

1999

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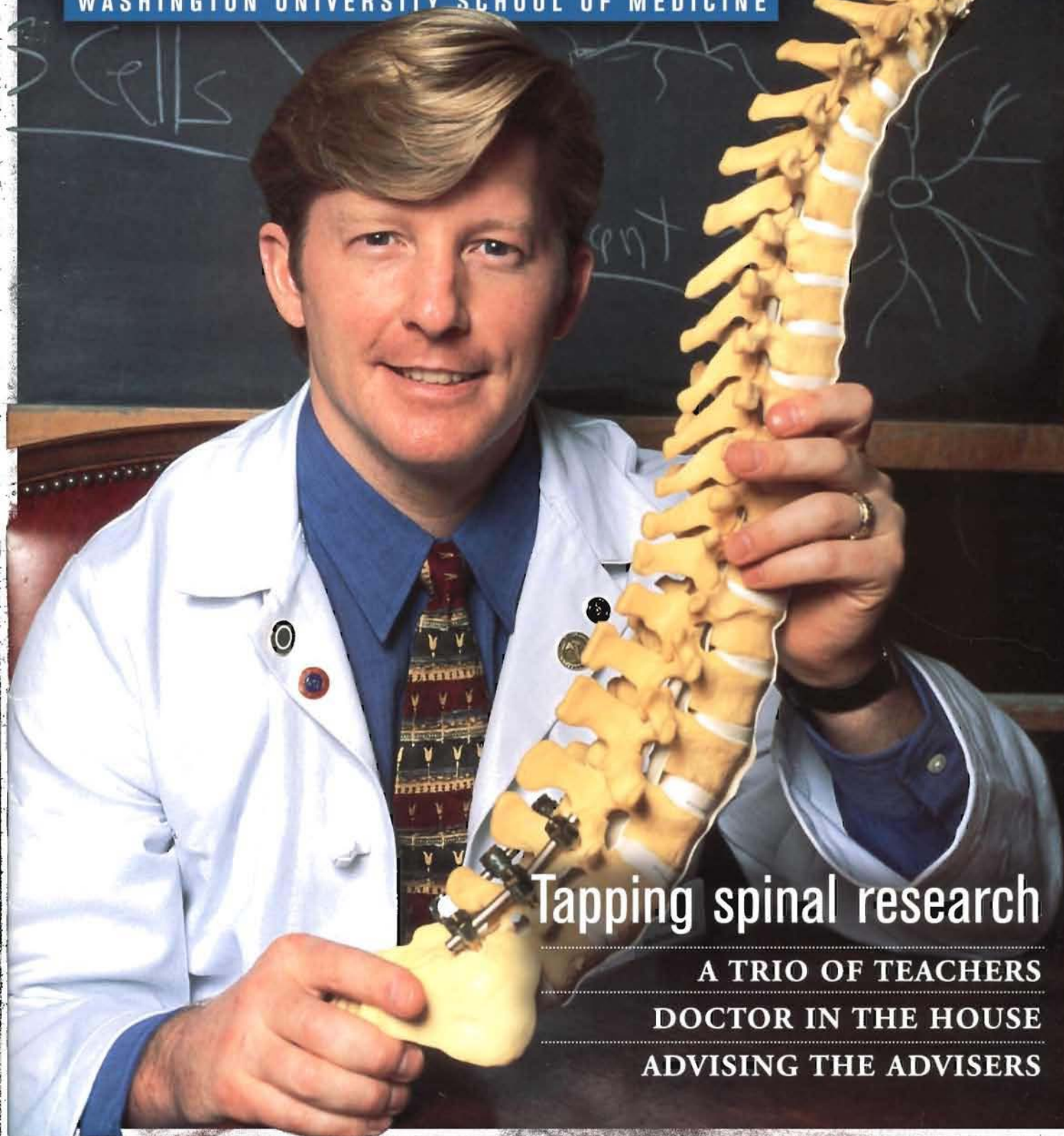
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WINTER 1999

# Outlook

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE



**Tapping spinal research**

**A TRIO OF TEACHERS**

**DOCTOR IN THE HOUSE**

**ADVISING THE ADVISERS**



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School of Medicine

**Cover**

The Spinal Cord Injury

Program, which John W.

McDonald, MD, PhD, helped start, unites scientists, physicians and other health care specialists at the School of Medicine and Barnes-Jewish Hospital in an effort to preserve and replace damaged nerve tracts in the spinal cord. To learn more about this program, which coordinates clinical care from the injury scene through rehabilitation, turn to page 16.



**Educators, explorers and entertainers:** The Thach brothers share a rich and colorful family heritage. From left, Bradley T., MD, professor of pediatrics; Robert E., PhD, graduate dean of Arts and Sciences, and W. Thomas, Jr., MD, professor of neurobiology, neurology and physical therapy. To learn more about the formidable presence this trio of respected researchers and teachers has created at Washington University, turn to page 8.

# Outlook

**For Charitable Gift  
Annuity Rates,  
see page 36.**

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Class Notes

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**2000!**



# *Your Legacy Can Endure*

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rates, see page 36.



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## **Class Notes** ..... **Update Yourself!**

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# Outlook

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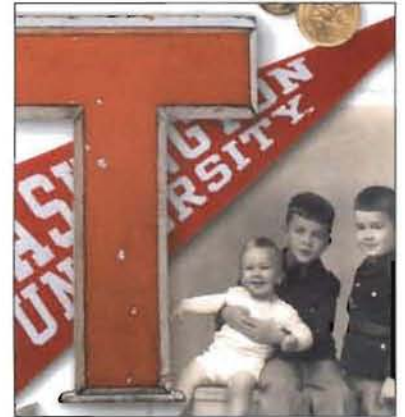
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## Sitemans pledge \$35 million to establish cancer center

ALVIN and Ruth Siteman of St. Louis have committed \$35 million to support the cancer programs of the School of Medicine and Barnes-Jewish Hospital.

This commitment includes a \$10 million cancer-related gift given to Barnes-Jewish Hospital by the Sitemans in 1997. Together, these donations compose the largest gift ever received by Barnes-Jewish and Washington University in support of cancer research, patient care and services, education and community outreach.

In recognition of the Sitemans' \$35 million gift, the institutions' combined cancer programs have been named The Alvin J. Siteman Cancer Center.

The Sitemans' pledge will be used to support the cancer center's highest priorities in patient care, research and education and will enhance the center's efforts to be designated as a prestigious National

Cancer Institute (NCI) Comprehensive Cancer Center.

"Our goal is to develop a world-leading cancer center — one that will allow us to attract and retain outstanding clinicians and scientists and will provide superior clinical services for the Midwest, the nation and beyond," says William A. Peck, MD, executive vice chancellor for medical affairs and dean of the School of Medicine.

Alvin J. Siteman, president of the Siteman Organization, previously was chairman of Mark Twain Bancshares Inc., the corporation he helped merge with Mercantile Bancorporation in 1997. He also is chairman and president of Site Oil Co. of Missouri and Flash Oil Corp. He currently serves as chairman of the Barnes-Jewish Hospital Foundation and as a member of the hospital's board of directors.

The Sitemans are major benefactors of Barnes-Jewish Hospital

Foundation and also are life patrons of Washington University's William Greenleaf Eliot Society. In 1997, the Sitemans established a cancer endowment fund and endowed a chair in oncology in their name at Barnes-Jewish Hospital. They also established the Phillip L. Siteman Professorship in Marketing at the John M. Olin School of Business at Washington University in 1985 to honor his father. In 1993, he established the Alvin J. Siteman Cerebrovascular Research Fund in the Department of Neurology at the School of Medicine.

Ruth Siteman, who received a bachelor's degree from Washington University's University College in 1975, has supported an Arts and Sciences Scholarship at Washington University to benefit African-American students, an idea she promoted. She is a former member of the Arts and Sciences National Council. □

## Polonsky chosen to head internal medicine department

KENNETH S. Polonsky, MD, has been named the Adolphus Busch Professor and head of the Milliken Department of Internal Medicine.

Polonsky also will be physician-in-chief at Barnes-Jewish Hospital, and he will serve as a member of the Washington University Faculty Practice Plan board of directors. Polonsky replaces Gustav Schonfeld, MD, who has been head of internal medicine and Barnes-Jewish Hospital's physician-in-chief since 1996.

A renowned diabetes researcher, Polonsky was the Louis Block Professor at the University of Chicago School of Medicine. He served as chief of that institution's endocrinology section since 1990 and directed its Diabetes Research and Training Center. Polonsky also chaired the task force that helped reorganize the University of Chicago's physicians into a single, integrated, multi-specialty practice plan.

Polonsky studies factors that influence the health of pancreatic beta cells, which secrete insulin.

Defects in the secretion process and in the hormone's ability to stimulate glucose uptake by cells are hallmarks of noninsulin-dependent (Type II) diabetes.

Schonfeld has returned to full-time teaching, research and patient-care duties. He has conducted lipid research for nearly three decades and is an internationally respected expert on lipid metabolism. □



Kenneth S. Polonsky, MD



## Institute of Medicine taps Schwartz and Welch

ALAN L. Schwartz, PhD, MD, and Michael J. Welch, PhD, have been elected to the Institute of Medicine, one of the highest honors medical scientists in the United States can receive. They were selected because of their professional achievements and interest in issues that affect public health.

Schwartz is the Harriet B. Spoehrer Professor and head of the Department of Pediatrics at the School of Medicine. He also is pediatrician-in-chief at St. Louis Children's Hospital.

Welch is a professor of radiology, chemistry and biomedical engineering. He also co-directs the division of radiological sciences at the medical school's Mallinckrodt Institute of Radiology. Like Schwartz, he is a professor of molecular biology and pharmacology.

Schwartz is renowned for his pioneering research in the field of receptor-mediated endocytosis — a process that enables selected protein molecules to enter cells. He also has been actively involved in the education of pediatric physician/scientists and developed a graduate education program called the Markey Pathway for educating biomedical scientist trainees in the fundamentals of human pathology.

Welch, a university faculty member for 32 years, is renowned for applying modern organic chemistry to the preparation of radioactive elements used in medical imaging. He developed rapid methods to synthesize positron-labeled organic chemicals, a vital step in making positron emission tomography (PET) a useful medical tool. □

## Schuster: Working to enhance clinical research

DANIEL P. Schuster, MD, associate dean for clinical studies, has been named associate dean for clinical research.

In his new position, Schuster will work to enhance clinical research at the medical school by developing a master's of science degree program in clinical investigation. The program will focus on patient-oriented research, which often involves studies of individual patients and translating laboratory discoveries into patient care. He also plans to expand the program to other areas of clinical research.

Schuster also is professor of medicine and of radiology and director of the Center for Clinical Studies, which supports faculty participation in therapeutic clinical trials. He says the degree program is one additional step toward his long-term goal of building bridges between basic science and clinical departments at the medical school.

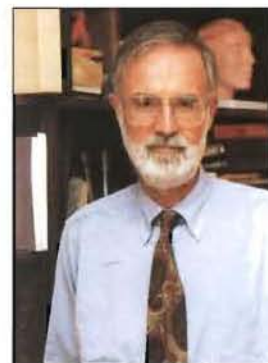
To help fund the program, Schuster will generate a proposal to the National Institutes of Health for one of its new K30 Clinical Research Development Awards. He hopes to enroll five to 10 full-time students in the program next fall. □



Daniel P. Schuster, MD

## Bristol-Meyers Squibb recognizes Raichle

MARCUS E. Raichle, MD, professor of radiology, neurology and neurobiology, has received the 1999 Bristol-Meyers Squibb Award for Distinguished Achievement in Neuroscience Research.



Marcus E. Raichle, MD

Raichle, who co-directs the division of radiological sciences, was recognized for his seminal contributions to the study of the human brain with functional imaging techniques. Working with colleagues at the School of Medicine, Raichle helped develop many of the basic experimental strategies used worldwide to map the brain with positron emission tomography (PET) and, more recently, with functional magnetic resonance imaging (fMRI).

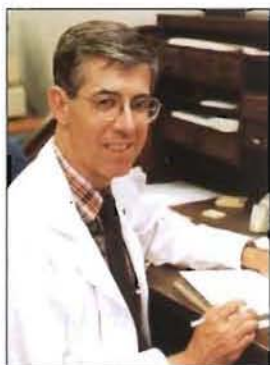
Raichle has received many awards, including the 1992 Decade of the Brain Medal from the American Association of Neurological Surgeons, the 1996 William James Book Award from the American Psychological Association, the 1997 Charles A. Dana Award for Pioneering Achievement in Health and the 1998 Lashley Prize from the American Philosophical Society. A member of the university faculty since 1971, Raichle is a member of the National Academy of Sciences, the Institute of Medicine and the American Academy of Arts and Sciences. □



## Clifford becomes Seay Professor

DAVID B. Clifford, MD, professor of neurology and vice chairman of the Department of Neurology, has been named the Seay Professor of Clinical Neuropharmacology in Neurology.

Clifford studies the neurological disorders that affect more than half of all AIDS patients. The painful symptoms



David B. Clifford, MD

may be caused by the virus itself, by pathogens that take advantage of a weakened immune system or by the drugs that keep AIDS patients alive. To address these issues and test potential treatments, Clifford established the Neurologic AIDS Research Consortium in 1993 with a grant from the National Institute of Neurological Disorders and Stroke (NINDS). A five-year, \$7

million grant from NINDS in 1997 now supports the research. As director of the consortium, Clifford coordinates studies at 26 institutions across the nation.

In addition, Clifford is the medical director for neuromedicine at Barnes-Jewish Hospital, director of residency training in the Department of Neurology and clinical representative to the executive faculty at the School of Medicine. □

## Patients can breathe a sigh of relief with convenient, new lung center

THE School of Medicine and Barnes-Jewish Hospital have established The Lung Center, where patients can receive outpatient treatment from Washington University lung specialists at a single, convenient location.

The 7,900-square-foot center, located in the Steinberg Building, features private consultation rooms, patient examination rooms, and a large reception area to serve patients with lung-related needs, such as those who require oxygen therapy or wheelchair access. The pulmonary function laboratory also has moved to The Lung Center, and imaging services are nearby.

In the new facility, more than 20 physicians — supported by nurses, technicians and therapists — see patients with many pulmonary problems, such as chronic obstructive pulmonary disease, cystic fibrosis, emphysema, esophageal disease, lung cancer, pulmonary fibrosis, asthma, chronic sinusitis and sleep disorders, among

## Chung to assist students and teachers

KOONG-NAH Chung, PhD, instructor of cell biology and physiology, has been named assistant dean for admissions and student affairs.

Chung will play an important role in several areas of student support services, including medical school admissions and student affairs. She will serve as a resource for applicants and teachers and provide support for student programs, such as medical students' selective courses and summer research fellowships.

Chung received a bachelor's degree in biology from the University of Michigan, Ann Arbor, in 1980, and a doctorate in molecular biology and biochemistry from the School of Medicine in 1986.

After completing a postdoctoral fellowship at the University of California in Berkeley and a senior staff fellowship at the National Cancer Institute, Chung joined the School of Medicine in 1996 as a research assistant professor.

In 1995, she received the Young Investigator Award from the Society of Biomedical Research. She studies the role of cell membrane structures called caveolae in cholesterol trafficking. □



Koong-Nah Chung, PhD

others. The center also is dedicated to preventive pulmonary care, such as smoking cessation programs.

