalysis in Bala Cynwyd, Pa.

**Garret J. Derbyshire, M.D./Ph.D.**, '89, G.M.E. '93, Watertown, N.Y., chairman of the Department of Anesthesiology at Samaritan Medical Center; April 27, 2001, when his gyrocopter crashed. He was a graduate of Penn's combined-degree program, earning his Ph.D. degree in bioengineering. He had taken his internship in internal medicine at Abington Memorial Hospital. From 1998 to 2000, he chaired Samaritan's pharmacy and therapeutics committee, and he was a clinical assistant professor of anesthesiology at Upstate Medical University in Syracuse. In 1991, Derbyshire was granted a U.S. patent for

an expandable transluminally implantable tubular prosthesis. His wife is Rachel E. Lewis, M.D. '86, G.M.E. '90, a dermatologist.

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## FACULTY DEATHS

**Michelle M. Battistini, M.D.**, Northfield, N.J., assistant professor of obstetrics and gynecology and director of Penn Health for Women; September 5, 2001, in an automobile accident. She earned her medical degree in 1983 from the Medical College of Pennsylvania, where she also did her residency. She joined Penn's faculty in 1994 to start a comprehensive women's health program, Penn Health for Women, a multidisciplinary program that was one of the cornerstones for the opening of Penn Medicine at Radnor. According to Michael T. Mennuti, M.D., chair of Penn's Department of Obstetrics and Gynecology, "Michelle's passion for the highest quality of health care and service for women enabled her to recruit a fine team of physicians and support staff. Her personal charisma and reputation for menopause care led to an enormous demand from patients for her services." The program became the clinical arm of Penn's NIH Center of Excellence for Women's Health and a model that has been emulated by others. In 1999, Battistini received the Sylvan Eisman Outstanding Primary-Care Physician Award from Penn Med, and last year she received the Excellence in Teaching Award from the Association of Professors of Gynecology and Obstetrics. With a growing national and international academic reputation as an expert in menopause care, she most recently lectured to the Japanese Society of Obstetrics and Gynecology on menopause management of women who are survivors of breast cancer.

**Mary Cregar Berwick, M.D.** See Class of 1949.

**Donald R. "Coop" Cooper,** M.D. See Class of 1942.

**Helen O. Dickens, M.D., G.M.** '45, emeritus professor of obstetrics and gynecology; December 2, 2001. She received her medical degree in 1934 from the University of Illinois School of Medicine, the only African-American woman in her class. After graduation she worked at Provident Hospital in Chicago then practiced in North Philadelphia. In 1945, she became the first female African-American board-certified in obstetrics and gynecology in Philadelphia, and she was appointed director of the ob/gyn department at Mercy Douglass Hospital in Philadelphia. She joined the courtesy staff of Women's Hospital in 1951; five years later, she became a member of the ob/gyn staff and faculty in Penn's School of Medicine when Penn acquired Women's Hospital. At that time she was the first African-American woman to serve in this position. In 1967, Dickens founded the Teen Clinic at Penn for school-age mothers in the inner city. She also started a program funded by the National Institutes of Health that encouraged doctors to perform Pap smears to test for cervical cancer. In 1969 Dickens was named associate dean for minority admissions at the School of Medicine. In that role, she helped recruit African-Americans to the medical school. In 1982, she received an honorary degree from Penn; she also received one from the Medical College of Pennsylvania. The Helen O. Dickens Center for Women's Health at HUP was named for her in 1999 in honor of the 50 years she "dedicated to healing, helping and guiding women of all ages." A former president of the Pan American Medical Women's Association, she was a member of the board of directors for the American Cancer Society, the Children's Aid Society, and the Devereaux Foundation. Her many awards included the Gimbel Philadelphia Award for "outstanding service to humanity." In 1995, she also received the

Family Planning Council of Southeastern Pennsylvania Award for her "lifelong contributions to women's health care both as an outstanding teacher-clinician and as a pioneer in programming to assist teen-aged mothers in the region to complete their education." The highest honor of the annual Penn Women of Color celebration was named for her; it is awarded to exemplary candidates with a long history of service to women of color in the Penn and Delaware Valley communities.