In addition to procedures such as bronchoscopy, comprehensive pulmonary rehabilitation and pulmonary function testing, The Lung Center staff will provide highly specialized procedures: chest wall resection, mediastinal surgery, photodynamic therapy and videoscopic thoracic surgery.

"This will be a fantastic environment for patients with pulmonary and thoracic disease to be treated efficiently by a multidisciplinary team," says Alec Patterson, MD, Joseph C. Bancroft Professor of Cardiothoracic Surgery and head of the WUSM/BJH adult lung transplant program. "Locating the thoracic, pulmonary and chest radiology groups in the same ambulatory care facility is going to dramatically improve our evaluation and treatment of lung disease." □



## Jost assumes leadership of radiology

R. GILBERT Jost, MD, professor of radiology, has been appointed interim head of the Mallinckrodt Institute of Radiology (MIR).

Jost succeeds Ronald G. Evens, MD, who left his post as head of radiology in October to become president of Barnes-Jewish Hospital. A search committee will be appointed to seek a permanent replacement for Evens.

Jost has been chief of diagnostic radiology at the School of Medicine since 1985. In that position, he is responsible for diagnostic radiology services at Barnes-Jewish Hospital, St. Louis Children's Hospital, Barnes-Jewish West County Hospital, Barnes-Jewish St. Peters Hospital, Doctors Hospital and the BJC Health Centers located throughout metropolitan St. Louis. Jost also is an affiliate professor of computer science at Washington University.

He is the author of more than 115 scientific articles, many dealing with the use of computers in the practice of diagnostic radiology. He currently serves as chairman of the Radiological Society of North America's Electronic Communications Committee, a group responsible for the organization's extensive computer-related activities.

Jost is an associate editor of the *Journal of Digital Imaging*, and also is a member of the BJC Physician Advisory Panel and the Faculty Practice Plan Strategic Planning Committee. □

## Kass provides new vision for ophthalmology

MICHAEL A. Kass, MD, has been named head of the Department of Ophthalmology and Visual Sciences at the School of Medicine and ophthalmologist-in-chief at Barnes-Jewish Hospital.

Kass has been the acting head of the department since July 1998. A professor of ophthalmology and visual sciences since 1983, he was vice chairman of the department and director of clinical services from 1992 to 1998. An expert on glaucoma, Kass is the principal investigator and study chairman of the national Ocular Hypertension Treatment Study, a 22-center study sponsored by the National Institutes of Health to determine whether using drops to reduce pressure in the eyes of patients with elevated intraocular pressure prevents or delays the onset of glaucoma.

He serves on the editorial board of the journal *Vision Research* and is a scientific reviewer for several other journals, including the *Journal of the American Medical Association*, *Archives of Ophthalmology* and *American Journal of Ophthalmology*.

Kass is a diplomate of the American Board of Ophthalmology and he is consistently listed as a leading ophthalmologist in the book *The Best Doctors in America*, which is based on an annual survey of more than 7,000 physicians in the United States. □



Michael A. Kass, MD

## Hats off to HAP students

TWO second-year students in the Health Administration Program have been recognized for their exemplary performance.

Matt Lautzenheiser was chosen by the HAP faculty to serve as one of nine 1999-2000 Medline Scholars. As a Medline Scholar, Lautzenheiser will attend interactive sessions that bring together graduate students, faculty and experienced executives to discuss challenges facing health care today.

Lautzenheiser, who will graduate in May, has been an intern with St. Louis' Daughters of Charity National Health System for the past year. In that position, he has worked on a variety of projects including profiling local health care markets, participating in the development of a strategic plan for a long-term care facility, and collecting and analyzing demographic data for use by the system's local hospitals and clinics.

Another HAP student, Colleen O'Donnell, has been selected as a recipient of the Bugbee-Falk Book Award. The award, established by the Association of University Programs in Health Administration in 1973, honors the contributions of George Bugbee and Isidore S. Falk to the development of health services administration education.

Nominated by the HAP administration for her outstanding academic achievements, O'Donnell received several books on health administration and general management.

O'Donnell recently served an internship with the Institute for Healthcare Improvement in Boston. While there, she assisted the vice president and performed research for senior health care executives. □



## Well-matched, locally donated kidneys of greater benefit to patients

A STUDY of thousands of kidney transplants suggests that the long-term cost of caring for patients could drop dramatically if more people received locally allocated kidneys that closely resemble their own organs.

Doctors are debating the importance of transplanting organs whose surface tissues are identical to a patient's other organs. Previous studies suggested that multiple differences in the surface tissues, called HLA markers, had little effect on rejection of transplanted kidneys.

In contrast, a new study of 27,050 kidney transplants demonstrated a significant increase in the need for care within three years of transplantation as the number of mismatched tissues increased.

Economist Mark A. Schnitzler, PhD, a research instructor at the

School of Medicine, and colleagues in the medical school's Pharmacoeconomic Transplant Research group reported their findings in the Nov. 4 issue of the *New England Journal of Medicine*. The researchers compared national kidney transplant records from the United Network for Organ Sharing (UNOS) with Medicare claims for the same patients. All 27,050 had received an organ from a deceased donor between 1992 and 1997. The study determined the cost of their care from 30 days to three years after transplantation.

The average cost to Medicare — and thus to taxpayers — for care within three years was roughly \$60,436 when the kidney had identical HLA markers to the patient's own organs. The cost rose by 5 percent to 34 percent as the number of

HLA mismatches increased from one to six.

By itself, the data appear to support the Department of Health and Human Service's (HHS) new transplant allocation ruling. HHS is concerned about unfairness in patient selection and large regional variations in the availability of organs. The government's revised requirements state that organs should be distributed "over as broad a geographic area as feasible," so that patients who need them most receive them.

Schnitzler says his study suggests that any expansion of current regions would cost taxpayers millions of dollars without necessarily improving patient outcomes.

"The longer an organ is stored, the worse the outcome of the patient. More medicine is required, and more money is spent," Schnitzler says. □

## Sanes becomes Alumni Endowed Professor of Neurobiology



Joshua R. Sanes, PhD

JOSHUA R. Sanes, PhD, a professor of anatomy and neurobiology, has been named the Alumni Endowed Professor of Neurobiology.

Sanes studies intercellular connections, called synapses, which pass information between cells. A synapse called the neuromuscular junction connects the tip of a nerve cell to a muscle fiber, enabling the nerve to control the muscle. Other synapses solder the brain's 10 billion neurons into circuits that allow us to speak or read or plan movements.

Sanes held a McKnight Neuroscience Development Award from 1988 to 1990, a Javits Neuroscience Investigator Award from 1989 to 1995 and a McKnight

Senior Investigator Award in 1998. He became a fellow of the American Association for the Advancement of Science in 1992.

In 1999, he was appointed to the policy-setting council of the National Institute of Neurological Disorders and Stroke. He serves on the editorial boards of nine journals, including *Cell*, *Journal of Cell Biology* and *Journal of Neuroscience*, and on the scientific advisory committees of the Muscular Dystrophy Association, the Klingenstein Foundation and the Jackson Laboratories. □



## Mouse is next for DNA sequencing

THE School of Medicine will participate in a major new research program to decipher the genetic makeup of the mouse, one of the most frequently used mammals in medical and behavioral research.

The National Institutes of Health (NIH) announced in early October that it will initiate the project with \$21 million provided over the next seven months to 10 laboratories that have formed the Mouse Genome Sequencing Network. The network will determine the physical organization of the mouse's 21 chromosomes and will sequence the estimated 3 billion chemical letters in the chromosomes' DNA. It expects to complete a working draft in three years.

Washington University will receive \$2.7 million of this funding and expects to receive a total of \$24.6 million for the first three years. John D. McPherson, PhD, assistant professor of genetics, will be the University's principal investigator for the mouse project.

Research on the mouse genome will occur in two stages, following the strategy now being used by the international Human Genome Project to sequence the genetic blueprint of the human. Scientists working on the mouse genome first will focus their efforts on completing an intermediate working draft version of the animal's genetic instructions. The first stage will be completed no later than 2003. They then will turn their attention to filling any gaps in the draft and finishing the sequence in high-quality, final form by 2005.

By spring 2000, the Human Genome Project will produce a working draft of the genetic blueprint of the human. By 2003, or possibly sooner, the finished, high-quality version of the human genome will be complete.

One third of the human genome already has been sequenced by an international consortium of research centers including three laboratories supported by the National Human Genome Research Institute. All of the sequence data is made freely available to the public within 24 hours via Genbank ([www.ncbi.nlm.nih.gov/Genbank](http://www.ncbi.nlm.nih.gov/Genbank)), the public database operated by NIH. Genbank collaborates with public genome databases in other countries to ensure that new data that is deposited into one is included in the other public databases. □

## Scholar plans family practice career

REBECCA Hoover, a fourth-year student who plans to practice family medicine, has been selected to receive a Senior Merit Scholarship. The award provides a full-tuition scholarship for the 1999-2000 academic year.

Hoover graduated *cum laude* from Cornell University with a bachelor's degree in biology and a concentration in physiology. As an undergraduate, she was a member of Phi Beta Kappa.



Rebecca Hoover, WUMS IV, with pediatric patient LaVae Alfred, of St. Louis.

At the School of Medicine, Hoover has been involved in the medical film society, serving as coordinator; as a member of the American Medical Women's Association, the Family Practice Interest Group and the Perinatal Project; and as coordinator of the Student Used Bookstore (MedSTUBS). She has helped recruit attendings for the Student Free Clinic and took part in community cleanup activities with the student group CoMoTion.

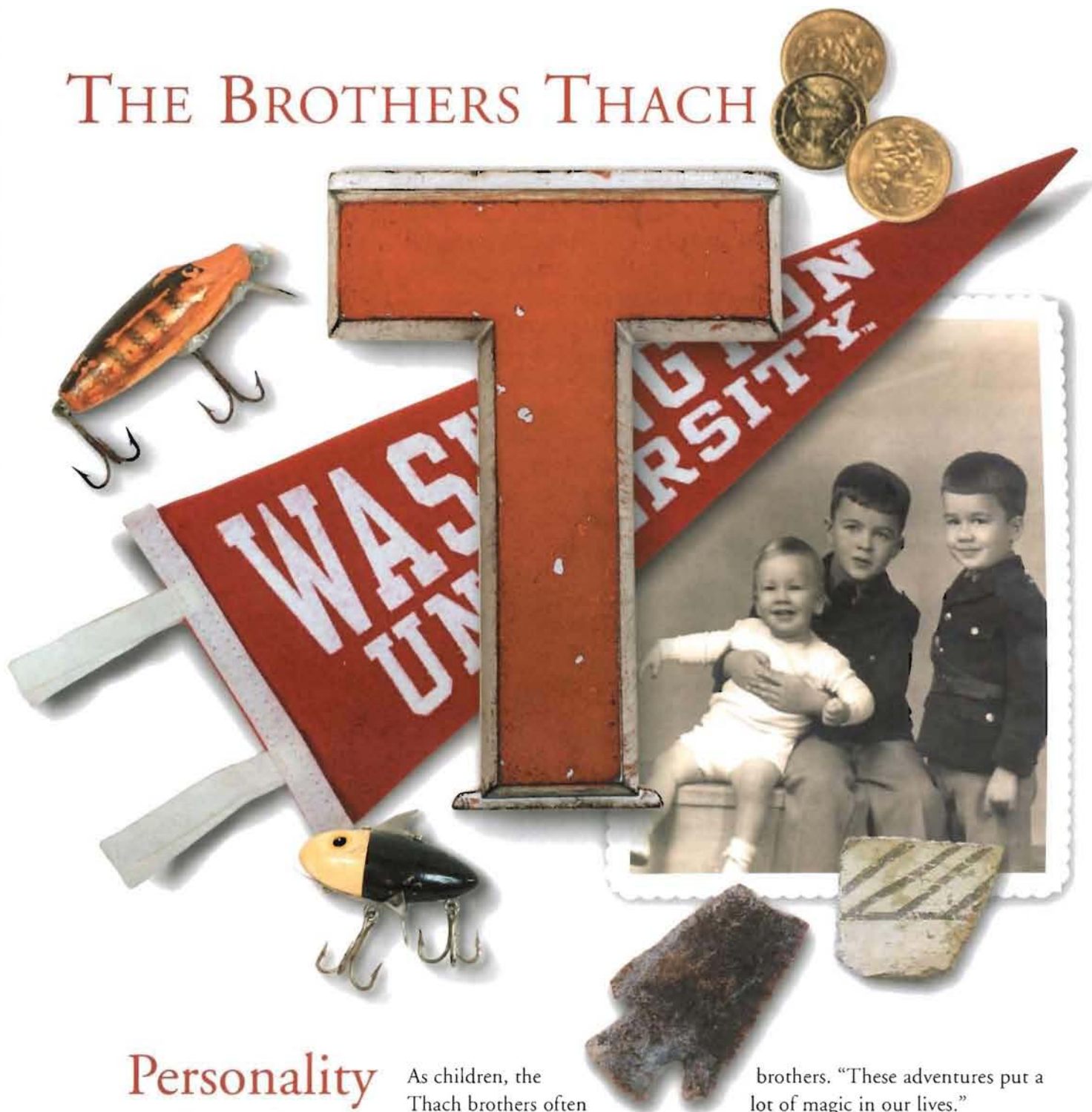
Hoover, who is from a small town in upstate New York, says she plans to go into family practice for the flexibility and variety it offers. Her decision to enter the field was sealed several years ago after working with two family practitioners.

"The doctors I worked with did everything — OB, covered the local nursing home, took care of the babies, everything," says Hoover. "I can work in the middle of nowhere and do everything, or I can work in a city and only do clinic work."

Hoover says she is honored to be named the Senior Merit Scholar. "My classmates are the most amazing, talented group of people I've ever met. To be chosen from among them to receive this scholarship really floored me," she says. "This is something I'll always remember." □



# THE BROTHERS THACH



## Personality traits shape trio's scientific curiosity and success

BY DIANE DUKE WILLIAMS

As children, the Thach brothers often spent Sunday afternoons with their father searching for buried gold left by pirates. He convinced them that Blackbeard the pirate, reputedly one of their ancestors, had hidden Spanish doubloons and pieces of eight on the Oklahoma prairie.

"We would pack provisions and go through the motions of outfitting for a voyage," says W. Thomas Thach Jr., the eldest of the three

brothers. "These adventures put a lot of magic in our lives."

W. Thomas Thach Jr., MD, professor of neurobiology, neurology and physical therapy, 62; Robert E. Thach, PhD, graduate dean of Arts and Sciences, 60; and Bradley T. Thach, MD, professor of pediatrics, 57; found no swashbuckling treasures on their family's land, located on the northern edge of Oklahoma City. But at a young age, they stumbled upon the joy of exploration.



They spent many hours wandering through the woods, camping and fishing for crawdads in a nearby creek. Their home overflowed with books, music and animals of all kinds. Brad, the naturalist, had a tendency to bring in baby birds, rabbits, woodrats and mice, which often took leave of their cages. Outside, the brothers and their sister, Mary, tended ducks, geese, pigs, a pet goat and a myriad of chickens. The family shared a 320-acre farm with aunts, uncles, cousins and their maternal grandparents.

The Thach brothers speak fondly of their maternal grandfather, Robert James Edwards, who first arrived in Oklahoma during the 1893 land run on the Cherokee Strip. He staked out a land claim, and, at age 21, was named a judge of a land office that settled disputed claims. He bypassed college and became a lawyer by apprenticing at a law office and liked to joke that a college education kills initiative. Eventually, he established a public works bond business in Oklahoma and had other commercial interests.

Their father, W. Thomas Thach, sold life insurance for Mutual Benefit, and he was passionate about languages, tackling anything from Swahili to Chinese to French. "He studied languages constantly," Brad says. "He had various tape recorders

going, and he had language books all over the place."

When he met someone from a foreign country, he delighted in being able to exchange a greeting in their native tongue. Before his death at age 77, he could converse in 64 languages by his own count.

Their mother, Mary Elizabeth Edwards Thach, had dreamed of being an artist and wanted to marry one. She refused the marriage proposals of their father, as the story goes, until he enrolled at the University of Oklahoma to take painting classes.

A proponent of self-sufficiency, their mother grew an enormous victory garden during World War II. She also was full of grand enterprises, often coming up with interesting projects for her children over and above the regular duties of the day.

## THE SECRET OF THEIR SUCCESS

Each brother recounts a family heritage rich and colorful, rattling off names of ancestors who were physicians and teachers. In various ways, the brothers say their inherited personality traits have shaped their scientific curiosity and success.

Tom is a renowned expert on the cerebellum, a fist-sized structure at the

back of the brain that coordinates muscle movement and maintains balance. Bob studies the mechanisms and regulation of protein biosynthesis. An expert on Sudden Infant Death Syndrome (SIDS), Brad is highly regarded for his research on rebreathing, a form of accidental suffocation.

Although gifted intellectually, the brothers are unusually modest and have a distaste for pretense. They share a passion for life and a love of storytelling and the outdoors. Telling tales is one of their favorite pastimes, especially during campouts and holiday gatherings. "During holidays, our families tell us we talk very loudly — no one can get a word in edgewise," Tom says.

Each brother has three children and each dabbles in a variety of hobbies, some of which began in childhood. Tom, the musician, sings and plays guitar in the bluegrass band, Taum Sauk, on Sundays with other School of Medicine faculty and students. He also enjoys poetry and composing humorous ditties for friends' birthdays and special occasions. He performed one of those ditties, "Mamas, Please Let Your Babies Grow Up to be Deans," for Bob's 60th birthday bash.

"Tom Thach has been a key member of the local and national neuroscience community for many years," says Dennis Choi, MD, the Andrew B. and Gretchen P. Jones Professor and head of neurology.

"He is renowned for his brilliant physiological studies of the normal and the abnormal cerebellum, which have enhanced understanding of how the motor system recovers after injury."







Bob Thach's contributions to the University are many, according to Edward S. Macias, PhD, executive vice chancellor and dean of Arts and Sciences. "As dean of the graduate school, he's championed a change in the way we work that has led students to complete their degrees more quickly and enabled us to provide better support for students," Macias says. "He's made it much more attractive to study at Washington University."

A typical eldest child, Tom often was elected to school offices and various other positions of leadership. In later years, he has taken on much of the responsibility of caring for their aging mother.

Bob's fascination with Native American artifacts began early. He led expeditions to unearth arrowheads and the like on his family's land. Today, he and his wife, Sigrid, spend their vacations visiting various tribes and reservations. The two just

"Brad Thach has been one of the most consistent and productive contributors to the SIDS literature in the country," says F. Sessions Cole, MD, professor of pediatrics and director of the division of newborn medicine. "His observations provided a basis for the internationally successful "Back to Sleep" program, which has significantly reduced the frequency of SIDS in the United States."

returned from a visit to the Haida Indians on the Queen Charlotte Islands in Canada. Often described as the life of the party, Bob listens to opera, weaves Navajo-style rugs, practices archery and does crossword puzzles.

"I think we all have great enthusiasms," says Bob. "There are things we just love! But that's characteristic of all of us — we're terribly enthusiastic, to the point of eccentricity at times."

Admitting he's been a clown all his life, Brad possesses a droll sense of humor and is casual by nature. For as long as he can remember, he has

been fascinated by nature and animals. He dabbled in taxidermy as a child, filling his room with stuffed birds of prey, and he once prepared a chicken skeleton for a school science project. He and his wife, Barb, now study prairie grasses. In addition, he has interest in birds, fish and trees.

"But we all break out of our roles occasionally," says Brad. "Every once in a while, we try to outclown each other."

## TOGETHER AGAIN IN ST. LOUIS

All the Thach brothers attended Princeton University, their father's alma mater. Tom and Brad majored in biology; Bob in chemistry. During college and medical school, Brad jokes that he often took the path of least resistance, following many of Tom and Bob's recommendations about classes, schools and professional training.

"The only thing I did that was outstandingly original was come to Washington University for medical school," says Brad. "Of course, that was at Tom's suggestion. But I did find St. Louis for the family — planted the flag here."

Tom, who joined Washington University in 1975, chiefly is interested in movement disorders and deciphering the mechanism

of control in the cerebellum. He is trying to uncover the mechanisms underlying the specific roles of the different parts of this structure and the disabilities caused by damage to these parts. He also investigates patterns of recovery following damage.

Employing techniques he learned in the Harvard laboratory of





David Hubel, MD, and Torsten Wiesel, MD, — trailblazers of the visual system who later garnered a Nobel Prize — and in the laboratory of Edward Evarts, MD, — the pioneer of using macaque monkeys for research — Tom has demonstrated that the cerebellum helps initiate voluntary movement and tells the motor cortex what to do. He also has identified certain cells in the monkey's brain that signal the kind of movement the animal will make many minutes before it actually performs the action. Additionally, he has determined that the cerebellum combines muscles to coordinate complex, multi-joint movements.

Tom also is regarded as an outstanding teacher and mentor, earning rave reviews from former students. "He has a way of making everything fun and runs a relaxed laboratory, where you're allowed to be very creative," says Amy J. Bastian, PhD, his student for six years and now an assistant professor of physical therapy and neurobiology.

As dean of the Graduate School of Arts and Sciences, Bob has less time for research than his brothers, but he still maintains a small laboratory. He made the important discovery of which triplet of genetic letters initiates protein synthesis. Along with a few other groups, his laboratory determined the direction in which the messenger RNA — the genetic message — is translated. He also was the first to identify a repressor protein for regulating the synthesis of ferritin, an iron-storage protein.

Research technician Lisa Goessling says Bob is an excellent boss. "He encourages ideas and is a

great listener. He also wants to get to know people personally."

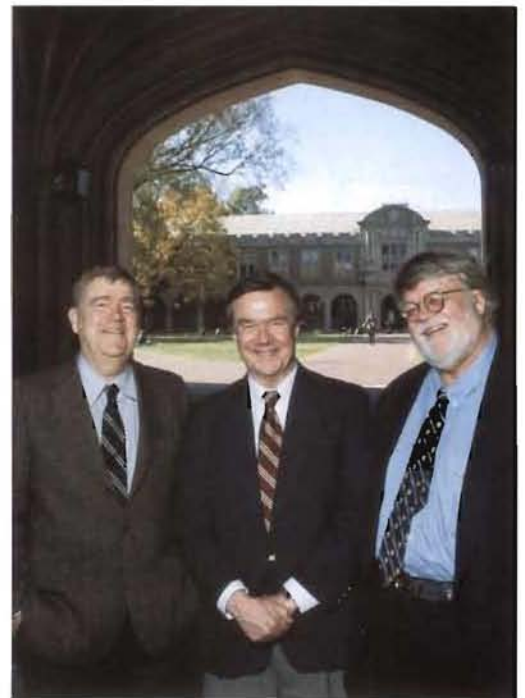
Bob's first administrative responsibility came in 1971, not long after he joined Washington University, when he was asked to direct the medical school's Center for Basic Cancer Research. He also chaired the biology department from 1977 to 1981, before being named dean of the graduate school in 1993.

In addition to his responsibilities at Washington University, he serves on the board of directors of the Council of Graduate Schools, on the board of directors of the Graduate Record Examinations and on the graduate advisory council of Emory University.

Bob likens tackling administrative problems to solving puzzles. "I enjoy coming up with inventive solutions. And the great thing about administration is that when you solve a puzzle, other people benefit," he says.

Brad joined the School of Medicine faculty in 1976, after training at the National Institutes of Health. His research focuses on the structure and function of the upper respiratory tract in infants, especially the reflexes and muscles that keep the upper airway open. He studies the mechanisms involved in initiation and recovery from apnea, a pause in breathing that can cause severe oxygen deficiency and lead to death.

He is known for elucidating the mechanisms of a new disease called obstructive sleep apnea in 1979. The findings of his group helped



The Thach brothers, from left, Brad, Bob and Tom, at the entrance to the Quadrangle on the Hilltop Campus.

contribute to effective therapy for the disease.

Working with James Kemp, MD, Brad also demonstrated that rebreathing could be a cause of SIDS. The researchers concluded that if an infant lies face down with nose and mouth resting on a polystyrene-filled cushion, the material can mold closely around the infant's head. This excludes fresh air and forces the child to rebreathe expired air, which contains too little oxygen. Based in part on work by Thach and Kemp, the Consumer Product Safety Commission banned these cushions.

Kemp, now an associate professor of pediatrics at Saint Louis University, attributes much of Brad's success to his ability to approach problems from an unusual perspective, which he describes as brilliant and practical at the same time. "Brad sees the world in a different way," says Kemp. "His view is about 45 degrees different from other people's." □





# House Calls

Physician treats patients at home through University Care

by HOLLY EDMISTON photos by TIM PARKER

SUSIE Bell Scott\* does not want a flu shot. "I've never had a flu shot in my life!" exclaims the feisty 84-year-old. "I don't want to get sick." Her doctor assures her that the shot contains no live virus and therefore cannot make her sick. In fact, the doctor adds, the shot might very well prevent influenza that could complicate her existing medical problems. Scott relents, but with a caveat: "If I get sick, you're going to get a call."

Susan Colbert Threats, MD, simply smiles. "OK, Miss Scott." The exchange is not unlike many that Threats, instructor in medicine at the School of Medicine, has with her homebound patients. She is one of a new "old" breed — a doctor who makes house calls. According to the American Medical Association (AMA), 6 million Americans currently receive home health care. And the

number of doctors making home visits to help coordinate that care is on the rise. A recent AMA survey indicated that half of

all primary care physicians perform house calls. Threats' first home visit was unplanned. While taking flowers to one of her cancer patients, she met with the woman's home health nurse. They began to discuss the patient's need for pain control and other instances when the nurse would need a doctor's order.

"I really wouldn't have understood that if I hadn't actually been there," says Threats. "It got me thinking that I had a lot of patients who weren't making it to their appointments, either because they were too sick to come in, had no transportation, or because in some cases, it was just too much effort."

Threats sat down with her nursing staff and made a list of patients who would be good candidates for home visits. Most are elderly, people for whom making the trip to Threats' office is a physical challenge. Other logistic issues, such as a patient's finances or social network, also



Susan Colbert Threats, MD





affect their ability to keep office appointments.

"I had to ask myself," Threats says, "Is there anything so important I'm doing that some of my patients need to go through the discomfort of being transported here by ambulance and examined on a stretcher?"

Threats began to visit her homebound patients every few months. "I found that a lot of the procedures that were done when a patient came in for an office appointment weren't really necessary," she says. "Doing home visits has reinforced my bedside skills."

Even with additional time spent driving, Threats says home visits are often more efficient in the long run. A patient with serious mobility problems has difficulty moving about the office and can slow patient flow. "In the time it would take to work with one of these patients in the office," she says, "I can see three or four less challenged patients."

The personal benefits are even greater.

"Home visits add a positive dimension to my practice," says Threats. "Not just in terms of service, but in terms of the connection I make to my patients and their families."

## University Care

Threats is one of 10 physicians who make up University Care, a clinical practice group created in 1995 to provide primary care at the Medical Center.

"Dr. Threats is providing her patients a valuable service," says Anne M. Pittman, MD, assistant professor of medicine and director of University Care. A doctor's decision to make house calls is highly personal, she says, and reflects the interests of each physician. One other practitioner in the group also makes home visits.

The doctors who make up University Care are full-time School of Medicine faculty members dedicated to the practice of primary care and the one-on-one relationship it affords them with

their patients. In addition to seeing patients, each teaches and participates in the inpatient general internal medicine consult service, which Threats directs.

Pittman says primary care as a specialty is relatively new. "Ten years ago, there wasn't the same emphasis on primary care, but advances in technology and medical therapy, as well as economic constraints, have meant that more is being done in the outpatient setting," she says. "Consequently, it is important for medical students and residents to work with practitioners who are skilled in outpatient management."

University Care was formed by the Department of Medicine and has expanded its patient base by adding two offices. Pittman oversees operations at the three locations — the Waldheim Ambulatory Care Facility on the Medical Campus, and in Maplewood and St. Louis Hills. She estimates that the group conducted more than 15,000 outpatient visits last year.

In addition to patient care, the group provides a forum wherein house staff and medical students learn about and practice the art and science of primary care within an academic environment. Each of University Care's doctors also serves as an attending physician, working with residents on the inpatient medical service.



Susan Colbert Threats, MD, right, and third-year medical student Tessa Madden review a patient's file prior to making a house call.



Residents and medical students accompany them on office visits to learn the details of outpatient care.

"Our doctors enjoy working in the academic setting and interacting with residents and medical students," says Pittman. "They have a particular interest in maintaining a strong relationship to the medical school and to teaching."

Threats currently mentors third-year medical student Tessa Madden, who is completing a rotation under Threats' tutelage as part of the Ambulatory Care Experience for Students (ACES). The four-week clerkship pairs students with St. Louis area physicians, allowing them to gain hands-on knowledge and skills in primary care.

Madden says working with the general patient population is particularly valuable, because most of the inpatients she sees are seriously ill. "Patients are really sick when they're in the hospital," she says. "It's nice to be involved in outpatient care — it's a different slice."

The ACES program is directed by Thomas M. De Fer, MD, assistant professor of medicine. Offered as part of the third-year internal medicine clerkship, the number of ACES participants has quadrupled since its inception three years ago.

"The diversity built into the program assures students a variety of experiences while they learn the basics of ambulatory internal medicine care," says De Fer. "Each student's ACES experience is very different."

In Madden's case, this translates into an opportunity to work individually with patients, both in the office and while accompanying Threats on home visits.

## Benefiting patients

Threats schedules home visits for every other Thursday. Recently, she and Madden had two appointments: Viola Coleman, 78, who lives at home with her daughter and son-in-law in Bel Nor MO, and Susie Bell Scott, 84, who resides at a senior citizens' apartment building in the City of St. Louis. They get off to a late start: Three of Threats' morning appointments turned into emergency hospital admissions.

Coleman has end-stage emphysema and is on oxygen full-time. She also has congestive heart failure and coronary artery disease. This visit is a general check-up. As Threats returns messages received in the 20 minutes since leaving Barnes-Jewish Hospital, Madden checks

Coleman's blood pressure and asks about her appetite, weight and sleeping patterns.

The doctor's role during a home visit is to diagnose problems, plan treatment and then monitor the patient's response to the treatment. Home health care nurses and families do the rest, providing the bulk of hands-on care. Though seriously ill, Coleman is relatively comfortable and happy to be at home. She was surprised when Threats approached her as a



Susan Colbert Threats, MD, and medical student Tessa Madden discuss a patient's case as they approach her front door.



candidate for home visits, thinking that doctors' house calls were a thing of the past. "Back in the old days, all doctors made house calls," Coleman recalls. Of Threats' visits, she says: "It does make it easier."