**Thomas F. McNair Scott, M.D.,** emeritus professor of pediatrics, Philadelphia; November 25, 2001. He was the first professor of pediatrics at Temple University, then the first director of the Research Department at The Children's Hospital of Philadelphia and professor of pediatric research at Penn, where he taught for 35 years. After retirement, he moved to Hahnemann Medical School as director of pediatric ambulatory education. Among his contributions to medicine were the discovery and characterization of the lymphocytic choriomeningitis virus (LCMV), the early use of tissue culture for growing viruses, and the identification of the cause of atypical measles. Born in Inchbar, Scotland, he took a fellowship at Boston City Hospital and a pediatric residency at Johns Hopkins. In 1936, Scott returned to London to be the first pediatrician to head the children's service at St. George's Hospital. In 1938, he joined Temple University, then moved to CHOP in 1940. After World War II, Scott resumed his position as director of research at Children's Hospital, building what is now the Joseph Stokes Research Institute. In 1959, he served as principal investigator for the Philadelphia portion of an NIH longitudinal study of roughly 50,000 children, to learn what happens to children from birth to age eight.

**Laurence H. Snow, M.D.** See Class of 1962.

## Returning the Favor



**W**hen Ralph Weaver, M.D., C'41, M'44, recalls his days as a Penn Med student, he thinks of his teachers first. "I enjoyed every day of medical school because I learned something every day," he says. Weaver never passes up the chance to reaffirm his belief in the enduring quality of his alma mater: He makes the 325-mile drive from his summer home in Butler, Pa., every year to attend the medical school's Alumni Weekend. As in his student days, he's eager to learn something new on every visit.

Recently, Weaver has been teaching a lesson of his own. In 1990, Weaver and his late wife Sallie established the Dr. Ralph and Sallie Weaver Research Chair in Medicine. Last July, he provided the school with a charitable gift annuity, creating the Dr. Ralph and Sallie Weaver Scholarship Fund. "My successful practice started with Penn," he says. "And now I'm returning the favor."

Weaver says the inspiration for these gifts is never far from his mind. "I had some very great teachers there; they made me a good doctor. I wish they could see me repay their efforts and know what they have meant to me." He singles out Dale Rex Coman, M.D., a pathology professor (and pioneer in the study of the mechanism of cancer metastasis) who played a crucial role in the development of Weaver's career. Impressed with both Coman and the field of pathology, Weaver abandoned his original plan to go into pulmonary disease. He went on to a successful 50-year career as a clinical pathologist, including appointments as director of laboratories at Butler County Memorial Hospital, trustee of the Butler Health System, and president of a Pennsylvania laboratory supply corporation.

Weaver's devoted service to his alma mater includes volunteering on the National Alumni Council, which played an important role in the Creating the Future of Medicine Campaign. Weaver's particular interest was raising the profile of charitable gift annuities.

In addition to obtaining a generous income tax deduction, Weaver will receive a lifetime income stream from his charitable gift annuity. His planned gift is just one of the creative gift opportunities that would benefit both the School of Medicine and its alumni. As you chart your financial future, the Planned Giving Office is ready to assist in developing an appropriate strategy. **Contact Marcie Merz, J.D., director of planned giving, University of Pennsylvania Medical Center, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309. Phone: 215-898-9486. E-mail: mmerz@ben.dev.upenn.edu.**

## Developing a New Strategic Blueprint

As part of the Penn legacy, alumni have an investment in our institution and want it to be successful. It represents a crucial part of your lives, and I am convinced that the values and ideals that guided you during your years at Penn remain important to you. Now that we have embarked on a crucial program of strategic planning, I welcome the views of our alumni as we develop our blueprint. Many of you will have perspectives informed by experiences at other academic medical centers or in other complex organizations. Your views may encourage us on the Penn campus to consider matters we might have overlooked.

Earlier this year, Robert D. Martin, Ph.D., CEO of the Health System, and I distributed a memo to UPHS faculty and staff, announcing that the time was right for a new strategic plan. The purpose of the new plan is to define the objectives and initiatives that will maintain our institution at the forefront for the next decade and provide the basis for the continued achievement of regional, national, and international excellence.