Seeing patients in their homes also gives Threats insight into their lives that would be impossible in the traditional office setting. "When you can see that there is not a lot of food in someone's home, you understand why getting a cab to and from the hospital might not be the highest priority for that person," she explains.

Threats has found that even though a person has multiple medical problems, he or she can live at home as long as care is properly managed. The psychological and medical benefits of remaining at home are great, she says. Patients retain a sense of independence, and studies show that patients who are cared for at home are readmitted to the hospital less often.

With Coleman taken care of, Threats and Madden travel to the home of Susie Bell Scott. Upon arrival, Threats reviews Scott's file as she nibbles on a sandwich picked up on the way. She notes some apparent confusion regarding the patient's medications.

"She's not taking her medication," says Threats. "We'll get that straightened out today."

For Scott, a visit from Threats is as much social call as medical consultation. Scott's major health problems are congestive heart failure and severe rheumatoid arthritis, conditions that make it difficult for her to negotiate office visits. She also relies on bottled oxygen.

In the apartment, Threats engages in a discussion with Scott while scanning the notebook Scott meticulously keeps regarding her health. Threats sorts through a myriad of prescription bottles, checking daily dosages and intervals. In fact, Scott understands perfectly well what medicines she is on and how much to take of each and when — the mix-up came about when a substitute filled in for her regular home health nurse.

**"Home visits add a positive dimension to my practice," says Threats. "Not just in terms of service, but in terms of the connection I make to my patients and their families."**



Tessa Madden, a participant in the medical school's ACES program, examines patient Viola Coleman at her home.

Madden takes Scott's blood pressure, and the patient keeps up a steady stream of conversation.

Threats then has Scott walk the few steps to her kitchen to be weighed, then into the bedroom so that she can lie down while Threats and Madden examine her. Threats phones in an order to BJC Home Care Services to request daily visits for Scott and also to increase her diuretic therapy. Finally, she calls Scott's son to update him on his mother's health.

Threats typically allows 30 to 45 minutes per home visit; this visit with Scott lasted well over an hour. Though the doctor's visit has tired her, Scott is upbeat. The physical strain would have been much worse if she had traveled to and from the Medical Center.

At the car, Threats again checks her pager before climbing behind the wheel. Her hand searches for the lunch begun more than an hour before. On the way back to the Medical Center, she returns another page. □

\*Susie Bell Scott is a pseudonym.



# Touching a Nerve

RESEARCHERS CLOSE IN  
ON TREATMENT TO  
REVERSE AND MINIMIZE  
SPINAL CORD INJURY

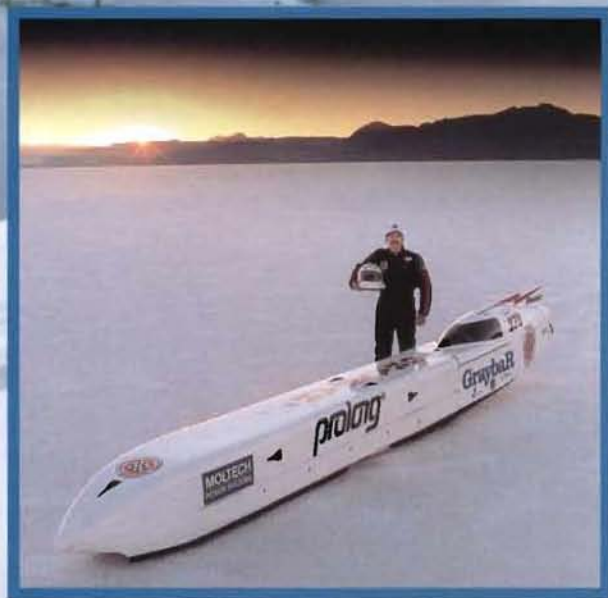
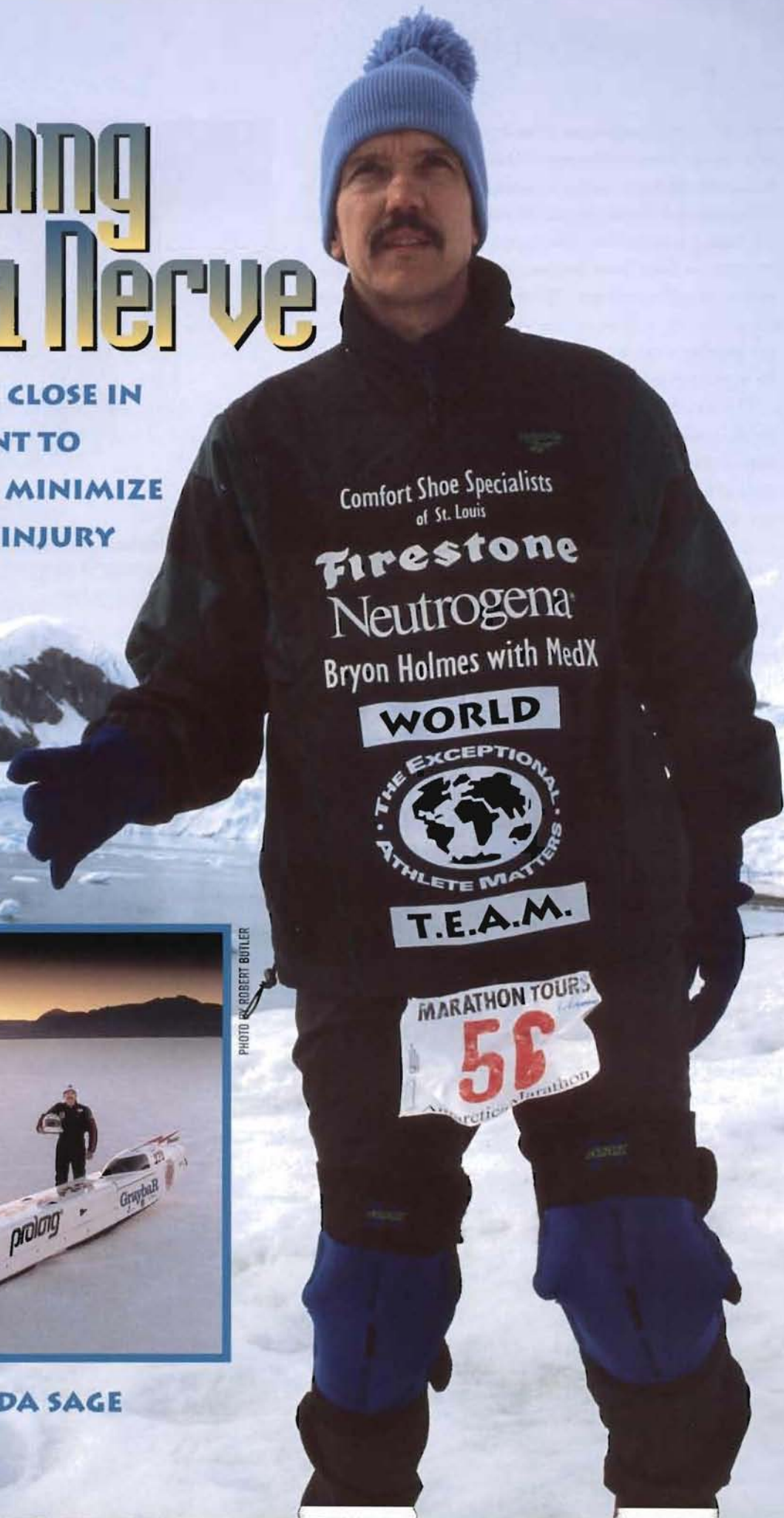


PHOTO BY ROBERT BUTLER

BY LINDA SAGE

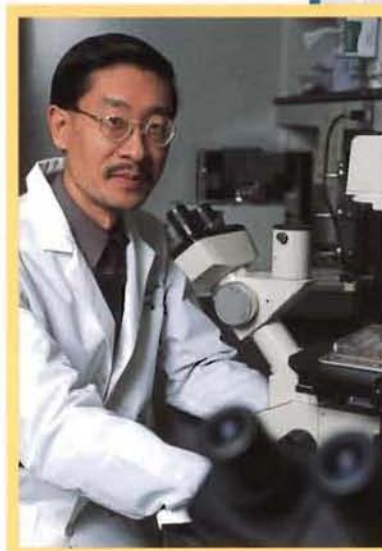


IN HIS HOSPITAL BED, Pat Rummerfield thought about driving. Not about the high-speed crash that had paralyzed him six weeks before but about the race car driver he one day hoped to be. As he thought about depressing the accelerator, his big toe suddenly moved. Twenty five years later, on Oct. 23, 1999, he set the world land speed record for electrical vehicles — 245.5 mph. The next day, he set the U.S. record, soaring to 251 mph.

Rummerfield, pictured at left, who now is performance assessment coordinator of injury prevention at the School of Medicine, also completed the Iron Man Triathlon in Hawaii in 1991, swimming 2.5 miles in the ocean, biking 112 miles in blistering heat and running 26.2 miles to the finish line. In 1997, he finished the Antarctic Marathon even though he cracked a leg bone during the second mile. Next spring, the 46-year-old will enter the Los Angeles Marathon.

Grit and persistence explain the marathons. But no one can explain why, at 24, he was able to walk and feed himself after three years of rehabilitation. Most of the 250,000 Americans with spinal cord injury never regain the ability to even walk. These victims of automobile accidents, violent crime, falls or sports- and work-related trauma must live with paralysis, bladder and bowel dysfunction and its resultant loss of independence. These symptoms also can affect the thousands of people who have cord-damaging diseases such as multiple sclerosis, cervical spinal myelopathy and spinal cancer.

But Rummerfield's story shows that someone with only a few intact nerve tracts in the spinal cord can lead a physically active life. School of Medicine researchers are pulling out all the stops to preserve or even replace damaged nerve tracts in the spinal cord. "The time is right for us to focus our attention on this terrible condition, both because of the human toll it exacts and because science has brought us to the point where a solution is probable," says Dennis W. Choi, MD, PhD, the Andrew B. and Gretchen P. Jones Professor and head of neurology.

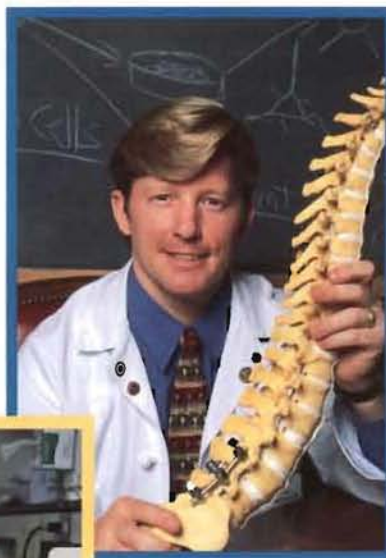


Dennis W. Choi, MD, PhD

## A PROGRAM OF TEAMWORK

The solution will require a team effort. Therefore, scientists, physicians and other health care specialists at the School of Medicine and Barnes-Jewish Hospital have banded together to form the Spinal Cord Injury Program, which began in 1998. The program coordinates clinical care from the injury scene through rehabilitation. And it will funnel research findings into clinical trials.

The Medical Center already has all of the ingredients for a successful program: a noted trauma center, a leading neurointensive care unit, the oldest spinal cord rehabilitation program in Missouri, nationally ranked physical and occupational therapy programs, a neurology department that ranks first in federal research funding, a neurosurgery program that ranks seventh in the nation, top orthopaedic, emergency medicine and trauma surgery programs, a premier neuroradiology department and at least 20 groups studying spinal cord



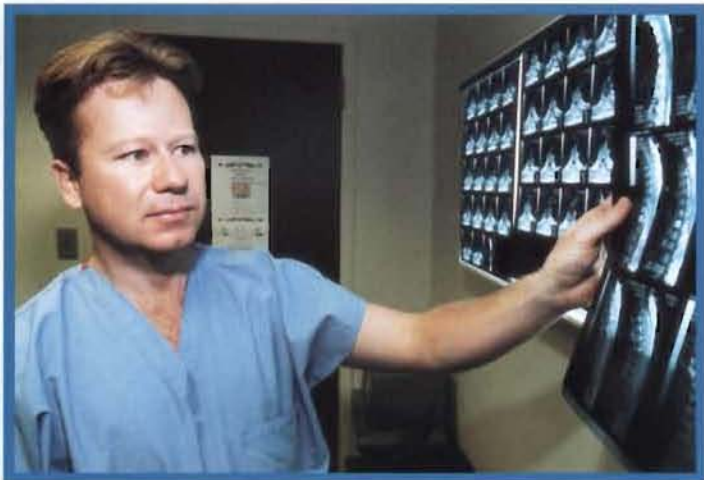
John W. McDonald, MD, PhD

injury and recovery of function. "Very few institutions offer spinal cord rehabilitation under the same roof as acute medical and surgical care," says John W. McDonald, MD, PhD, assistant professor of neurology and director of the Spinal Cord Injury Unit, which focuses on rehabilitation. "Even fewer coordinate these services with outpatient rehabilitation. And only a handful also

have a long tradition of neuroscience research."

McDonald and K. Daniel Riew, MD, assistant professor of orthopaedic surgery; Carl Laurysen, MB, ChB, assistant professor of neurological surgery, and other STATeam (Spinal Trauma Assessment and Treatment Team) members (see graphic) have played leading roles in getting the program started. Laurysen was motivated by a typical frustration of surgeons, whose



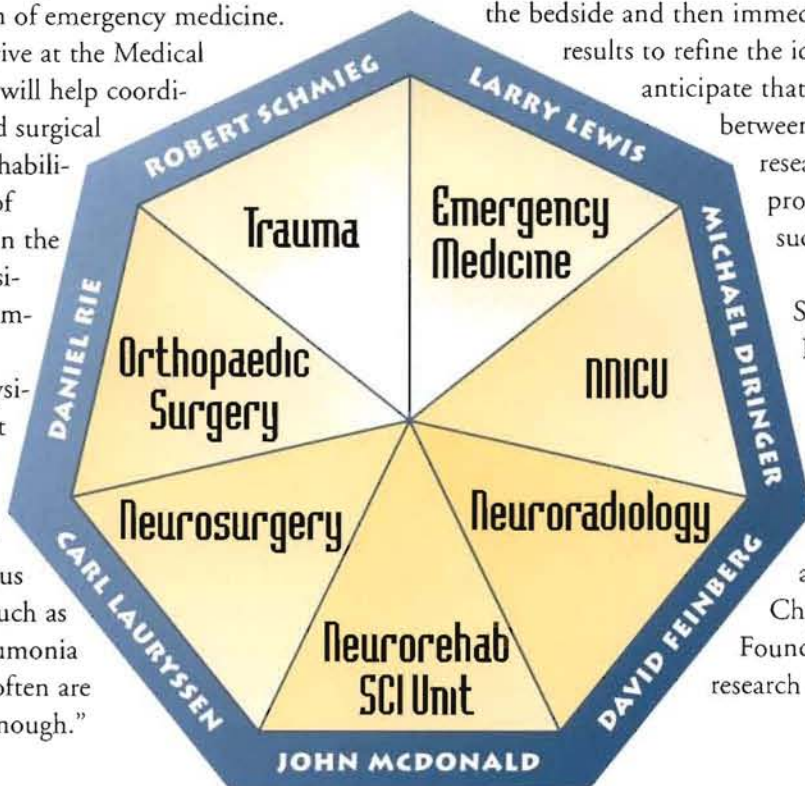


Carl Laurysen, MB, ChB

operating room lives leave little time to keep track of patients' other needs. "There's a lot more to the treatment of spinal cord injury than surgery," Laurysen says. "But it's hard for surgeons to integrate overall care."

Integration will begin with a hot line for physicians who need up-to-the-minute advice on stabilizing and transporting injured patients (314-40-SPINE or 1-800-252-DOCS). "We're setting up a regional system so that a person who, say, dives into shallow water at Johnson's Shut-Ins and breaks his neck will receive optimal treatment from the time paramedics arrive," says Lawrence M. Lewis, MD, associate professor of medicine and director of the division of emergency medicine.

When patients arrive at the Medical Center, the STATeam will help coordinate acute medical and surgical care. By integrating rehabilitation into all phases of treatment, beginning in the emergency room, physicians hope to avoid common complications. "Emergency room physicians have a significant amount of training in spinal cord injury," Lewis says. "But treatments to prevent serious secondary problems, such as wound infection, pneumonia and skin breakdown, often are not thought of early enough."



Tying the program to research is a second strategy to improve care. The spinal cord injury program intends to participate in multicenter clinical studies of potential treatments. For example, the group will test 4-aminopyridine, a drug that helps promote electrical activity in nerve cell axons that are damaged and have lost some of their fatty coating.

Getting injured people to the Medical Center quickly will enable other researchers to study the benefits of early intervention. From basic science experiments, Laurysen and his colleagues have discovered that long-term functional recovery improves if the spinal cord is decompressed within eight hours. They now want to test this approach in patients by quickly removing bone fragments, blood or other materials that may compress the spinal cord. In another study, surgeons and radiologists are assessing the effects of various treatments on blood flow to the spinal cord, using a new technique called diffusion tensor imaging. "We hope to objectively demonstrate how our treatments decrease the extent of injury and improve long-term functional outcomes," Laurysen says.

The outcome assessments also will guide scientists at the bench. "You have to start with an idea, move it to the bedside and then immediately take back the results to refine the idea," Choi says. "We anticipate that this close interaction

between basic and clinical research will give the program its best chance of success."

The Center for the Study of Nervous System Injury (CSNSI), which Choi directs, was selected as one of eight leading spinal cord injury research units in the United States and Europe when the Christopher Reeve Paralysis Foundation organized its research consortium in 1995.

# STATeam: SPINAL TRAUMA ASSESSMENT AND TREATMENT TEAM



## SPINAL CORD REPAIR

The researchers are pinning their hopes on transplantation research, using undifferentiated cells from early embryos. In nature, these embryonic stem (ES) cells give rise to all of the different types of cells in the body. In 1994, David I. Gottlieb, PhD, professor of anatomy and neurobiology and associate professor of biochemistry and biophysics, discovered a way to make ES cells develop into nervous system cells. On the fourth day of culture, he exposes the undifferentiated cells to retinoic acid, a chemical that choreographs the development of the embryo's neural tube, the spinal cord's precursor. The treatment turns the cells into nervous system progenitors, the first true neural cells.

The progenitors then follow their own cues, becoming the three main types of nervous system cells — oligodendrocytes, astrocytes and neurons. The last have long arms that serve as the spinal cord's telephone wires. Oligodendrocytes wrap these arms in the insulating material that enables them to efficiently conduct electrical impulses. Astrocytes support neuronal function and also may participate in signaling.

Gottlieb teamed up with Choi and McDonald in 1996 to determine whether ES cells could replace damaged cells in the spinal cord. "One of the major problems in trying to restore spinal cord function is that the central nervous system is incapable of generating a sufficient number of cells to replace those that have been lost," McDonald explains.

In 1997, McDonald began to transplant mouse ES cells that Gottlieb had treated with retinoic acid. Using rats, he placed about 1 million cells into the fluid-filled cavity that appears after the spinal cord is injured. So

that the transplanted cells could be distinguished from host cells, they were labeled in many different ways.

When McDonald examined the animals two weeks and five weeks later, he found that the cells not only had survived but also had migrated up to 1 cm away from the cavity in both directions — an impressive distance in a rat. The cells also had differentiated into some of the appropriate cells for spinal cord repair — neurons, oligodendrocytes and astrocytes.

Surprisingly, the hind legs of the rats with the ES transplants were able to support the weight of the body. The animals also could move their legs in a more coordinated fashion than injured rats that had not received ES cells. "Our work is still at a very early stage, and it needs to be repeated by other groups," McDonald cautions. "But it's a tremendous feeling to have breached a barrier that has not been crossed before."

The animals' functional recovery was especially encouraging because the ES cells were transplanted nine days after the spinal cord injury — a time at which no previous treatments have promoted locomotor recovery. Moreover, only a small percentage of the transplanted cells survived. So if cell survival could be enhanced, it might be possible to restore bowel and bladder control or even walking. Gottlieb and David H. Gutmann, MD, PhD, associate professor of neurology, pediatrics and genetics, plan to enhance ES cells through genetic manipulation. "Having genetic engineering as the core of a transplantation project is very exciting," Gottlieb says. "We suspect that engineered cell lines may prove to be therapeutically superior to their native counterparts."

The researchers reported their initial results in the December 1999 issue of *Nature Medicine*, and they are working hard to make further progress. "The team's commitment to finding cures for paralysis," Rummerfield says, "reminds me of the fortitude of a race team that has one lap to go before getting to the checkered flag." □



David H. Gutmann, MD, PhD, left, and David I. Gottlieb, PhD.

The Spinal Cord Injury Program has received a \$240,000 start-up grant from the Barnes-Jewish Hospital Foundation. The researchers also successfully competed for a \$900,000 Keck Foundation grant. In September 1999, McDonald received the L.W. Freeman Award from the National Spinal Cord Injury Association for significant contributions to spinal cord regeneration research.

For further information about spinal cord injury, see: McDonald JW and the Research Consortium of the Christopher Reeve Paralysis Foundation. Repairing the damaged spinal cord. *Scientific American*, vol. 281, pp. 64-73, September 1999.





# LASTING IMPRESSIONS

BY KLEILA CARLSON

Conference is a hit with premedical advisers and administrators



MIDWESTERN hospitality and a weekend packed with cultural, social and sporting events were the fare for a group of pre-medical advisers who visited the School of Medicine in mid-September.

From California to Connecticut, 20 advisers from universities and colleges were invited to spend three days getting to know names and faces at the medical school as well as the sights and sounds of St. Louis. The advisers toured the Medical Center and interacted with faculty and students in a variety of settings.

And while spectacular weather, opening night at the St. Louis Symphony and Mark McGwire's grand slam home run were all major attractions for the gathering, the main reason for the visit was to help advisers select undergraduates from their respective schools to refer to the School of Medicine.

"By providing advisers with firsthand exposure to our students,



Showing their Cardinal spirit are, from left, Lamont Anderson, premedical adviser at Colorado College; Jay F. Piccirillo, MD; Judy Gibson, premedical adviser at Colorado College; Jonathan Lam, MSTP student; Will R. Ross, MD; T.J. Apicelli, first-year medical student; and Jodi Domsky, premedical adviser at Bryn Mawr College.

faculty and physical plant, we hope to give them the kind of information that will allow them to encourage their best applicants to apply to Washington University," says John F. Walters, assistant dean for student affairs, who has hosted such events for more than 20 years.



Above: Irene E. Karl, PhD, left, and Koong-Nah Chung, PhD, at the welcoming dinner for the premedical advisers on the Hilltop Campus.



Left: John F. Walters, assistant dean for student affairs, strolls the Missouri Botanical Garden with premedical advisers Jodi Olson, from Scripps College, and Judy Gibson, from Colorado College.





Premedical advisers, Paul McLoughlin II, from the University of Florida, and Kathleen Murphy, from Tulane University, at the Missouri Botanical Garden.

Olson, from Scripps College in Claremont CA, says students she recommends apply to the School of Medicine usually have done something interesting outside of school.

"I look for students who have a strength of personality, a strength of will and a real work ethic, and maybe something a little different about them," says Olson, who also was visiting Washington University for the first time. "Maybe they are an older student who was in the Peace Corps, or they traveled every summer in Latin America to learn about health care in foreign countries."

Olson, who refers students here regularly, says she currently has several students she has encouraged to apply to the School of Medicine and that they are excited at the prospect.

"That is important, because with our location in California, a lot of our students will choose UCLA or UCSF, not only because of their

The experience also benefits administrators here, especially the admissions committee, by helping to establish a personal communication link with the advisers, says W. Edwin Dodson, MD, associate vice chancellor and associate dean for admissions.

"For the past several years, the admissions committee has received more than 5,000 applications annually," says Dodson. "Having a pre-medical adviser call to bring an applicant to our attention is a tremendous help.

"It is difficult for advisers to develop a feeling for our school as compared to others from printed material and photos alone. By seeing the school and facilities, talking with faculty, and, best of all, meeting and hearing our students describe what it is like to be here, it creates lasting impressions. It is especially heartwarming to witness advisers' reunions with their students who are in medical school here now."

Students were involved in every aspect of the conference, according to Walters, including planning a

private lunch for themselves and advisers with no faculty or administrators in attendance.

The luncheon provided an opportunity for David Wilson, PhD, a premedical adviser at Miami University of Ohio, to visit with former advisee, Lara Rymarquis, who is in her third year of medical school here.

"All of the students I spoke with were very excited and happy with their decision to come to Washington University," says Wilson, who was a first-time visitor to the university. "The program obviously treats students as top scholars and encourages independent learning, an environment that should draw the best students to the school."

In addition to a strong academic record, premedical adviser Jodi



Fourth-year medical student, Eyad Hanna, leads premedical advisers, from left, Jim Glass, Creighton University; Judy Gibson, Colorado College; and Barry Anton, University of Puget Sound, on a tour of the Medical Center.



Right: Premedical advisers, John Simpson, from Indiana University, left, and David Wilson, PhD, from Miami University, take in the Missouri Botanical Garden.

Below, third-year medical student Gina Serraiocco visits with Cynthia Csernansky, premedical adviser at Washington University.



A former St. Louis resident, Moses speaks fondly of the city. "I think the City of St. Louis is incredible," she says. "It offers so much in the way of cultural and special events that make it easy for students to be able to actively participate. This is a gem of a city and a wonderful place to live and go to school at the same time!"

Whether it is a premedical adviser visiting the Medical Campus for the first time or an applicant for admission coming for his or her interview, Walters says Washington University has the reputation of being hospitable.

"One of the most significant outcomes of the conference was that we lived up to our reputation of being a very personable school," says Walters. "We are on a first-name

basis. The advisers now know the names, e-mail addresses and telephone numbers of key administrators of the admissions process at the School of Medicine, and they know we want to hear from them." □

reputations but also because of the lower (in-state tuition) cost," she says. "Washington University has a strong commitment to its scholarship program and also to keep student debt at a certain level, which is very competitive with tuition rates in the University of California public schools, but I don't think students are always aware of that."

Gina Moses, a premedical adviser at the University of Southern California in Los Angeles, echoed Olson's sentiments that low tuition is a driving force for students to remain in their home state to attend medical school. She and Olson also noted that competition for admission to medical school is fierce within the University of California system: nationally, one in three students is admitted to medical school, but in California the rate is one in six students.

"Our students have to consider applying broadly and outside of the state," says Moses, who caught up with former USC advisee Natasha

Viquez, a first-year student in the Medical Scientist Training Program here. "I think the Midwest is a marvelous place for a student to get a well-balanced, well-rounded medical education. Washington University surrounds its students, faculty and administrators in a first-class atmosphere; it does everything so well. It's clear the school is actively committed to the academic preparation and personal well-being of its medical students."



Anne Frankel, premedical adviser at the University of Iowa, visits with fourth-year medical student Ali Husain at the student-organized luncheon.



# Student Stage

Shattering the sounds of silence

## Deaf student masters OT program; receives 'gift of hearing'

by Jane Richardson

WHEN I arrived at Washington University in the fall of 1997 to enter the School of Medicine's Program in Occupational Therapy, I was about to realize two of my lifelong dreams: to earn my master's degree in occupational therapy, for which I was academically and mentally prepared to work hard and succeed; and to have my hearing partially restored, which transpired by an unexpected twist of fate midway through my academic program and has forever changed my life.

One of the wonderful things about life and our common humanity are the stories behind every individual; they reveal the processes and steps that lead to certain outcomes and realities in a person's life. How does one person become a brain surgeon and another an artist? What influences a person to choose one school over another when applying to a particular program? For me, my choice of a graduate program depended as much on how the program approached and handled my disability as on its academic reputation.

I have been profoundly deaf for 18 of my 30 years. I began to lose my hearing at age 3, possibly as a result of taking ototoxic medications for ear infections, but no one knows for certain. Because of my deafness, I have always had to fight for inclusion and acceptance. Too many times, administrators at academic institutions I applied to would discourage me because they said that I

would be likely to "struggle," and have enormous hardships with certain areas of study. I was tired of being judged without being given the chance to prove that my disability had no bearing on my desire and motivation to succeed. In fact, it made me more hungry for achievement and to prove the skeptics wrong.

When I applied to Washington University and informed officials that I would need services such as a full-time sign language interpreter to assist me in class, the response was immediate and positive. Their acceptance without question was refreshing. Administrators with the occupational therapy program gave me an unbiased opportunity by believing in me as much as I believed in myself, and provided

whatever was necessary for me to reach my full potential.

When fall classes began, I was paired with a brilliant sign language interpreter who became my ears for that first rigorous year. Since this was my first experience with a sign language interpreter in the classroom (I had used notetakers in the past), I enjoyed full participation and involvement in the program, asking questions and following along with discussions. The only areas in which I questioned my ability to communicate effectively were during patient/therapist interactions. While I could easily have had an interpreter with me at all times, I desperately wanted to be able to communicate one-on-one with my patients.

During my first level-one fieldwork, where students observe an



Occupational therapy student Jane Richardson works with patient John Lindewirth, of O'Fallon.



occupational therapist in a clinical setting, I was shocked to discover how difficult communication was going to be if I planned to use my lip-reading skills alone. My first patients were stroke victims and spoke haltingly and with some distortion. I struggled to listen to them and became increasingly frustrated.

I set up an appointment with James M. Hartman, MD, assistant professor of otolaryngology at the School of

Medicine, to find out if there were any new high-powered hearing aids to enhance my lip-reading skills.

The news was disappointing; then Dr.

Hartman mentioned the possibility of a cochlear implant, a surgically implanted device containing electrodes that directly stimulate the auditory nerve. It all seemed too good to be true, as I had long ago given up any notion that I would ever hear again.

My second level-one fieldwork was as troublesome as my first. This time my difficulty was in trying to understand the tiny, tired voices of children. That's when I knew I had to seriously investigate cochlear implants. I returned to the medical school to undergo a series of tests to determine if I was an appropriate candidate for the surgery. I had MRIs, CT scans, lip-reading tests, listening tests, vestibular balance tests, and even a psychological test to find out that, yes, I was indeed a candidate.

I was told that the cochlear implant would greatly enhance my hearing abilities, so much so that I would probably be able to use the telephone (after 18 years of relying

solely on a Telecommunications Device for the Deaf, or TDD. It seemed like some far-fetched dream, and I worked hard to not get my expectations up. As my audiologists kept drilling into me, "Keep your hopes high and your expectations low."