As many of you know, strategic planning has been an essential part of Penn's success over the last dozen years. Indeed, the ambitious plans developed under William N. Kelley, M.D., are credited with laying the groundwork for Penn's steady rise in ranking and NIH funding during the 1990s. Yet as the health-care market place has changed, we must ensure that our strategic direction is appropriate. During the last two years, strategic planning continued at the Health System, but the focus was on health services. Now that we have created Penn Medicine, a new governance structure that serves as the umbrella organization for the School of Medicine and the Health System (see p. 3), we are seizing the opportunity to broaden the scope of our strategic planning and capitalize



Robert Chink

on the power of an integrated organization.

It is my firm belief that we must broaden the scope to flourish in today's volatile and often unforgiving health-care market. Penn cannot function as an assembly of discrete smaller entities, each with its own set of goals. Through our new strategic blueprint, we will recognize and strengthen the many valuable intersections of research, education, and patient care that occur at our institution. Under the umbrella governance of Penn Medicine, the goal is for all parts of our organization to prosper both individually *and* collectively.

When it is complete, our new strategic plan will establish the policy framework for decisions regarding investments, facilities, and cross-institutional and industry relationships. One of the most important steps is to identify ways to strengthen our intellectual partnerships within the University, itself a world-renowned institution. We will work carefully with the University's strategic planning effort to ensure coordination and to incorporate existing or recently developed plans in the Health System and the School of Medicine. It is particularly important, after recent years of financial difficulty, that our plan be grounded in fiscal responsibility. With that foundation, we will work diligently to develop a financial plan that encompasses both operating and capital needs across our enterprise.

Our goal is to present a programmatic outline of the strategic plan to the trustees in June 2002 and to continue financial and operational

planning through the end of the year.

Other elements of the plan are initiatives for faculty development, especially to address the distinctive needs of women, minorities, and junior faculty and to strengthen our ability to retain outstanding faculty; initiatives for improving student recruitment and the student experience once they are here; and initiatives for strategic partnerships with industry and initiatives to increase important external support such as fundraising and technology transfer.

Because the strength of Penn is in its people, Robert Martin and I understand that the faculty and staff of our institution must play an important role in developing aspects of the strategic plan. To make communication easier, UPHS has developed a web site for our faculty and staff – [www.med.upenn.edu/strategy](http://www.med.upenn.edu/strategy) – that will provide regular updates on the planning process. Alumni who are off campus are welcome to send comments and questions about our planning effort to a new e-mail box we've created: [penn-medstrategy@mail.med.upenn.edu](mailto:penn-medstrategy@mail.med.upenn.edu).

To coordinate the strategic planning process, we have formed a project office. It includes Susan E. Phillips, chief of staff (215-898-4004; [sep@mail.med.upenn.edu](mailto:sep@mail.med.upenn.edu)), and I. William Ferniany, Ph.D., senior vice president for administrative and network services (215-662-4850; [will.ferniany@uphs.upenn.edu](mailto:will.ferniany@uphs.upenn.edu)). They will be assisted by two members of a consulting firm called CSC Global Health Solutions.

My first eight months at Penn have both exciting and illuminating. More than ever, I want our institution to be the best it can be. Both Robert Martin and I believe that a sound strategic plan is essential to our continued success and evolution as an academic health system. We ask all of you for your time, your insight, and your support.

Arthur H. Rubenstein, M.B., B.Ch.  
*Executive Vice President, Health System  
Dean, School of Medicine*



According to Tracy K. McIntosh, Ph.D., “Traumatic brain injury is a silent epidemic in this country, affecting more lives than most people realize.” As director of Penn’s Head Injury Center, he is a well-respected scientist and a tireless advocate for his center, which brings together researchers and clinicians from several departments and schools to explore new ways to treat and perhaps even prevent head injury. Citing the cooperative spirit of the center’s faculty, McIntosh describes Penn as “a tremendous place to build a program like this.”

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