My surgery was on October 26, 1998, and was performed by a team of physicians headed by J. Gail Neely, MD, professor of otolaryn-

**"While I could easily have had an interpreter with me at all times, I desperately wanted to be able to communicate one-on-one with my patients."**

**JANE RICHARDSON, occupational therapy student**

gology. I knew I was in good hands for the four-hour procedure, which left me with 14 staples on one side of my head, just in time for Halloween. After three-and-a-half weeks of absolute silence while waiting for the incision to heal, I was finally scheduled for "hook up" — that is, to have the external processor and microphone turned on so that the electrodes could be activated by the sounds of the world around me. Hook-up day was November 19, my 30th birthday, and a day of enormous anticipation. My audiologist, Laura Holden, tested each electrode, and suddenly sounds began to fill my head. The sounds seemed high pitched and squeaky, not especially beautiful, but I was told that a large part of the hearing process was going to happen gradually as my brain began to make sense out of these new and strange inputs.

Sure enough, as the days went by, I found I was able to distinguish more and more sounds. Sounds I

had not heard since I was a child came back in waves: falling leaves scraping the pavement, raindrops hitting the window, birds chirping in the trees, elevator bells dingling, the crunch of snow underfoot. It was a world of auditory beauty, and I was intoxicated by every glorious aspect. The very best part was the dramatic improvement in understanding human speech. I began to use the telephone without the TDD and lis-

ten to the radio and books on tape. All these things were impossible just months before.

I even had to tell my interpreter that as much as I appreciated him, I no longer needed

him. For every step of gained independence and newfound hearing, I felt I needed to pinch myself. Was this really happening? Even Susan Binzer, my other audiologist, was amazed at my progress. I currently hold a record in her office for understanding speech without lip-reading and am enormously proud of it!

The most wonderful part is that with the cochlear implant I can communicate effectively with people, especially my patients. Washington University prepared me exceptionally well to be a competent occupational therapist, and the medical experts at the School of Medicine and Barnes-Jewish Hospital gave me the ultimate gift of hearing. As I wrap up my level-two internship at Good Samaritan Hospital in Puyallup WA, I have no doubt that my future is bright. □



## New medicine in the next millennium

by William A. Peck, MD, executive vice chancellor for medical affairs and dean of the School of Medicine

WHAT our academic health centers have accomplished is truly inspirational. They are miraculous achievements of 20th century America. The faculties of our academic health centers are the keys to this true scientific revolution. We owe a great deal to the federal agencies that fund our research mission and the political advocacy that has supported them. Philanthropy has played a crucial role and the pharmaceutical industry, capitalizing significantly on the scientific productivity and research training programs of academe, is responsible for generating an amazing array of effective new drugs.

As a direct consequence of our great science, the best health care in the world is to be found in America. It is incredibly exciting to imagine what we will accomplish in the next millennium; even greater scientific achievements, their application to patient care and the consequent dramatic improvement in the health of the nation and the world — what can be called the new medicine.

I recently attended a seminar in which leading investigators described their work. Nothing presented was even imagined 30 years ago. We cannot imagine where we will be in 10 to 15 years, but some predictions are possible.

The entire human genome will soon be sequenced, heralding the post genomic era. Increasingly pow-

erful computational methods, molecular epidemiology, functional genomics and the use of model organisms will sharply expand the current portfolio of thousands of known disease genes and provide the basis for understanding polygenic disorders.

Advances in cell and molecular biology will disclose how cells exercise their options to multiply, specialize, become cancerous or die — the result will be better cancer treatments and the prevention of developmental abnormalities. Diseased organs will be replaced with com-



William A. Peck, MD

patible new organs grown *in vitro*, with genetically programmed immunologically compatible cells and genetically reprogrammed cells *in situ*, promising new treatments for devastating conditions such as spinal cord injury, Alzheimer's disease and Parkinson's disease.

Advanced imaging methods will allow the second-to-second monitoring of organ function in living humans, expanding insights into development, learning, thought, emotion and virtually all aspects of brain function. The structural basis for behavioral abnormalities will be understood and results of new therapeutic agents monitored. Sensitive imaging techniques will soon permit the replacement of costly, occasionally morbid invasive methods of assessing vascular integrity with safe, noninvasive methods.

In the 21st century, we will unlock the mechanisms of aging and human diversity — and we will anticipate and eradicate newly emerging diseases.

Public health and health services research will make enormous contributions that will markedly enhance the prospects for better health worldwide.

Clearly, space does not permit me to predict even a minute fraction of the obvious scientific future, let alone the future that can't be imagined.

But in my view, three overlapping threats cloud the future of scientific progress and its application to human health in the 21st century.

First, challenges to the vitality of academic health centers threaten the major engines of scientific progress. Second, the dysfunctional organization and financing of health care in America reduce the attraction of outstanding people to the medical profession. Third, lack of universal health care insurance and access deprives many of the benefits of the new medicine.

The uncertain future vitality of academic health centers is widely recognized. I scarcely need to recount the issues. They are underfunded by managed care, Medicaid and Medicare. They have a disproportionately large responsibility for the care of the uninsured. They are saddled with rising costs of compliance to unfunded mandates which add little to value or quality. Hence, large subsidies from clinical revenue which have contributed significantly to research and teaching are disappearing. Research operations are now underfunded and research facilities undercapitalized by external agencies.

Our business-like adaptations to the competitive market place — clinician tracks, incentive compensation, mergers and practice and HMO ownership, among others —



have altered our culture. Faculty who are pressured to provide more clinical service sacrifice teaching and clinical research, reducing the attractiveness of the academic lifestyle. We risk a shortage of clinical teachers and clinician scientists. Managed care constraints attenuate learning opportunities for our students and residents.

Given these and other problems, will we continue to attract outstanding young people to academic careers and retain them once they are signed up? Equally challenging is that the adverse health care environment will create a shortage of excellent practitioners.

That the existing medical workforce is disaffected is an understatement. I receive frequent complaints from practicing physicians; many would not do it again if they had the choice. Unhappy physicians support unionization. Only a minority of Americans think that managed care companies treat consumers well. Health plans are losing money. Hospitals are in or nearing red ink, and bond ratings are declining. Physician practice management companies are bankrupting at an unprecedented rate. And yet health care costs in America are rising appreciably. Double-digit premium increases are commonplace.

A recent nationwide poll by Opinion Research Corp. addressed what parents would encourage their children to study; technology and law beat out medicine by large margins. Most medical students have been discouraged from studying medicine some time during the process of applying to medical school. On the bright side, today's medical students are truly extraordinary, not only in academic quality but also in social consciousness. Volunteerism is at an all time high. There is evidence that this altruistic

## "It is incredibly exciting to imagine what we will accomplish in the next millennium... what can be called the new medicine."

spirit continues through graduate medical education and beyond. We are seeing it in our faculties and young practitioners.

And finally, what about the uninsured, the third threat to 21st century progress?

A staggering 44.3 million Americans are now uninsured, and many more have inadequate insurance. Noteworthy is that 35.6 percent of Hispanics and 22.2 percent of African Americans and millions of children are not covered. It is appalling that the number of uninsured rose by nearly 1 million during this past year. Recent increases are in part an unintended consequence of welfare reform. Many of the newly employed are low wage earners who cannot afford premiums, are no longer eligible for Medicaid and have jobs that do not provide health insurance. A significant fraction of the uninsured are well-employed and can afford insurance. The problem is complex. Insurance is not in itself tantamount to access. It is necessary but not sufficient. There is overwhelming evidence that having insurance is a good predictor of health quality. As we create the new medicine, the population that will enjoy it is shrinking.

It is not difficult to describe the problems. I do not have the solutions. I do not have the answers. But I do have some recommendations.

First, we must enhance our resolve to sustain and promote our academic mission. We must push harder to increase federal support

for medical science and funding for a greater share of research costs, and persist in efforts to forestall provisions of the Balanced Budget Act that jeopardize teaching hospitals and health systems. All payers, not just Medicare, must share in the costs of teaching and of the care of the uninsured.

Our own houses must be in order. Academic health centers must lead in providing highest quality, customer responsive health care at competitive prices, in eliminating medical errors which extract a toll in morbidity, mortality and cost, and in establishing pathways to the best medicine. We must mentor and guide our faculty and reward their teaching efforts, eliminate clinical overload and reduce the counterproductive tensions between investigators and clinicians, align faculty goals with the goals of the institution and increase the representation of women and minority individuals on our faculties. We must continue to restructure undergraduate medical education, emphasizing professionalism and preparing our students to practice critically in the information age. Public expectations of the physician are at an all-time high, and will not diminish. We must educate the young to understand the great rewards of patient care and of academic careers, and attract more young minority individuals to the study of medicine and to academe.

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# Alumni & Development Report

## Olney is first Feighner Professor in Psychiatry

JOHN P. Feighner, MD, has established a new professorship in the Department of Psychiatry at the School of Medicine. The first occupant of the John P. Feighner Chair in Neuropsychopharmacology is John W. Olney, MD, a professor of psychiatry and neuropathology.

Feighner is the president and director of the Feighner Research Institute, a San Diego-based research facility he founded to study cutting-edge medical therapies for psychiatric illness. He is among the world's leading experts in neuropsychopharmacology, a discipline



John P. Feighner, MD, left, and John W. Olney, MD.

that examines the effects of drugs on the mind, behavior and the nervous system.

Feighner was a 1959 Phi Beta Kappa graduate in psychology from the University of Kansas in Lawrence. He earned his medical degree at the University of Kansas Medical School in Kansas City KS, in 1963.

Following an internship at the University of Kansas Medical Center, Feighner did his residency in psychiatry at the School of Medicine from 1966 to 1970.

Olney is recognized as a pioneering neuroscientist who has helped to establish glutamate as a major excitatory transmitter in the brain. Stemming largely from Olney's research over the past 30 years, glutamate now is recognized as a neurotoxin that contributes to the degeneration of brain cells in a number of neurological disorders.

In the early 1970s, after discovering that glutamate can kill nerve cells in the brain by overstimulating them, he coined the term "excitotoxicity." He also hypothesized that glutamate excitotoxicity might play an important role in neurodegenerative diseases. □

## Reunion 2000 plans get under way

REUNION 2000 festivities are scheduled to begin at noon on Thursday, May 11 and continue through Saturday, May 13.

### Social chairs are:

- Class of 1940:* Llewellyn Sale Jr., MD
- Class of 1945:* Marshall B. Conrad, MD
- Class of 1950:* Meredith J. Payne, MD, and Maurice Lonsway Jr., MD
- Class of 1955:* Miles C. Whitener, MD
- Class of 1960:* Gustav Schonfeld, MD
- Class of 1965:* James E. Marks, MD
- Class of 1970:* Francisco J. Garriga, MD
- Class of 1975:* David B. Clifford, MD
- Class of 1980:* Lisa B. Ring, MD, and James Fleshman, MD
- Class of 1985:* Herluf G. Lund Jr., MD
- Class of 1990:* Linda R. Peterson, MD

### Gift chairs or committees are:

- Class of 1945:* Samuel B. Guze, MD, and John C. Herweg, MD
- Class of 1950:* Elmer B. Brown Jr., MD, and Joseph H. Iwano, MD
- Class of 1955:* Robert C. Drews, MD, and Frederick T. Kraus, MD
- Class of 1960:* Floyd E. Bloom, MD
- Class of 1965:* Margaret C. Telfer, MD
- Class of 1970:* David W. Ortvals, MD, Stephen A. Kamenetzky, MD, Paul Mennes, MD, and William T. Shearer, MD
- Class of 1975:* JoEllyn M. Ryall, MD
- Class of 1980:* Matthew Bodner, MD, James Fleshman, MD, David Mutch, MD
- Class of 1985:* Joseph J. Armistead, MD, and Neville Ford, MD
- Class of 1990:* Pauline T. Merrill, MD, and Paul A. Miller, MD

Among the scientific program speakers are Floyd Bloom, MD '60, Richard C. Braun, MD '55, Bruce R. Brodie, MD '70, David Clifford, MD '75, Scot Hickman, MD '70, Wolff M. Kirsch, MD '55, Michael Nelken, MD '75, M. Alan Permutt, MD '65, Mark Stirham, MD '75, and Margaret Telfer, MD '65.

Registration materials will be mailed in February. Meantime, find reunion information on the Web at <http://medschool.wustl.edu/alumni>. Questions may be e-mailed to [bebermer@msnotes.wustl.edu](mailto:bebermer@msnotes.wustl.edu). □



# Second Century Award winners honored

THE Second Century Award celebrates the advent of the second 100 years of excellence in research, teaching and patient care at the School of Medicine. The awards for 1999 were presented at a gala dinner held at St. Louis' Ritz-Carlton Hotel on Oct. 15. Honorees for the year were: Leonard Berg, MD '49, Asa C. Jones, MD '42, and the Edison and Newman families.

Leonard Berg, MD '49, is professor emeritus of neurology at the School of Medicine, where he directed the Alzheimer's Disease Research Center (ADRC) from 1985 to 1997. Berg initiated the school's dementia study group in 1972. In 1979, he started the university's multidisciplinary Memory and Aging Project, which he directed until 1992. In 1984 he was awarded a National Institute on Aging program project grant, "Healthy Aging and Senile Dementia," and, in 1985, the ADRC grant, also from the National Institute on Aging.

In 1989, Berg became a full-time faculty member, focusing his research on diagnostic criteria for dementia. He developed the Clinical Dementia Rating, a principal scale used worldwide for staging Alzheimer's disease and to distinguish between mild Alzheimer's and normal aging.

In 1997, Washington University inaugurated the biennial Leonard Berg Symposium on Alzheimer's Disease, which is sponsored by the ADRC. Washington University presented Berg a Distinguished Alumnus Award in 1983, and the Medical Center Alumni Association gave him an Alumni/Faculty Award in 1989. In 1993, a Distinguished Alumni Scholarship was named in his honor.

Asa C. Jones, MD '42, has had a lifelong connection with the School of Medicine. He was born on the Medical Campus, and as a child was treated here for a hip problem. That experience kindled his interest in orthopaedics. During his senior year of medical school he completed a six-month elective at the St. Louis Shriners Hospital, arranged by his mentor, J. Albert Key, MD, professor of orthopaedics.



Second Century honorees, from left, Asa C. Jones, MD '42, Leonard Berg, MD '49, and Andrew Newman, accepting on behalf of the Edison and Newman families.

Following graduation, he began a residency in orthopaedic surgery in Kansas City which was interrupted by a tour of duty in the U.S. Army Medical Corps. Jones later completed his residency and began a practice in general orthopaedic surgery in Lima OH.

Jones and his late wife, Dorothy, provided a \$100,000 challenge gift to attract new Eliot Society members in 1992, endowed the Asa C. and Dorothy W. Jones Professorship in Orthopaedic Surgery, and gave their entire estate to the medical school to establish an additional orthopaedic surgery professorship in honor of J. Albert Key, MD.

The Edison and Newman families for three generations have given generously to Washington University and the School of Medicine.

Their gifts have established two professorships, the Edison Professor of Neurobiology and the Harry Edison Professor of Surgery, and have provided major support for the Flance Visiting Professorship. They have been significant contributors to medical research, especially that related to diabetes and child psychiatry. Their generosity made possible the building in 1995 of the Eric P. Newman Education Center. The families also contributed toward the construction of the Clinical Sciences Research Building.

Family members have served on various community, university and Medical Center boards. Eric P. Newman, a graduate of the School of Law, serves on the Libraries' National Council. Andrew Newman (pictured above) is a trustee of Washington University, a past chairman of the Medical Center and St. Louis Children's Hospital, a current member of the School of Medicine's National Council and the chairman of the university's real estate committee. □





## The Honorable Continuum

by Ruth Bebermeyer

*"The Honorable Continuum" is a series of profiles highlighting the accomplishments of Washington University School of Medicine students, graduates and faculty who have an unbroken tradition of excellence — from emeriti professors to current students, from medical graduates to current and former house staff.*

### Heading to the high country to relax

Hunter Heath III, MD '68, credits his School of Medicine classmates, Jeremy Altman and John Michlin, with having given him "a marvelous gift" — teaching him how to play guitar to relax from the pressures of professional life. However, his position as medical director of U.S. Endocrinology at Eli Lilly & Co. in Indianapolis allows him little time to play his houseful of guitars, banjos and dulcimers. He directs the activities of 10 physicians and 65 staff who support Lilly's U.S.-based clinical trials in diabetes/insulin, growth hormone, skeletal diseases and postmenopausal women's health.

Heath moved to Lilly after five years as professor of medicine and chief of the division of endocrinology, metabolism and diabetes at the University of Utah Medical Center in Salt Lake City. Earlier, he spent 15 years on the faculty at Mayo Medical School in Rochester MN, where he was professor of medicine. He headed Mayo's endocrine research unit and was director of research at the Mayo Clinic in Scottsdale AZ. At Utah, Heath was principal investigator for NIH-funded projects focusing on inherited disorders of bone and calcium



Hunter Heath III, MD '68

metabolism and endocrine tumors. He received the house staff teaching award from Utah's Department of Internal Medicine three years in a row.

Heath has published extensively in medical journals and in *Sport Aviation*. Inspired by his father, a lifelong aviation enthusiast, Heath took up flying after his father's death. That led to involvement in the international Experimental Aircraft Association (EAA). He represented EAA on a Federal Aviation Administration panel to review the performance of the Federal Air Surgeon's office, then founded and chaired the EAA's Aeromedical Advisory Council.

Reluctant to leave the Utah scenery when they moved to Indiana, Heath and his artist wife, Glenna Witt Heath, purchased 20 acres of land between the Grand Canyon and Bryce Canyon National Monument. There, they have a cabin in the high desert "43 miles from the nearest gas pump, and without telephones, pagers, gas, electricity or other urban conveniences." They hike mountains and slot canyons, ride horses, paint, photograph, or "just sit on the cabin deck and listen to the cattle graze in the meadow below." Heath says "five days there is worth a month anywhere else!" Although he doesn't currently own a plane, he dreams of flying in and out of the ranch on its dirt airstrip.

The Heaths' son, Ethan, is a graduate of the Eastman School of Music and the Juilliard School and is currently a violist with the Hong Kong Philharmonic.

### Engineering a future in medicine

Robert Brophy, WUMS III, has had the enviable challenge of having to choose among multiple interests and multiple talents in deciding his life's direction. He developed a love of soccer early, played during high school in Syracuse, and chose to go to Stanford because of the combination of quality academics and athletics. He helped Stanford's soccer team make the NCAA play-offs two years running and earned all-conference honors.

Brophy then played several years of professional soccer, winning a national championship with the California Jaguars. His athletic exploits also gave him firsthand experience with knee, leg and nose surgery! He met his wife Jen, also a college soccer player and now an elementary teacher, at the World Cup games at Stanford in 1994.

Brophy also found time to be a teaching assistant, a tutor and to do data analysis for Stanford Hospital. He graduated in 1995 with a master's degree in industrial engineering, a bachelor's degree in electrical engineering and another bachelor's in economics. He worked at a



consulting firm where he evaluated biotechnology and medical technology investments, analyzed stock prices and assessed price patterns in the commodity market, prepared attorneys and expert witnesses for court testimony and developed computer software.



Robert Brophy, WUMS III

While living with an aunt whose child was born developmentally impaired, Brophy learned sign language to communicate with his cousin. He began to question whether he would be satisfied in a career with limited human involvement. Medicine became an attractive choice, one that offered him the human element, yet allows him an engineer's appreciation of the magnificently complex "machine" that is the body.

His interactions with faculty and students during his admission interview convinced Brophy that he wanted to attend the School of Medicine; the offer of a full-tuition scholarship clinched the decision. He is the Samuel B. Guze Distinguished Alumni Scholar and recently received another scholarship from the Southern Medical Association.

Brophy was a member of the Liaison Committee on Medical Education Subcommittee for the Educational Program prior to the school's recent accreditation review. He continues to sandwich work with study. In summer 1998 he worked for a medical informatics company in Palo Alto with Jon Morris, MD '92. He has analyzed data for BJC Health System's Clinical Effectiveness branch and for the Mallinckrodt Institute of Radiology. He co-authored a report of the radiology research that has been published in *SPIE Medical Imaging*.

Choosing from among the specialties that already appeal to him will present Brophy with yet another challenge. For now, he is content to savor the possibilities.

## A rare bird's eye view

Craig Roberts, MD '83, is a complex person trying with some success to lead a comparatively simple life. A generalist physician with a specialist avocation, he says, "Time is more valuable than money, and you have more time if you need less money."

President of Tillamook Emergency Services in Oregon, Roberts has taken 24-hour shifts in the emergency room at Tillamook County General Hospital for the past 11 years. The schedule allows him precious time

for family and for birding, a passion that a cousin introduced to him at age 11, when he identified his first Cedar Waxwing. Most recently, a rare Little Stint spotted in Vancouver, BC, was number 785 on his list of North American birds identified, a feat which has been exceeded by no more than 25 people worldwide. (The official list of North American species now numbers slightly more than 900.)

After residency in family practice in Spokane WA, Roberts practiced family medicine for two years before moving to Tillamook, within easy distance of the Portland airport.

Like the birds he delights in, Roberts is a frequent flyer. His travels include remote areas from the Arizona-Mexico border to Newfoundland. ("From Gambell AK you can see across to Siberia.") He has organized flights off the coast of southern California in a survey plane used by whale researchers. Flying 90 mph at 200 feet, he saw seabirds rare to United States waters — Red-tailed and Red-billed Tropicbirds and a Cook's Petrel — as well as a Blue Whale.

He leads many of the expeditions, which range from small groups to 70 members on Attu Island AK. Even in Attu, Roberts cannot escape doctoring. With the nearest hospital 1,500 miles away in Anchorage, he has treated hypothermia, sewed up lacerations, evaluated a patient with IUD problems, assisted someone who had fainting spells resulting from a tachydysrhythmia, and treated a lymphoma victim who had pneumonia.

In the emergency room, Roberts enjoys educating patients and defusing difficult situations. When terrified parents bring in an injured child, he takes reward in being able to calm them, treat the child, and send them home feeling that "it wasn't so bad after all."

He and his wife, Crisanne, married after his first year in medical school. They have three children, Rebecca, 10, who is fluent in Spanish; Mark, 11, an animal lover and fisherman; and Jonathan, 14, a gifted pianist and trumpet player. Roberts himself claims to have been the "worst trombone player in the original Hot Docs" while in medical school.

Roberts' father, Wayne Roberts, MD '51, is now retired from family practice. □



Craig Roberts, MD '83



Gordon and Susie Philpott

## Lending a hand to 'a good student in need'

by David Linzee

FOR Gordon W. Philpott, MD, the road to Washington University School of Medicine began deep in the Canadian woods, years before he was born. His father, who at the time was a college student working as a forest ranger, had cut his hand with an ax. Fearing that he would lose his thumb, he set off for the nearest hospital, which was a three-day journey by canoe. On the way he was fortunate to encounter a camper who had a first-aid kit and knew how to clean and bandage the wound. The camper was William H. Danforth (grandfather to Washington University's former chancellor), founder of Ralston Purina in St. Louis.

"Mr. Danforth had a tendency to pick people up on his travels," Gordon says with a smile. After that chance meeting, Gordon's father frequently corresponded with Danforth and eventually went to work for him in Ralston Purina's advertising department. He also accompanied Danforth on many of his far-flung journeys and wrote a biography of him called *Daring Venture*. As head of advertising, Gordon's father helped make the company's checkerboard trademark known all over the world. (Many believe he invented it, but he credited Danforth.) The elder Philpott worked for the company throughout his career. "Ralston put my sister, me and all of our children through school," Gordon says.

In his case, the schools were

Yale University and the School of Medicine, from which he graduated *cum laude* in 1961, and began a distinguished career with the institution. Gordon now believes it is his turn to help someone through medical school. He and his wife, Susie, have established a family foundation at the School of Medicine through the estate of his mother, Drue Wilson Philpott, to finish funding the scholarship started by his mother for "a good student who needs it."

The Philpotts have been generous to Washington University in other ways as well. Gordon has been active in the Medical Center Alumni Association and served as co-chair of the School of Medicine Eliot Committee. In 1996, he was recognized with the Alumni/Faculty Award. Susie volunteers her time teaching English to international students through the Stix International House on the Hilltop Campus. She meets regularly with her students for a period of years, getting to know them well. Two of her students have started families of their own, she relates, and "we became their children's American grandparents." Susie also has been an active member of the board for the Washington University Women's Society since 1988.

Gordon came to medicine through his interest in biology. "It was a natural bent. I wanted to be a scientist, but I wasn't smart enough," he quips. "Or perhaps, I liked people too much; I enjoyed taking care of them. I think that's

why a person turns the scientific interest to medicine."

Looking back on his career, he is unable to pick one aspect — teaching, research or patient care — as the most rewarding. "I liked the balance of all three," he says. "We were lucky in my generation; we got to do it all."

Gordon began teaching at the School of Medicine as soon as he completed his residency at Barnes Hospital, joining the faculty as an instructor in surgery in 1968. He retired in July 1999, as Edison Professor of Surgery and professor of radiology.

For much of his career, he was active in cancer research. Since 1988, he has been the principal investigator for numerous grants from the National Institutes of Health. Several of the grants were for the study of monoclonal antibodies directed against colon cancer — work that continues today under his partner in the project, Judith M. Connett, PhD. As a surgeon, Gordon in later years specialized in breast cancer diseases.

His involvement in cancer research led him to an active role in the development of the Breast Health Center at Barnes-Jewish Hospital. "The center was designed as a special area of the hospital for the diagnosis and planning of treatment for women who have breast diseases," he explains. "We treat all kinds of diseases, though of course the scourge is cancer. It will become an integral part of the soon-to-be-completed Cancer Center."



The Breast Health Center consumed much of Gordon's time and energy in the latter stage of his career. In the end, he says, "I felt I'd made progress, so I could retire. The center is in good hands. They've brought in some fine people to run it."

The Philpotts are both native St. Louisans, having met at John Burroughs School. "We were high school sweethearts," Susie says. They married after Gordon's first year of medical school. The couple have three children. Tim graduated from the School of Medicine in 1994 and specializes in obstetrics/gynecology at Missouri Baptist and Barnes-Jewish hospitals. Matthew is managing director of the International Building Co. Their daughter, Elizabeth Philpott Sears, is studying for a master's degree in archeology at the University of Missouri-Columbia. All of the children are married, and the Philpotts are the grandparents of four. "They are all in town," says Susie. "It's wonderful. We get to participate in all the little things like school plays that we would miss if they lived in a different city."

Of retirement, Gordon says simply, "I love it." His long association with Washington University has reached a new phase; he can now study some of the subjects he didn't have time for before. "It's like the candy store around the corner," he says of the Hilltop Campus, which is less than a mile from the couple's home. At present, he is auditing an undergraduate art history course.

His interest in art was whetted by the couple's annual bicycling tours of Europe. In recent years they have cycled Spain, Switzerland, France, Ireland, and most recently, Italy — without once falling off. "We've been lucky," says Susie. "Also cautious." Cycling, they found, was

a good way to see the countryside around Bologna, as well as to burn off high-calorie Bolognese food. They appreciated the Italians' courteous attitude toward cyclists, so unlike that of American motorists. "They don't honk," says Gordon. "They stop and wait. It's amazingly thoughtful — considering how fast they drive normally."

Another sport to which Gordon now devotes more time is fly-fishing. Throughout his career, fishing and tying flies was a relief from the pressures of medicine. He has fished all over the world. "Sometimes he fishes where there isn't any water," jokes Susie, explaining that he goes to open areas of Forest Park to practice his casting technique. But she hasn't had to learn how to clean and cook the fish; Gordon believes in catch-and-release. "These days we're more interested in conservation issues than in the fishing itself," he says. "We have to keep our streams clean. Get rid of dams we don't need anymore. And we don't have much time. Our resources won't last forever."

On the current state of medicine, he takes a balanced view. Sweeping changes are taking place, but some of them are definitely for the good. In the '60s and '70s, medicine was "too entrepreneurial." Now, with some controls and



Gordon W. Philpott, MD '61, and his wife, Susie, on one of their cycling excursions abroad.

restrictions on income in place, the entrepreneurs are going elsewhere.

The Philpotts continue to reap a special kind of reward from his own long career in patient care. "I often meet former patients of my husband's," says Susie. "I'll be signing a charge slip in a department store, for instance, and someone will see my name and ask if I'm related to the surgeon — there aren't many Philpotts in St. Louis. Then they'll tell me their story. They're standing there alive and well, so I know my husband did a good job." □



# Class Notes

*News for Class Notes may be e-mailed to [bebermer@msnotes.wustl.edu](mailto:bebermer@msnotes.wustl.edu) or sent to Ruth Bebermeyer, Medical Alumni Office, 4444 Forest Park Ave., Ste. 6500, St. Louis, MO 63108.*

**40s** **Carlyle A. Luer, MD '46**, has been named a senior curator at the Missouri Botanical Garden in St. Louis, where he has been a research associate for more than 15 years. A retired surgeon, Luer is a world authority on pleurothalid orchids and the recipient of the 1996 Gold Medal of Achievement from the American Orchid Society. He co-founded the Marie Selby Botanical Gardens in Sarasota FL, where he lives. He has made frequent trips to Central and South America to study tropical orchids in the wild, collecting nearly 20,000 specimens and preparing more than 3,800 drawings. His descriptions of more than 1,500 new species and 12 new genera now appear in a 19-volume publication of the Garden. He is also the author of two definitive books, *The Native Orchids of Florida* and *The Native Orchids of the United States and Canada*.

**50s** **Lowell A. Gess, MD '51**, recently returned from a trip to Sierra Leone and Ghana, Africa. In Sierra Leone, where he has often volunteered since his retirement as a full-time medical missionary, he catalogued the extensive damage to the Kissy UMC Eye Hospital at Freetown. More than \$100,000 worth of equipment and supplies were deliberately destroyed by soldiers during the rebellion prior to the peace accord that was signed in July. In Ghana, Gess spent several weeks doing eye surgery and treating clinic patients, restoring sight to a number of people.

**Patricia Justice Melechen, OT '56**, writes that her husband of 25 years, Dr. Norman E. Melechen, died July 9, 1999, of kidney failure. A memorial

service was held on Sept. 25, at the St. Louis University Hospital chapel.

**60s** **Marilyn Matthias, OT '64**, has two sons, four step sons, and six grandchildren. For the past 25 years she has been an OT consultant to residential facilities for children and adults with severe/profound developmental disabilities who require skilled nursing care. She lives in Arlington Heights IL.

**70s** **Joann L. Data, MD '70, PhD**, has been appointed senior vice president of regulatory affairs and quality assurance at Amylin Pharmaceuticals, Inc. in San Diego. Previously she had been a vice president at several other pharmaceutical companies, including CoCensys, Upjohn, and Hoffman-LaRoche. Amylin is a development pharmaceutical company focused on metabolic disorders and is currently developing a synthetic analog of the hormone amylin for the treatment of diabetes.

**William T. Shearer, MD '70, PhD**, is president-elect of the Clinical Immunology Society.

**Scott C. Fleischman, MD '74**, is "alive and well in Phoenix, practicing radiology in a large suburban community," and hopes all '74s are doing well.

**90s** **Robert L. McNamara, MD '91**, began work in August with the Indian Health Service at Chinle AZ as an internist/cardiologist. He remains an associate in the Department of Epidemiology at the Johns Hopkins School of Public Health.

**Jane Lingelbach, MD '92**, finished general surgery training at Massachusetts General Hospital in 1998, went into private practice for two years, and

now has returned to a vascular surgery fellowship, again at MGH. She plans to move to a general and vascular surgery practice in the fall of 2000.

**Paul Ruggieri, MD HS '92**, who completed a general surgery residency at the School of Medicine, has written *The Surgery Handbook: A Guide to Understanding Your Operation*. The book informs patients on what to expect before, during and after an operation. Ruggieri is a general surgeon in private practice in Bristol RI.

**Peter Bridge, MD '93**, his wife, Donna, and son, Holden, are moving from Columbus to Tampa, where he will join a large multispecialty group.

**Carla (Cearlock) Tippitt, OT '93**, and husband Brad Tippitt have a new daughter, Ellison Ann Tippitt, born Oct. 7, 1999. They live in Taylorville IL.

**Bob Bane, MD '96**, and **Amy Bane, MD '98**, are currently in Madison WI while Bob finishes his orthopaedic surgery residency. Their son Thomas is 2<sup>1</sup>/<sub>2</sub> and will have a new sister, Laura Elizabeth, in February 2000.

**Kaye Nembhard, MD '98**, enjoys general surgery residency in Pittsburgh, but misses Washington University.

## IN MEMORY

**Guerdan Hardy, MD '29**, died Sept. 7, 1999, in St. Louis. He was an associate professor emeritus of clinical otolaryngology at Washington University School of Medicine. He is survived by two sons, William Hardy and **David Hardy, MD '64**.

**Ernst L. Wynder, MD '50**, died July 14, 1999, as a result of thyroid cancer. He was 77 and lived in New York. Wynder was the founding president of the American Health Foundation, a non-profit research organization which he established in 1969. He also was noted for having posted early warnings of cancers for smokers. He



began his cancer research while a student at Washington University with his professor and mentor, Evarts A. Graham, MD.

In one particular study of 605 men who had developed lung cancer, Wynder and Graham determined that smoking was a common factor. Of those patients, 97 percent were heavy smokers while only 2 percent were non-smokers. Their work was generally regarded as the first major study to make that link, and the American Medical Association hailed it in 1985 as landmark research.

Wynder is credited with furnishing biological proof that tobacco smoke contained a cancer-producing substance. As a researcher associated with Sloan-Kettering, he subsequently linked excessive tobacco use with cancers of the oral cavity, esophagus, larynx, pancreas and bladder. Working alone and in collaboration with others, he provided chemical proof of the carcinogenic potential of tobacco smoke and tobacco itself. The work effectively closed the circle of evidence and tied cigarette smoking to an array of cancers.

Wynder wrote or contributed to more than 700 papers and received many honors in this country and in Europe. He was a principal author of *Environmental Aspects of Cancer: The Role of Macro and Minor Components of Food*.

He started his work at the Sloan-Kettering Institute for Cancer Research in 1952 as an assistant researcher and rose to chief of epidemiology. He continued his association with Sloan-Kettering into the 1980s.

Wynder is survived by his wife, Sandra Miller Wynder, and a sister, Lore Levinson, of Springfield NJ.

**Daniel Nathans, MD '54**, a Nobel Prize-winning geneticist, died on Nov. 16, at his home in Baltimore, as a result of leukemia. He was 71. Nathans,

who had taught at the Johns Hopkins University School of Medicine for 37 years, was chairman of the Department of Microbiology at Johns Hopkins and had served as the university's interim president from 1995 to 1996.

Nathans received the Nobel Prize in Medicine in 1978 for his research that pioneered the use of scalpels in analyzing DNA, a technique that helped create the biotechnology industry. His research also provided the groundwork for the worldwide effort to map the human genome. The gene-splicing techniques used to produce drugs like insulin, growth hormone and interferon also came from research that Nathans and others did.

The youngest of eight children, Nathans was steered toward medicine at an early age by his father. His parents were immigrants from Russia and his father owned a five-and-dime store that he lost in the Depression.

Nathans graduated from the University of Delaware in Newark in 1950. After completing medical school at Washington University, he intended to return to Wilmington as a family physician. But after a residency at Columbia-Presbyterian Medical Center in New York City, Nathans opted for research. He worked at the National Cancer Institute and at Rockefeller University. In 1962, one of his professors from Washington University, Barry Wood, MD, moved to Baltimore and invited him to join the faculty at Johns Hopkins.

In 1993, Nathans won the nation's highest scientific award, the National Medal of Science. He also was a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

He is survived by his wife, Joanne Gomberg Nathans; three sons and six grandchildren. □

## New medicine in the next millennium

CONTINUED FROM PAGE 27

Managed care reform is mandatory. It appears, from pending patients' rights legislation, that the freedom of some health plans to trade quality for profitability is coming to an end. The public is speaking.

The issue of insurance and access won't go away. These are the best economic times in modern history; the most sustained period of economic growth. Unemployment is at an all-time low and American corporations lead in world markets. But one judges a civilization by the health and education of its people. We need a long-term plan. Its goal would be to extend insurance and access to the entire population. It should be crafted by a collaboration of major stakeholders and decision-makers. I believe we will save money in the long run. Even if savings are not predictable, it might be worth one or two percentage points of gross domestic product to ensure that effective health care reaches all Americans.

If these and other reforms are implemented, our young will continue to be inspired about entering medicine — and the greater population will continue to be awed by the incredible advances that will be commonplace in the 21st century. Let us make sure that all will benefit from the new medicine. □

EDITOR'S NOTE: This is an abbreviated version of the chairman's address to the Annual Meeting of the Association of American Medical Colleges. Dean Peck's term as AAMC chair concluded at that event, held in November in Washington, DC.



# Readjust Your Portfolio... Here's a Tax-Wise Option

## Sample Rates of Return

### SINGLE LIFE

Age	Rate
60	6.6%
62	6.8%
64	6.9%
66	7.1%
68	7.3%
<b>70</b>	<b>7.5%</b>
72	7.7%
74	8.0%
76	8.3%
78	8.7%
80	9.2%
82	9.6%
84	10.2%
86	10.8%
88	11.4%
90	12.0%

### TWO LIFE

Ages	Rate
60 & 60	6.3%
60 & 65	6.3%
65 & 65	6.6%
65 & 70	6.7%
70 & 70	6.8%
70 & 75	7.0%
75 & 75	7.3%
75 & 80	7.5%
80 & 80	8.0%
80 & 85	8.4%
85 & 85	9.0%

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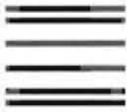


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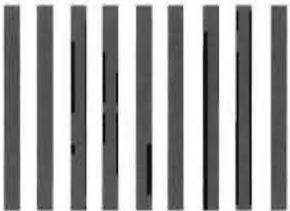
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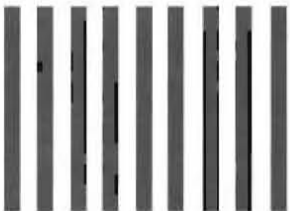
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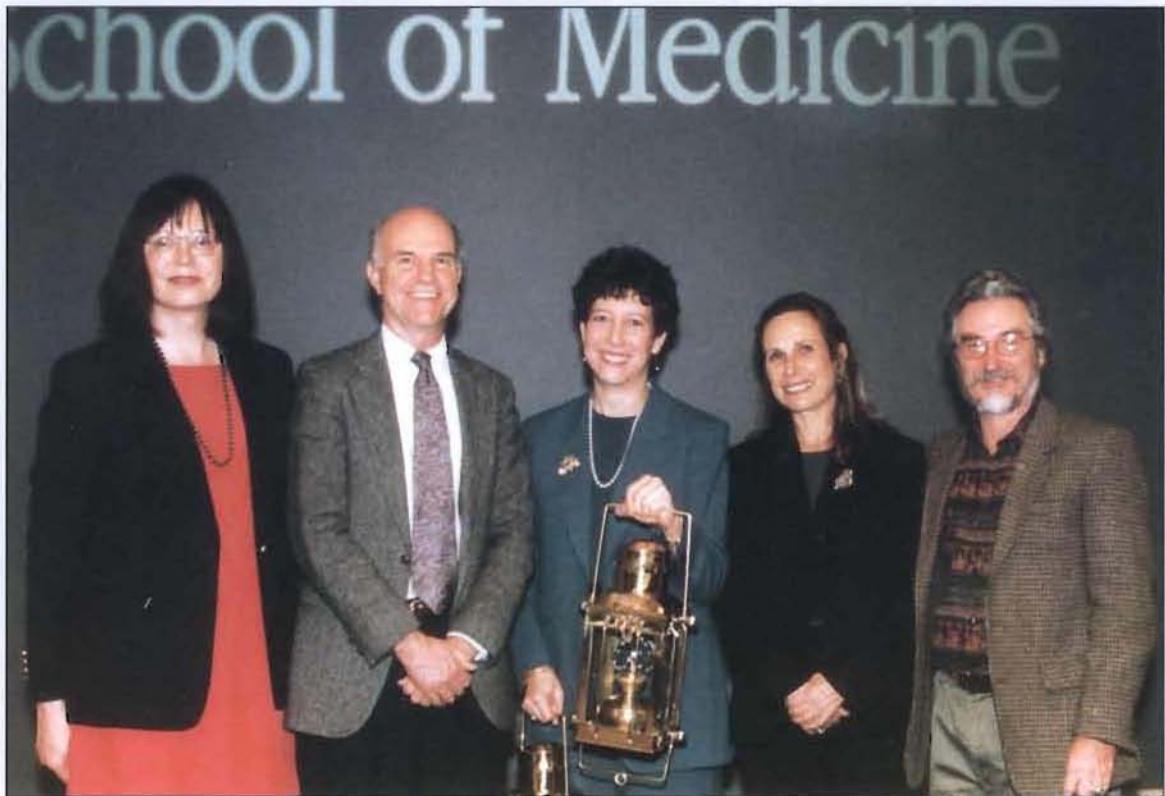
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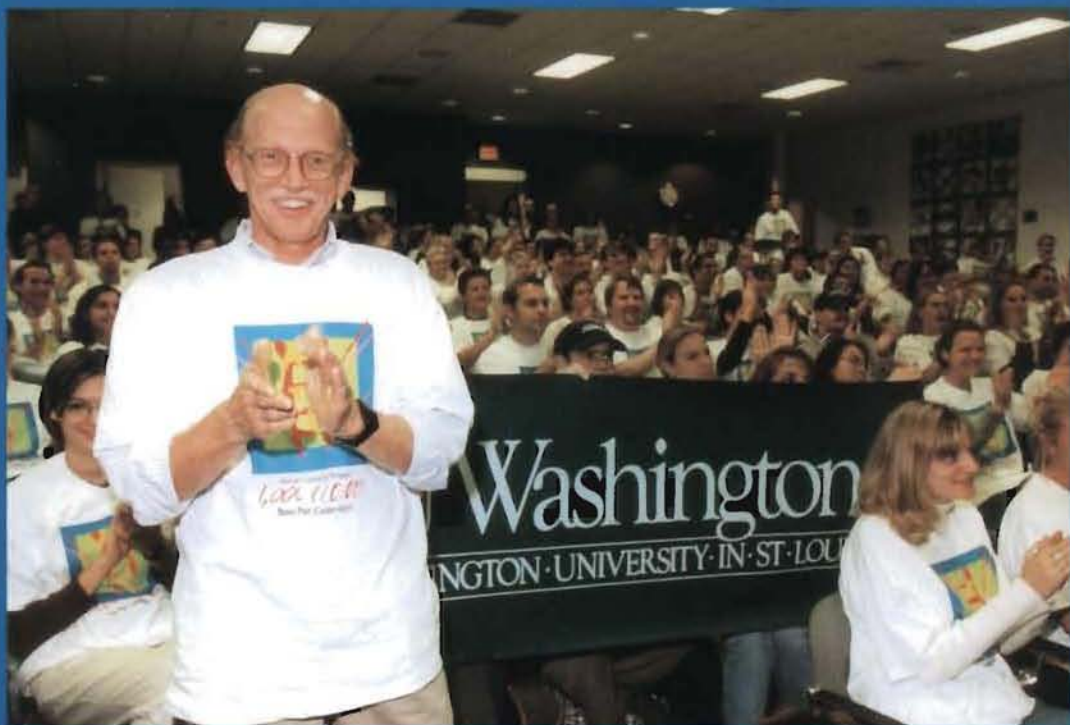
**Educators of Excellence:** From left, Erika C. Crouch, MD, PhD; Scot G. Hickman, MD; Jean P. Molleston, MD; Jane E. Phillips-Conroy, PhD; and Glenn C. Conroy, PhD, were selected by students for their outstanding contribution to medical student education. The ceremony honoring them took place in November at the Eric P. Newman Education Center. In addition, the first- and second-year classes each recognized professors with Distinguished Service Teaching Awards. The recipients were: Dana R. Abendschein, PhD; John P. Atkinson, MD; Mokhtar Gado, MD; David A. Lieb, PhD; David N. Menton, PhD; Robert W. Mercer, PhD; Stanley Mislner, MD, PhD; Jay F. Piccirillo, MD; David C. Van Essen, PhD; Robert S. Wilkinson, PhD; William E. Clutter, MD; Rosa M. Davila, MD; Leslie E. Kahl, MD; Yoon Kang, MD; Patrick R. Murray, PhD; Arie Perry, MD; Jeffrey E. Saffitz, MD, PhD; Clay F. Semenkovich, MD; Paul E. Swanson, MD; and David W. Windus, MD. The third-year class honored clinical professors with Clinical Teacher of the Year Awards and residents with Resident of the Year Awards. Recipients of the Clinical Teacher of the Year Awards were: Michael L. Brunt, MD; William E. Clutter, MD; F. Sessions Cole, MD; Thomas M. De Fer, MD; Gerard M. Doherty, MD; Jonathan D. Gitlin, MD; Susan E. Mackinnon, MD; Jean P. Molleston, MD; Thomas E. Read, MD; and Yoel Sadovsky, MD. Recipients of the Resident of the Year Awards were: Eric Choi, MD; Hasan Guven, MD; Yasmeen Kareem, MD; Todd Levine, MD; Jody Lin, MD; Steven Liu, MD; Nicole Makram, MD; Mark Mazziotti, MD; Huyen Pham, MD; and Catherine Todd, MD.

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### The Billion Base Bash:

Robert H. Waterston, MD, PhD, the James S. McDonnell Professor of Genetics and head of the Department of Genetics (left), celebrates with the rest of the medical school's Genome Sequencing Center, which he directs. The Washington University group and other scientists around the world were linked by satellite in November to the National Academy of Sciences in Washington DC, where the Billion Base Bash marked the completion of one-third of the human genome. The collaborators have sequenced 1 billion base pairs of the estimated 3 billion base pairs in human DNA.



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